DRAFT

ENVIRONMENTAL IMPACT STATEMENT

FOR

LIVABLE SOUTH DOWNTOWN PLANNING

November 2007

City of Seattle

Department of Planning and Development

Prepared in compliance with:
State Environmental Policy Act
Chapter 43.21, Revised Code of Washington
Chapter 197-11, Washington Administrative Code

PREFACE

INTRODUCTION

On May 15th, 2006, the City of Seattle Department of Planning and Development (DPD) issued a SEPA Determination of Significance (DS) for recommendations arising from the Livable South Downtown planning effort. The South Downtown planning process was inspired by a vision for future growth in South Downtown expressed by neighborhood plans, community organizations and property owners. The idea of encouraging more residents through infill development and through improvements to the physical environment was attractive to city leaders, and is an extension of neighborhood plan objectives for Pioneer Square and Chinatown/I.D. Numerous discussions between neighborhood stakeholders and City staff since 2004 have informed DPD's work in defining recommendations that are being advanced for further discussion and decisionmaking.

DRAFT EIS ORGANIZATION

This Draft EIS is organized as follows: **Chapter 1** includes a summary of the topics addressed, major conclusions, and a summary of the alternatives' impacts in table form; **Chapter 2** provides background information on the Livable South Downtown planning effort, and a description of the four alternatives evaluated in the Draft EIS; **Chapter 3** analyzes the environmental impacts of the recommendations; the **Appendices** contain technical reports from City staff and consultants that support the analyses presented in Chapter 3.

SEPA NON-PROJECT REVIEW

Pursuant to the State's SEPA requirements, this environmental impact statement has been prepared to examine the potential for environmental impacts from this proposal. This is a "non-project" proposal in that it involves decisions on land use and zoning regulations for a widespread area rather than a single site-specific project. In this case, the proposal is for changes to zoning, the Land Use Code and possible Comprehensive Plan amendments. The analysis is intended to describe how the proposed regulatory changes would affect future long-term development patterns, and whether those changes would result in significant adverse impacts. The intent of this EIS is to provide substantive analysis of impact implications (at a "programmatic" level of detail), to aid in making final decisions on the proposal.

The State's SEPA rules provide for flexibility in the content and formatting of programmatic environmental review for non-project proposals. Topics that should be addressed include: background, objectives, existing conditions, description of the proposal and alternatives, and environmental impact analysis. The level of analysis should be consistent with the specificity of the proposal and available information.

Programmatic SEPA analyses of non-project proposals can lead to "phased review" in which future development proposals may adopt all or part of a programmatic SEPA analysis and add further site-specific impact analysis as necessary. This can increase the efficiency of environmental review for development proposals in the study area.

FACT SHEET

Project Title	**Livable South Downtown planning recommendations**
Nature and Location of Proposal	Livable South Downtown planning recommendations have been prepared in draft form, with further work underway by DPD staff to prepare final recommendations. These are expected to include several rezones in the study area, changes to the Land Use Code, and Comprehensive Plan amendments. This Draft EIS examines four alternatives that cover a range of possible rezone actions for the City Council's consideration. Three of the alternatives **(Alternatives 1, 2 and 3)** consist of different combinations of possible zones, maximum heights and densities (volumes) of buildings. Some of the possible zones would also require amendments to the Comprehensive Plan's preferred land use map. A **"No Action" Alternative (Alternative 4)** is included to assess what is likely to occur over time under the current Land Use Code and zoning. The impact analysis evaluates hypothetical growth patterns to the year 2030, based on assumptions consistent with Puget Sound Regional Council projections. The area affected by the proposal includes the entire Pioneer Square and Chinatown/International District neighborhoods, a portion of the Greater Duwamish Manufacturing and Industrial Center (MIC) immediately south of the Downtown Urban Center, and a western edge of the Central District known as the Jackson Place neighborhood.
Proponent	City of Seattle
Lead Agency	City of Seattle Department of Planning and Development **7**00 Fifth Avenue, Suite 2000 PO Box 34019 Seattle, WA 98124-4019
Responsible Official	Diane Sugimura
Date of Implementation	The proposal will be forwarded to the City Council in 2008.
Contact Person	Gordon Clowers City of Seattle Dept. of Planning and Development **7**00 Fifth Avenue, Suite 2000 PO Box 34019 Seattle, WA 98124-4019 206-684-8375
Required Approvals	Actions on the proposal will require approval by the City Council.
Comment Period	Comments on this Draft EIS must be submitted by December 17th, 2007.

Date of Public Meeting	The public meeting to accept verbal comments on the Draft EIS will be held on Wednesday, December 5th, 2007 at City Hall, 6:30 PM, in the Bertha Landes Room. City Hall address: 600 4th Avenue (enter from 5th Avenue between James and Cherry Streets).
EIS Authors and Principal Contributors	**Primary author, EIS coordination** City of Seattle Dept. of Planning and Development staff: Gordon Clowers, Susan McLain, Dennis Meier, John Skelton **Real Estate/Economic consultants** BHC Consultants, Property Counselors Strategic Economics, Trang D. Tu Consulting **Transportation consultant** The Transpo Group **Noise Analysis consultant** ESA Adolfson **Urban Design consultant** Nakano and Associates **Historic Resources consultant** Beth Dodrill Consulting **Sustainability consultant** International Sustainable Solutions
Location of Background Data	City of Seattle Dept. of Planning and Development 700 Fifth Avenue, Suite 2000 PO Box 34019 Seattle, WA 98124-4019
DEIS Date of Issuance	November 1, 2007
Nature and Date of Final Action	The City Council is expected to take action in 2008 on the recommendations.
Availability of Draft EIS	Copies of the Draft EIS are available for public review at several branches of the Seattle Public Library. Interested parties may obtain copies of the Draft EIS free of charge (while supplies last) at DPD, 20th floor Seattle Municipal Tower, 700 Fifth Avenue. The Draft EIS also may be viewed at DPD's website, at www.seattle.gov/dpd. A postage fee of $4.60 must be paid if documents are to be mailed. Please send a check payable to the **City of Seattle** to: City of Seattle DPD Public Resource Center PO Box 34019 Seattle, WA 98124-4019

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ELEMENTS OF THE ENVIRONMENT[1]

Earth – Earthquake Hazards	Reviewed
Air Quality (see Environmental Health section)	Reviewed
Water	Not Reviewed
Plants and Animals	Not Reviewed
Energy	Reviewed
Natural Resources	Not Reviewed
Environmental Health—Noise	Reviewed
Environmental Health—Toxic/hazardous materials	Reviewed
Environmental Health—Risk of Explosion	Not Reviewed
Land Use	Reviewed
Business/Economic Impacts	Reviewed[2]
Height/Bulk/Scale	Reviewed
Housing	Reviewed
Population and Employment	Reviewed[3]
Historic and Cultural Preservation	Reviewed[4]
Light and Glare (see Land Use section)	Reviewed
Public View Protection	Reviewed
Transportation	Reviewed
Parking	Reviewed
Fire/Emergency Protection	Reviewed
Police Protection	Reviewed
Schools	Not Reviewed
Parks and Recreation	Reviewed
Water Supply	Reviewed
Stormwater Utilities	Reviewed
Sewer	Reviewed

[1] Other elements of the environment not shown in this list are excluded from the EIS scope. With regard to SMC 25.05.440 E 6 a, analysis of employment growth is included but the topics of public investment and taxation are excluded from the EIS scope.

[2,3,4] The topics of business/economic, cultural preservation, population- and employment-related impacts are included as "additional analysis" topics per SMC 25.05.440 G. The adequacy of such analyses shall not be used to determine whether the EIS meets the requirements of SEPA.

CHAPTER ONE
SUMMARY

INTRODUCTION

The Livable South Downtown planning effort is a multi-year planning process conducted by the Seattle Department of Planning and Development. The project will result in land use recommendations for City Council consideration in 2008. South Downtown planning involves assessment of growth possibilities, review of community objectives, and analysis of potential updates to land use and zoning regulations that will support a desirable future for South Downtown.

The Draft Environmental Impact Statement (DEIS) was prepared to describe the environmental effects of possible land use actions in South Downtown as required by the State Environmental Policy Act (SEPA). The DEIS provides a comprehensive analysis of the implications of possible zoning choices. It also provides information to the public and to decision-makers, and ensures that environmental considerations are incorporated into planning.

Chapter 1 summarizes four possible land use scenarios or "alternatives" that are fully described in Chapter 2. Chapter 1 also features a table that compares the alternatives' impacts (Table 1-1). These impacts are analyzed in detail throughout Chapter 3. Several technical reports that support the impact analysis are contained in the Appendices to the EIS, bound in a separate volume.

The Livable South Downtown planning project acknowledges the visions expressed in the neighborhood plans, including Pioneer Square, Chinatown/International District (I.D.), and the Greater Duwamish Manufacturing and Industrial Center Plan. South Downtown planning pursues the next steps to implement land use-related aspects of these plans, and analyzes whether existing conditions warrant a change of direction in order to encourage desirable patterns of growth.

EIS ALTERNATIVES AND GROWTH SCENARIOS

The DEIS compares and contrasts four alternative zoning scenarios for the South Downtown study area (see Figure 1-1). Three of the alternatives (1, 2, and 3) suggest varied sets of rezones for sub-areas throughout South Downtown. Alternative 4 analyzes future growth within the framework of existing zoning.

- Alternative 1 proposes a greater degree of change to zoning in the western portion of the study area
- Alternative 2 suggests greater change in the central and eastern portions of the study area
- Alternative 3 proposes a set of rezones that is distributed evenly across the study area
- Alternative 4, the "No Action" Alternative, addresses future conditions within existing zoning.

The EIS impact analysis is facilitated by projecting patterns of growth that are likely to occur by the year 2030 under each of the alternative zoning scenarios. The hypothetical distribution of development identifies future buildings that would be possible under each alternative's zoning pattern. The amount of assumed growth aligns with growth projections of the Puget Sound Regional Council (PSRC) for 2030, as well as the City's projections of future growth. The Population and Employment section of Chapter 3 provides further discussion on this topic.

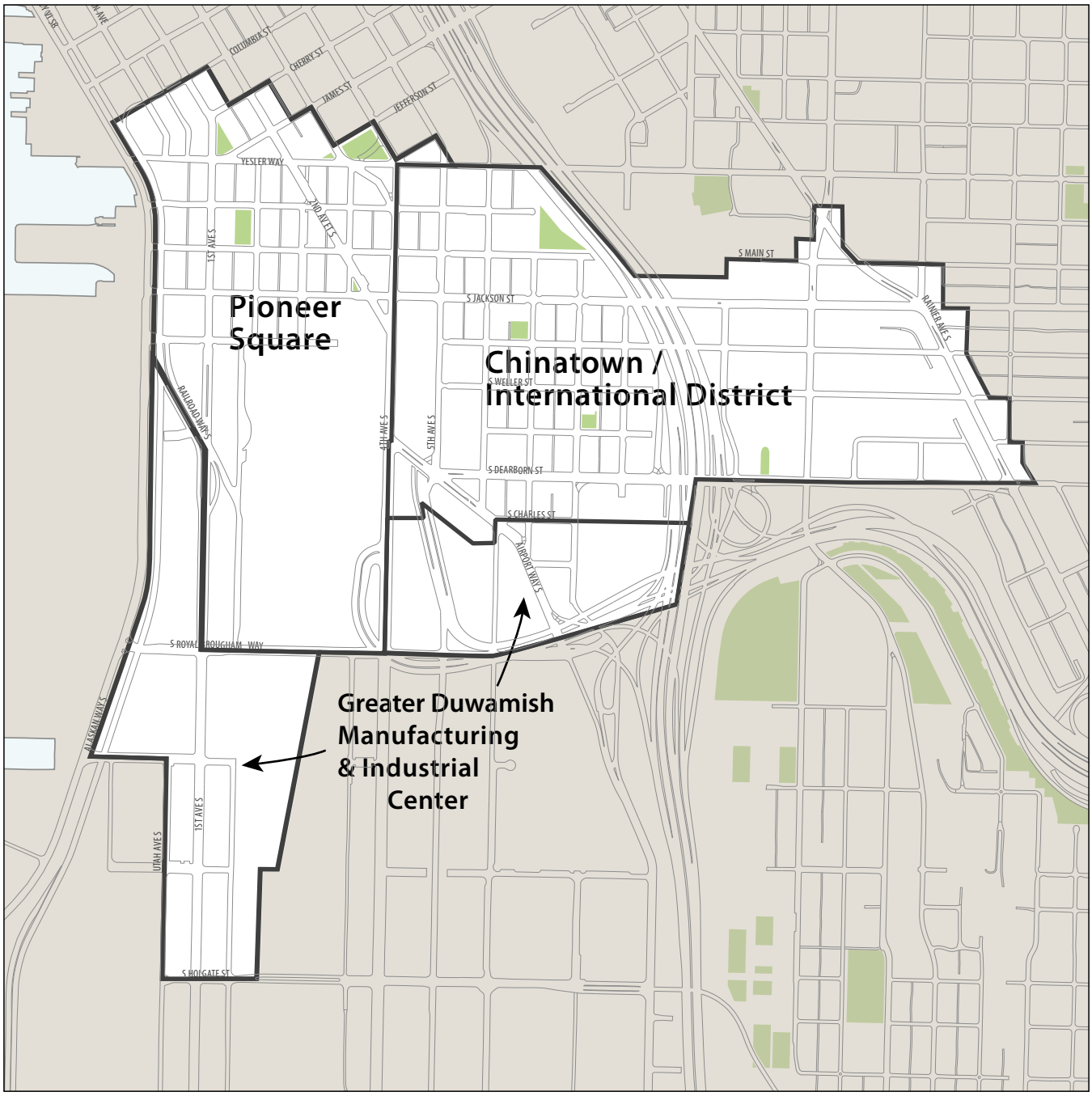


Figure 1-1

Study Area

Livable South Downtown

TOPICS ADDRESSED IN THE IMPACT ANALYSIS

This DEIS examines how the zoning alternatives and possible future development would affect various elements of the natural and built environment, with an emphasis on identifying potential significant adverse impacts. These are evaluated within the City's framework of policies that relate to the SEPA requirements for environmental review. An EIS scoping process that occurred during mid-2006 contributed to the selection of environmental elements to study.

Environmental elements studied within the South Downtown EIS can be grouped into three broad categories:

Neighborhood Character and Functions

The EIS discusses impacts relating to neighborhoods' economic functioning, availability of affordable housing resources, preservation of historic and cultural resources, and compatibility of future new construction within existing land use patterns and neighborhood settings.

Public Services, Utilities, Transportation Systems

The EIS discusses impacts on the functioning of systems that serve the city. These include transportation, parking, water, sewer and energy systems. They also include the provision of public services such as police and fire protection, parks and other recreational amenities.

Relationship to Natural Environment

The EIS discusses impacts relating to noisy conditions and hazardous or polluting substances that are present and may have a bearing on future development. It also discusses impacts relating to the area's susceptibility to damage from earthquakes.

MAJOR CONCLUSIONS

The major impact conclusions reached in this DEIS suggest that rezone choices across the study area should be carefully made. Zoning will significantly influence how new development fits in with the historic neighborhoods, including the size and shape of buildings in the larger properties at these neighborhoods' periphery. Decision-makers should also consider how zoning choices may affect the existing business communities and affordable housing resources currently in these neighborhoods. Chapter 3 and the Appendices of this DEIS provide more details on the impact analyses, and describe several mitigation strategies that would be able to effectively address identified impacts.

Height, Bulk, Scale, Historic Preservation and Compatibility Impacts

The DEIS zoning alternatives describe a range of possible zoning actions in South Downtown. For most zone choices, the potentially undesirable impacts that might occur from additional building height and bulk are avoided through carefully selecting the zones applicable to geographic areas, as well as design controls, or other mitigating factors. For this reason, most zone scenarios would likely result in future development that is compatible with the scale of the surrounding environment. For example, zoning alternatives in Pioneer Square and Chinatown/I.D. protect historic resources and maintain compatible bulk and scale by limiting higher heights to non-historic properties, and by allowing the greatest density only outside historic core areas and only through development standards that control the shape of future buildings. A further safeguard would be provided through design review and historic district special review processes, of which one would be required for most new development proposals.

However, the analysis also concludes that significant adverse impacts related to height, bulk and scale could possibly occur in some locations under a number of the alternatives. These include the zoning scenarios with the greatest levels of change in height and density that would affect the largest development sites: the "WOSCA" property (west side of 1st Avenue S.), the north half of Qwest Field's north parking lot, the "over-tracks" property near King Street Station, and the "Frye properties" in the south-of-Dearborn vicinity. Due to the size of these properties, the amount of increase in their development potential, and their geographic locations, significant impacts could occur under certain zoning alternatives in these areas, depending upon how well height and bulk controls influence building shape and architectural design. Similar findings are also made for certain zoning options located in close proximity to certain historic core locations, including at the Chinatown core near 6th Avenue S./S. King Street, and along the west side of 4th Avenue S. between S. Jackson Street and S. Washington Street. This finding of significant adverse impacts does not rule out these zoning options. Rather, it means that height and bulk controls should be tailored in sufficient detail to mitigate impacts if those height and density limits are recommended for adoption.

The DEIS also addresses compatibility of adjacent uses by identifying locations near highways, railroads and port facilities that are subject to elevated noise levels and possible adverse light/glare conditions. This could discourage the presence of residential uses unless they are carefully located and built to mitigate the adverse exposure of residents to such impacts.

Housing Impacts

The DEIS zoning alternatives avoid direct impacts on many but not all of the affordable housing resources in the Chinatown/I.D. and Pioneer Square neighborhoods. The identified potentially adverse housing impacts relate to:

- additional demand for affordable housing generated by additional future employment in South Downtown (up to approximately 2,400 dwelling units); and
- the possible impacts of rezones that would directly affect properties with affordable housing resources (approximately 550 dwelling units in Japantown and Chinatown) that are not secured by long-term rent subsidy agreements in affordable housing categories. Such properties are described as at "medium" or "high" risk of future rent increases to market-rate rental rates, condominium conversion or redevelopment.

The DEIS zoning alternatives include proposed land use strategies, such as bonus and transfer of development rights (TDR) programs, that would be coupled with existing housing subsidy programs to retain and expand affordable housing resources over time. The findings in Chapter 3 describe the additional funding for affordable housing that could be generated and affordable housing production that could occur.

Business/Economic Impacts

Business/economic impact analyses identify existing economic vulnerabilities in the Chinatown and Little Saigon business districts. These are indicated by narrow profit margins, sensitivity to lease rate increases, and declines in revenues from restaurants in Chinatown. However, the analyses conclude that few direct significant adverse impacts to businesses are likely to occur as a result of Livable South Downtown zoning actions and subsequent growth. The zoning alternatives would be able to define the location and magnitude of possible changes so that significant "gentrifying" effects on the business communities are not probable. Despite the limited identification of adverse impacts, the analyses identify possible actions the City should consider as part of a community-based economic development strategy. Such strategies would reinforce and enhance the economic, social and cultural contributions of Chinatown/I.D. neighborhoods.

Transportation and Parking Impacts

Analyses of transportation systems indicate that additional development likely to occur under the "Action Alternatives" (Alternatives 1, 2 and 3) would contribute to increased congestion and poorer performance along most of the study area street corridors. There are relatively few differences among these alternatives in their overall impacts on the street network. However, the analysis identifies several locations where traffic conditions in 2030, with or without zoning changes, are likely to perform measurably worse than current conditions. This would occur despite anticipated improvements in the street network provided by state highway projects and other projected improvements. The projected peak hour congestion would also reduce overall bus transit performance unless other bus-related street network improvements are made.

Future infill development is likely to occur within several properties currently in parking use. This would displace some of the parking supply that serves the neighborhoods. Under growth scenarios to year 2030, the potential amount of off-street parking demand displaced by infill development could range up to approximately 850 to 1,200 parking spaces. This would generate additional spill-over parking demand. It is possible, however, that a portion of this parking demand would be accommodated by people switching to other transportation modes that are highly accessible in this area's transit hub. Also, other actions affecting on-street and off-street parking resources could occur to address future parking demand, such as changes in on-street and off-street parking management strategies, and private development of other off-street parking resources.

Public Services, Utilities, and Earthquake Hazards

Analyses of water, sewer, energy, parks/recreation, fire and police protection do not identify significant adverse impacts to public services or utilities as a consequence of additional growth through 2030. Future site specific development reviews would determine whether localized utility improvements would be needed. Also, future review of structural and fire/emergency safety systems would be needed if development bridging the railroad tracks near 4th Avenue S. is proposed. With or without zone changes, the study identifies risk of earthquake damages to some utility systems if a major seismic event occurs. The extent of damage could be reduced if investments to protect such systems are made. An example is the installation of isolation valves in the water system near Yesler Way.

The utility analyses also mention the potential benefits of enhancing environmentally sustainable practices in the study area. This includes a range of possible strategies such as rainwater harvesting and on-site treatment of wastewater. These and other measures could reduce water use and sewage flows, resulting in better water quality for Elliott Bay. Other strategies would encourage or require better energy performance in future development.

COMPARATIVE SUMMARY OF ALTERNATIVE IMPACTS

Table 1-1 summarizes the impact conclusions of Chapter 3, to provide the reader an overview and comparison of the alternatives' impacts.

Table 1-1
Summary of Impacts

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
LAND USE: ZONING & DEVELOPMENT PATTERNS			
Pioneer Square ***"Core"*** Significant adverse impacts would be avoided by protecting historic properties through Special Review District oversight, and through the limited extent of proposed height increases that apply only to non-historic contributing properties.	***"Core"*** Similar to Alternative 1, with somewhat less potential for impacts due to a zoning pattern tailored more closely than Alternative 1 to existing building patterns.	***"Core"*** Less potential for land use impacts than Alternatives 1 or 2, due to a height limit capped at 100' and other minor changes in zoning.	***"Core"*** No impacts because no changes are proposed.
Qwest Field north parking lot and "Over-Tracks" property Proposed zoning avoids significant adverse land use impacts through the mix of compatible uses, conformance with Pioneer Square regulations, and bulk controls that provide a transition to surrounding properties. Also, the out-come would be consistent with a planning approach that locates employ-ment centers near transit hubs. These conclusions are independent of the height, bulk and scale impact analysis.	***Qwest Field north parking lot and "Over-Tracks" property*** Alternative 2 would result in the most abrupt transition from surrounding land uses, with height limits up to 240' on the north parking lot and 180' on the "over-tracks" property. Otherwise, land use impact conclusions are similar to Alternative 1.	***Qwest Field north parking lot and "Over-Tracks" property*** Land use impact conclusions are similar to Alternative 1. While zoning would accommodate 180' height limits on the "over-tracks" property, a new "South Downtown Mixed" zone would increase the potential for compatibility of development with the immediate surroundings.	***Qwest Field north parking lot and "Over-Tracks" property*** No impact because no changes are proposed.
"Railroad gap" properties north of S. Jackson Street on 4th Ave. Infill development over railroad tracks would increase continuity of land uses between Pioneer Square and Japan-town. Development standards for this site would allow tall buildings. Further bulk controls and design review would help avoid significant adverse land use impacts (see height, bulk, scale findings below).	***"Railroad gap" properties north of S. Jackson Street on 4th Ave.*** Similar to Alternative 1. However, a rezone that extends west to 3rd Avenue would likely result in a significant adverse impact on historic buildings because the additional allowed height could subject the buildings to increased development pressure.	***"Railroad gap" properties north of S. Jackson Street on 4th Ave.*** No impact because no changes are proposed.	***"Railroad gap" properties north of S. Jackson Street on 4th Ave.*** No impact because no changes proposed.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
LAND USE: ZONING & DEVELOPMENT PATTERNS (continued)			
Chinatown No significant adverse land use impacts are associated with increased residential/mixed use development in lightly developed portions south of S. Weller Street.	Similar to Alternative 1 for the area south of S. Weller Street. However, extending the 125' zoned height to the full block north of the Uwajimaya complex (north of S. Weller Street) would represent a significant adverse land use impact due to contrast with the scale of adjacent National Register Historic District properties (see also the height, bulk and scale conclusions and the historic preservation impact conclusions later in this table).	No impacts because no changes are proposed.	No impacts because no changes are proposed.
Japantown No significant adverse land use impacts are associated with increased residential density through infill development.	Similar to Alternative 1, with less intensive levels of infill development.	Similar to Alternative 2.	No impacts because no changes are proposed.
Little Saigon Zoning with an 85' height limit could encourage future redevelopment that could adversely affect the long-term availability of existing commercial retail structures and properties for small businesses. Categorized as an "adverse" but not a "significant adverse" impact.	The proposed 125' height limit would avoid significant adverse height/bulk/scale impacts, but could adversely affect the long-term availability of the existing commercial retail structures and properties for small businesses.	Similar to Alternative 1.	No impacts because no changes are proposed.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
LAND USE: ZONING & DEVELOPMENT PATTERNS (continued)			
South-of-Dearborn			
No significant adverse land use impacts are identified. Alternative 1 anticipates the retention of industrial zoning with a more intensive development pattern in commercial/ office uses.	Similar to Alternative 1.	A non-industrial zone and assumed inclusion of this sub-area into the Downtown Urban Center would encourage a denser mixture of commercial, office and residential uses. Potential adverse impacts may result from proximity of residents to industrial uses, but no significant adverse land use impacts are identified.	No impacts because no change is proposed.
Stadium Area			
Significant adverse land use impacts are probable due to the relative incompatibility of residential uses that could be located in the northern portion of the WOSCA property adjacent to Port and railroad operations.	No significant adverse land use impacts are associated with the retention of IC zoning, retention of existing density limits, and increase in allowable height from 65' to 85' and 100'.	Conclusions about residential uses west of 1st Avenue S. are similar to Alternative 1. An additional concept to allow lodging as a permissible use in the 1st Ave. S. vicinity south of S. Royal Brougham Way is concluded to generate probable significant adverse compatibility-related impacts due to this vicinity's high level of activity, potential conflicts with traffic and relatively high noise levels.	No impacts because no change is proposed.
On the east side of 4th Avenue S. north of S. Royal Brougham Way, a rezone from IG2 to IC would increase the probability of office uses and diminish the probability of industrial use even though the industrial zone would be retained. Categorized as an "adverse" but not a "significant adverse" impact.	Similar to Alternative 1.	Similar to Alternative 1, except the vicinity would likely be included in the Downtown Urban Center, shifting the expected use pattern away from industrial uses and toward mixed uses.	No impacts because no change is proposed.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
LAND USE: HEIGHT, BULK, SCALE & COMPATIBILITY			
Pioneer Square ***"Core"*** Height limits up to 130' on vacant or non-historic-contributing properties would not generate significant adverse height, bulk and scale impacts (also see findings for land use/development pattern impacts).	***"Core"*** Similar to Alternative 1, with somewhat less potential for impacts due to a zoning pattern tailored more closely than Alternative 1 to existing building patterns.	***"Core"*** Less potential for land use impacts than Alternatives 1 or 2, due to a height limit capped at 100'.	***"Core"*** No impacts because no changes are proposed.
Qwest Field north parking lot and "Over-Tracks" property Maximum building heights to 180' on the north parking lot and 150' on the "over-tracks" property would represent "moderate-to-large" differences in scale from surrounding uses. In the worst-case, significant adverse height, bulk and scale impacts could occur, depending on the effectiveness of architectural and site design in shaping building bulk and arranging buildings on these properties. Additional mitigation to ensure specific bulk controls would be possible to help avoid significant impacts.	***Qwest Field north parking lot and "Over-Tracks" property*** Maximum building heights to 240' on the north parking lot and 180' on the "over-tracks" property would be "large" and "moderate-to-large" differences in scale from surrounding uses. In the worst-case, significant adverse height, bulk, and scale impacts could occur, depending on the effectiveness of architectural and site design in shaping building bulk and arranging buildings on these properties. Additional mitigation to ensure specific bulk controls would help avoid significant impacts.	***Qwest Field north parking lot and "Over-Tracks" property*** Maximum building heights to 150' on the north parking lot and 180' on the "over-tracks" property could result in "adverse" and "significant adverse" impacts, respectively. Additional mitigation to ensure specific bulk controls would be possible to help avoid significant impacts.	***Qwest Field north parking lot and "Over-Tracks" property*** No impact because no changes are proposed.
"Railroad gap" properties north of S. Jackson Street on 4th Ave. A maximum building height of 180' at this location could result in significant adverse height-related impacts, due in part to the sensitivity of the historic building context.	***"Railroad gap" properties north of S. Jackson Street on 4th Ave.*** A maximum building height of 150' would not result in significant adverse impacts if limited to the "railroad gap" properties. However, rezone of other properties near 3rd Avenue could result in impacts on historic buildings (see findings in prior land use section).	***"Railroad gap" properties north of S. Jackson Street on 4th Ave.*** No impact because no changes are proposed.	***"Railroad gap" properties north of S. Jackson Street on 4th Ave.*** No impact because no changes proposed.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
LAND USE: HEIGHT, BULK, SCALE & COMPATIBILITY (continued)			
Chinatown			
A maximum building height of 125' in the vicinity south of S. Weller Street would represent a "moderate" difference in scale from existing buildings. No significant adverse height, bulk, scale impacts are identified.	Similar to Alternative 1 for the area south of S. Weller Street. However, the extension of the 125' height limit to the full block north of the Uwajimaya complex (north of S. Weller Street) could result in significant adverse impacts due to proximity to and contrast with the building scale of the adjacent National Register Historic District.	No impacts because no changes are proposed.	No impacts because no changes are proposed.
Japantown			
A maximum building height of 240' with recommended bulk controls would not generate significant adverse height, bulk and scale impacts, except on properties on the hill near 6th Avenue S., due in part to the hill's elevation.	A maximum building height of 180', with recommended bulk controls, would result in less potential for impacts than Alternative 1. No significant adverse height, bulk and scale impacts are identified.	Similar to Alternative 2.	No impacts because no changes are proposed.
Little Saigon			
A maximum building height of 85' in this vicinity would represent a "minor" change from existing zoning. No significant adverse height, bulk, and scale impacts are identified.	A maximum building height of 125' in this vicinity would result in a larger contrast with the scale of existing buildings than Alternative 1. However, with recommended bulk controls, no significant adverse height, bulk and scale impacts are identified.	Similar to Alternative 1.	No impacts because no changes are proposed.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
LAND USE: HEIGHT, BULK, SCALE & COMPATIBILITY (continued)			
South-of-Dearborn			
"Adverse" but not "significant adverse" height/bulk/scale impacts are identified, due to the combination of maximum building height of 125', bulk controls, and their likely effects on new building development.	Significant adverse height/bulk/ scale impacts are probable, due to the combination of maximum building height to 160', increased density, and the worst-case potential for poor design, siting and bulk controls.	Similar to Alternative 2, but with greater potential for significant adverse height/bulk/scale impacts. The combination of a maximum building height to 160', and a higher permissible density for mixed use development than Alternative 2, would encourage increased levels of development. Special review processes under the proposed South Downtown Mixed zone would help achieve urban design objectives and avoid worst-case impacts.	No impacts because no changes are proposed.
Stadium Area			
A worst-case potential for significant adverse height, bulk and scale impacts exists along the west side of 1st Avenue S. However, such impacts would be avoided through the use of special review processes likely to be included in the proposed South Downtown Mixed zone.	No significant adverse height, bulk and scale impacts are associated with proposed height limits ranging from 65' to 100', proposed bulk limits, and existing design review requirements for this IC zone.	Similar to Alternative 1, with slightly less potential for significant adverse height, bulk and scale impacts due to a lower height limit in the northern portion of the vicinity near Railroad Way S.	No impacts because no changes are proposed.
Along the 4th Avenue S. corridor, no significant adverse height, bulk and scale impacts are identified in the industrial zoned area. (See also the "over-tracks" property conclusions.)	Worst-case potential for significant adverse height, bulk and scale impacts exists along the 4th Avenue S. corridor. This is due to a height limit up to 240' in the vicinity nearby to the north of S. Royal Brougham Way.	Potential impacts are somewhat less than under Alternative 1. (See also the "over-tracks" property conclusions.)	No impacts because no changes are proposed.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
LAND USE: ECONOMIC & BUSINESS IMPACTS			
Rezones and probable future development in Little Saigon would contribute to interruption and eventual displacement of up to eight production, distribution and repair businesses located east of 12th Avenue S. in Little Saigon. This would likely occur over the next decade under existing zoning.	Similar to Alternative 1.	Similar to Alternative 1.	If existing industrial zones are retained, this impact is less likely but still could occur.
Rezones in Little Saigon could result in modest increases in the likelihood of redevelopment. Such development could result in displacement of existing businesses. This might occur under existing zoning, depending upon real estate market factors.	Similar to Alternative 1, although greater increases in development capacity are proposed by this alternative.	Similar to Alternative 1.	No impacts because no change is proposed.
The proposed Dearborn Street Project would attract a greater volume and diversity of mass market customers to the Little Saigon vicinity. This offers existing businesses an opportunity for expansion, but could also dilute the district's existing niche orientation and displace specialty businesses that do not adapt. This is an indirect impact that could occur within the next decade.	Similar to Alternative 1.	Similar to Alternative 1.	If the Dearborn Street Project is not built, these impacts would not occur.
In the Japantown vicinity near 4th and 5th Avenues, 4 to 8 businesses could be displaced by future development.	Similar to Alternative 1.	Similar to Alternative 1.	No impacts because no change is proposed.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
HOUSING			
Rezones could negatively impact non-profit developers through increased development capacity and associated increases in property values that may affect non-profit project feasibility.	Similar to Alternative 1.	Similar to Alternative 1.	No impacts because no changes are proposed.
Employment growth in South Downtown would generate new demand for housing (around 15,000 dwelling units), including Downtown housing (around 4,300 dwelling units) of which some would be for affordable housing (around 700 dwelling units).	Similar to Alternative 1.	Similar to Alternative 1.	Projected employment growth would generate additional housing demand for 10,000 dwelling units, including Downtown housing (around 2,900 units) of which some would be for affordable housing (around 470 units)
Approximately 1,102 affordable dwelling units in Chinatown/I.D. and 178 affordable dwelling units in Pioneer Square are at medium or high risk of potential rent increases in the next 20 years. Of these, 496 dwelling units in Japantown and 58 dwelling units in the Chinatown core are within proposed rezone areas.	Similar to Alternative 1.	Less than Alternative 1. Under Alternative 3, an estimated 496 affordable dwelling units in Japantown would be directly affected by potential rezones, but no change is proposed in the Chinatown core.	Similar to Alternative 1, an estimated 1,280 units of affordable housing are considered to be at medium and high risk of rent increases or conversion with or without zoning changes. However, none would be directly affected under Alternative 4, due to no zone changes.
Proposed South Downtown commercial and residential bonus programs could generate approximately 89 units and 135 units of affordable housing respectively. Also, proposed TDR programs and existing programs would fund other affordable housing in the future.	Under Alternative 2, commercial and residential bonus programs could generate approximately 114 units and 120 units of affordable housing, respectively. Other affordable housing is expected to be generated by existing affordable housing programs.	Under Alternative 3, commercial and residential bonus programs could generate approximately 110 units and 107 units of affordable housing, respectively. Other affordable housing is expected to be generated by existing affordable housing programs.	Affordable housing would continue to be supported through existing programs. Affordable housing bonus programs would not apply.
POPULATION AND EMPLOYMENT			
No significant adverse impacts are identified. This section describes the distribution of projected growth and effects on development capacity in South Downtown sub-areas to 2030.	Similar to Alternative 1.	Similar to Alternative 1.	Less residential and job growth is projected under Alternative 4 existing zoning.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
HISTORIC & CULTURAL PRESERVATION			
Pioneer Square Adverse impacts relating to contrasts in scale from future infill development up to 130' could be possible at individual development sites in the core of Pioneer Square.	Somewhat less potential for adverse impacts is anticipated due to the presence of zones with maximum height limits less than 130' in the core of Pioneer Square.	Minimal potential for adverse impacts due to potential height limits of 100'.	No impacts identified.
Taller buildings allowed up to 180' at the "railroad gap" properties on the west side of 4th Avenue S. could result in significant adverse impacts due to scale relationships with nearby historic buildings in Pioneer Square.	Compared to Alternative 1, lesser adverse impacts are anticipated at the 150' height limit for the "railroad gap" properties. The lower heights would result in less potential for impacts on historic resources near that location. However, the inclusion of properties abutting 3rd Avenue S. in Alternative 2 rezones would increase risks of redevelopment of historic buildings, which would be a significant adverse impact.	No impacts in the 4th Avenue S. "railroad gap" vicinity because no changes are proposed at this location.	No impacts identified.
Chinatown/I.D. Limited potential for adverse impacts to historic resources in the Chinatown core, due to avoidance of rezones in the National Register Historic District.	Similar to Alternative 1, except the 125' height limit for the "old Uwajimaya grocery" block would overlap with the National Register Historic District at the Publix Hotel property. The additional height could result in significant adverse impacts by creating contrasts in scale between new, taller buildings and the adjacent historic district.	No impacts in the Chinatown core, due to avoidance of rezones between S. Jackson Street and S. Dearborn Street.	No impacts identified.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
HISTORIC & CULTURAL PRESERVATION (continued) Alteration of floorplate size limits within the IDR 150' zone could conceivably increase redevelopment pressure on four buildings within the National Register-designated Japantown area near 6th Avenue S./S. Main Street.	Similar to Alternative 1.	Similar to Alternative 1.	No impacts identified.
The Alternative 1 rezone with a height limit increase to 85' could potentially adversely affect the long-term retention of the historic landmark Victorian Row Apartments located on S. King Street east of 12th Avenue S.	The Alternative 2 rezone with a height limit increased to 125' would increase potential for adverse impacts, compared to Alternative 1.	Similar to Alternative 1.	No impacts identified.
A survey indicates the presence of 14 non-designated buildings that "may" meet landmark designation criteria in the study area. Of these, 10 may be directly affected by proposed rezones. Later processes would be needed to determine which, if any, of the locations would meet landmark criteria.	Similar to Alternative 1.	Similar to Alternative 1.	No impacts identified.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
TRANSPORTATION			
Approximately 37,800 person trips are anticipated to/from study area locations in the AM peak hour and 54,100 person trips in the PM peak hour. For all alternatives, it is noted that 90% of all trips in the study area are pass-through trips, meaning they do not begin or end in the study area but contribute to congestion.	Approximately 38,300 person trips to/from study area locations in the AM peak hour and 54,550 person trips in the PM peak hour.	Approximately 38,800 person trips to/from study area locations in the AM peak hour and 55,250 person trips in the PM peak hour.	Approximately 32,100 person trips to/from study area locations in the AM peak hour and 46,600 person trips in the PM peak hour.
AM Peak Hour, Corridor: Average travel speeds and the corridor's "level of service" (graded in terms of "A" to "F") in the AM peak hour would decline to levels very similar to "No Action" 2030 baseline levels in most locations (see Alt. 4). Along Rainier Avenue S. and S. Jackson Street corridors, a 1-2 mile per hour decline in travel speeds is attributed to projected development levels in Little Saigon.	**AM Peak Hour, Corridor:** Similar to conclusions for Alternative 1. The modeled speeds would be low, at approximately 2 mph along northbound Rainier Avenue S. and westbound S. Atlantic Street.	**AM Peak Hour, Corridor:** Similar to conclusions for Alternative 1. The modeled speeds would be low, at approximately 2 mph along northbound Rainier Avenue S. and westbound S. Atlantic Street.	**AM Peak Hour, Corridor:** Average travel speeds and the corridor's "level of service" (LOS) (graded in terms of "A" to "F") in the AM peak hour would decline by one or two grades and a few miles per hour along most arterial street corridors. Most notably, travel along routes such as northbound Rainier Avenue S., S. Atlantic Street (both directions), 4th Avenue S. (both directions) and westbound S. Dearborn Street would experience greater reductions in travel speed.
PM Peak Hour, Corridor: Nearly all level of service findings would be the same as identified for Alternative 4, which is the 2030 No Action baseline condition. Average travel speeds in the PM peak hour would show additional declines of 2 to 6 mph from the baseline condition on Rainier Avenue S., and 2 mph on S. Dearborn Street, attributed to projected development levels in Little Saigon.	**PM Peak Hour, Corridor:** Similar to conclusions for Alternative 1, except additional declines in average travel speeds on S. Dearborn Street could range up to 5 mph, slightly worse than Alternative 1. The modeled average speeds would be low at 1-2 mph in the eastbound direction on S. Dearborn Street, and in the southbound direction of Rainier Avenue S.	**PM Peak Hour, Corridor:** Similar to conclusions of Alternative 2.	**PM Peak Hour, Corridor:** Average travel speeds and the corridor's "level of service" in the PM peak hour would decline by one grade and a few miles per hour along some arterial street corridors. All east-west corridors would experience corridor LOS F, and the north-south 4th Avenue S., Rainier Avenue S., and 2nd Avenue Extension corridors would also experience LOS F conditions.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
TRANSPORTATION (continued)			
AM Peak Hour, Intersections: Eight of 49 signalized intersections are predicted to operate at LOS E or F, of which five would operate at LOS F: • 1st Ave. S./S. Spokane St. • 1st Ave. S./S. Atlantic St. • 4th Ave. S./S. Spokane St. • 4th Ave. S./Airport Way S. • Rainier Ave. S./S. Jackson St.	**AM Peak Hour, Intersections:** Ten of 49 signalized intersections are predicted to operate at LOS E or F, of which six would operate at LOS F: • 1st Ave. S./S. Spokane St. • 1st Ave. S./S. Atlantic St. • 4th Ave. S./S. Spokane St. • 4th Ave. S./Airport Way S. • Rainier Ave. S./S. Jackson St. • 4th Ave. S./S. Weller St.	**AM Peak Hour, Intersections:** Ten of 49 signalized intersections are predicted to operate at LOS E or F, of which six would operate at LOS F: • 1st Ave. S./S. Spokane St. • 1st Ave. S./S. Atlantic St. • 4th Ave. S./S. Spokane St. • 4th Ave. S./Airport Way S. • Rainier Ave. S./S. Jackson St. • SR 99 "frontage" road at S. Royal Brougham Way	**AM Peak Hour, Intersections:** Seven of 49 signalized intersections are predicted to operate at LOS E or F, of which five would operate at LOS F: • 1st Ave. S./S. Spokane St. • 1st Ave. S./S. Atlantic St. • 4th Ave. S./S. Spokane St. • 4th Ave. S./Airport Way S. • Rainier Ave. S./S. Jackson St.
PM Peak Hour, Intersections: Twelve of 49 signalized intersections are predicted to operate at LOS E or F, of which six would operate at LOS F: • Rainier Ave. S./S. Jackson St. • Rainier Ave. S./S. Dearborn St. • 4th Ave. S./S. Royal Brougham Way • 4th Ave. S./S. Spokane St. • 1st Ave. S./S. Lander St. • Airport Way S./S. Dearborn St.	**PM Peak Hour, Intersections:** Similar to Alternative 1.	**PM Peak Hour, Intersections:** Similar to Alternative 1, except one additional intersection would degrade from LOS E to F, located at 1st Ave. S./S. Royal Brougham Way.	**PM Peak Hour, Intersections:** Seven of 49 signalized intersections are predicted to operate at LOS E or F, of which five would operate at LOS F: • Rainier Ave. S./S. Jackson St. • Rainier Ave. S./S. Dearborn St. • 4th Ave. S./S. Royal Brougham Way • 4th Ave. S./S. Spokane St. • 1st Ave. S./S. Lander St.
Transit operating speeds: The average operating speed of transit vehicles along primary corridors would decline slightly more than the 2030 baseline conditions (see Alt. 4). This would occur most notably along Rainier Ave. S. and S. Jackson St.	**Transit operating speeds:** Similar to Alternative 1, with a slight additional decline in transit speeds along 1st Avenue S. south of S. Royal Brougham Way.	**Transit operating speeds:** Similar to Alternative 2.	**Transit operating speeds:** Increasing traffic volumes and congestion would contribute to slower average transit speeds. These speeds would fail to meet a goal of 30% of the posted speed limit.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
TRANSPORTATION (continued)			
Typical passenger loads on buses in peak hours would increase, most notably along S. Jackson Street, 2nd and 3rd Avenues. Alternative 1's measures of passenger loading are similar to those identified for the 2030 No Action Alternative (Alt. 4).	Approximately the same as Alternative 1 and Alternative 4.	Slightly less passenger loading impacts than Alternative 1 and Alternative 4.	Approximately the same as Alternative 1.
Increasing general traffic volumes will mean fewer gaps in traffic to allow truck movements to and from Major Truck Streets, from local streets and driveways.	Impacts similar to Alternative 1.	Impacts slightly greater than Alternative 1 due to more congestion.	Impacts similar to but slightly less than Alternative 1.
Average travel speeds along most truck routes would decline, similar to results shown above for AM and PM peak hours. This would reduce the efficiency of truck movements on these corridors	Impacts similar to Alternative 1, with slightly worse travel speeds along S. Dearborn Street during peak hours.	Somewhat lower average travel speeds, most notably along S. Dearborn Street during peak hours, indicating slightly greater impacts than Alternative 1.	Impacts similar to but slightly less than Alternative 1.
More development would contribute to higher pedestrian, bicyclist and automobile traffic volumes, which could increase the number of pedestrian-vehicle and bicycle-vehicle conflicts in the study area. It could also exacerbate conditions where there are deficiencies in bicycle facilities.	Similar to Alternative 1.	Similar to Alternative 1.	Lesser impacts than Alternative 1. With a lesser amount of projected new development, there would likely be lesser volumes of pedestrians and bicyclists subject to possible conflicts.
Additional congestion and traffic volumes generated by future development would contribute to adverse traffic conditions during stadium event periods. Changes in traffic patterns and road systems may also influence how stadium event traffic and access is managed by the responsible parties.	Similar to Alternative 1.	Similar to Alternative 1.	A lesser amount of projected growth under Alternative 4 could mean a somewhat lesser impact on event management concerns.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
PARKING			
Off-Street: By 2030, the potential amount of off-street parking demand that is displaced by infill development could range up to approximately 1,100-1,200 parking spaces. This would generate additional amounts of spill-over parking demand, unless the demand was altered by changes to transit travel, or otherwise served.	Similar to Alternative 1, except the estimate of displaced parking demand is for approximately 1,000 spaces.	Similar to Alternative 1.	With growth projected for 2030 under this alternative, a lesser level of displaced parking demand, of approximately 850 parking spaces. Also, up to 120 off-street parking spaces could be lost, in relation to road improvement projects.
On-Street: With future infill development and other parking losses incurred through road improvement projects, demand and competition for on-street parking would increase. On-street parking could be lost with new curb cuts or other sidewalk or transit improvements, and could be subject to conversion from free to paid parking in some locations.	Impacts are relatively similar to Alternative 1, although there could be localized differences in demand for on-street parking depending on where the greatest amounts of new development occur.	Impacts are relatively similar to Alternative 1, although there could be localized differences in demand for on-street parking depending on where the greatest amounts of new development occur.	Even if no zone changes occur, the study area would be subject to losses of approximately 220 to 650 parking spaces, in relation to road improvement projects
PUBLIC VIEW PROTECTION			
In views west from Danny Woo Garden, future development could block most of a view toward mountains and Puget Sound.	Impacts are relatively similar to Alternative 1, but with a lesser maximum height limit.	Similar to Alternative 2.	Somewhat less potential for impacts, due to existing zone with a 150' height limit.
Future development at the "over-tracks" property along the west side of 4th Avenue S. would affect views from a designated scenic route toward the Downtown skyline and the King Street Station clock tower.	Impacts are relatively similar to Alternative 1, but with a greater maximum height limit.	Similar to Alternative 2.	This impact unlikely to occur under existing zoning.
From the Harborview Viewpoint, views toward the southwest could be adversely affected by future development to 240' heights in the 6th Ave./ Yesler Way vicinity.	Adverse impacts would be less than under Alternative 1, due to future development up to 180' heights	Similar to Alternative 2.	Development under existing zoning to 150' would have less potential for adverse impacts than Alternatives 1, 2 or 3.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
ENVIRONMENTAL HEALTH			
Noise Increased numbers of newly-developed residential units would face adverse exposure to high noise levels, if built in proximity to SR 99 (and adjacent railroad tracks) and Interstate 5. Interior noise levels could be reduced by noise dampening construction techniques if they are required by future City review of individual development proposals.	Potential noise impacts would be relatively more possible than Alternative 1 along the east side of I-5 in Little Saigon, but less possible near SR 99 due to the industrial (non-residential) zoning that would be located on the west side of 1st Avenue S. south of Railroad Way S.	Potential noise impacts would be similar to Alternative 1, except residential uses would also be possible in the south-of-Dearborn vicinity	No additional noise impacts identified, but SR 99 and I-5 would continue to generate the potential for adverse noise exposure on developments on nearby properties.
Hazardous Substances Due to presence of hazardous substances in industrial areas, there is a worst-case potential for elevated exposure and health risks. However, required cleanup would help avoid the worst-case scenario.	Due to zoning patterns, less potential for exposure than Alternative 1.	Due to zoning patterns, greater potential for exposure than Alternative 1.	Due to zoning patterns, less potential for exposure than Alternatives 1 or 2.
Odor/Air Quality If future residential development occurs within approximately 100-200 feet of I-5, I-90, SR 99 and railroad tracks, there is potential for adverse exposure to air pollutants and related health effects.	**Odor/Air Quality** Less potential for impacts than Alternative 1, due to no residential exposure to SR 99 and nearby railroad tracks.	**Odor/Air Quality** Somewhat greater potential for impacts than Alternative 1, due to potential presence of residents in the south-of-Dearborn vicinity.	**Odor/Air Quality** No impacts identified.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
FIRE/EMERGENCY PROTECTION			
Gradual increases in call volumes, with an associated need for increased staffing and equipment over time.	Similar to Alternative 1.	Similar to Alternative 1.	Somewhat less than Alternative 1 due to less assumed development.
A worst-case potential for a rail accident under the "over-tracks" properties near King Street Station would necessitate ventilation, fire preventive and life safety systems sufficient to protect the railroad tracks use.	Similar to Alternative 1, potentially with increased "over-tracks" development.	Similar to Alternative 1.	This impact not likely under Alternative 4.
POLICE PROTECTION			
Gradual increases in call volumes, due to increased residential and employee presence, increasing demand for police resources	Similar to Alternative 1.	Similar to Alternative 1.	Somewhat less than Alternative 1 due to less assumed development.
PARKS AND RECREATION			
Additional levels of residential and employment growth would increase anticipated demand for parks/recreational amenities above previous City estimates. This would amount to an additional: -- 3.7 acres of park/recreation space for new residents	Similar to Alternative 1, amounting to an additional: -- 4.0 acres of park/recreation space for new residents	Similar to Alternative 1, amounting to an additional: -- 4.1 acres of park/recreation space for new residents	Less than Alternative 1, amounting to an additional: -- 1.4 acres of park/recreation space for new residents
ENERGY			
Increased demand for energy with future development.	Similar to Alternative 1.	Similar to Alternative 1.	Somewhat less than Alternative 1 due to less assumed development.

Alternative 1 Infill Emphasis Toward West	Alternative 2 Infill Emphasis Toward East	Alternative 3 Distributed Growth	Alternative 4 No Action Alternative
ENERGY (continued)			
No significant adverse impacts identified on the energy system. However, local improvements might be needed on a site-by-site basis with future projects. This might include cases where clearances between overhead lines and new buildings would need to be addressed through building design adjustments or undergrounding of electric utilities.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.
WATER UTILITY			
Increased demand for domestic water service and fire flow availability with future development.	Similar to Alternative 1.	Similar to Alternative 1.	Somewhat less than Alternative 1 due to less assumed development.
No significant adverse impacts identified on the water utility system.	Similar to Alternative 1.	Similar to Alternative 1.	Somewhat less than Alternative 1 due to less assumed development.
SEWER & STORMWATER UTILITY			
Increased generation of sewage and stormwater volumes with future development.	Similar to Alternative 1.	Similar to Alternative 1.	Somewhat less than Alternative 1 due to less assumed development.
No significant adverse impacts identified on the sewer utility systems.	Similar to Alternative 1.	Similar to Alternative 1.	Somewhat less than Alternative 1 due to less assumed development.
EARTH (SEISMIC HAZARDS)			
With or without zone changes, future development would occur in study area vicinities with elevated risk of seismic damage. A tsunami with a potential flood surge of five feet across portions of the study area would also be possible if an earth-quake occurred under Elliott Bay.	Potential damage risks are similar to those under Alternative 1.	Due to a greater potential residential presence between S. King Street and S. Royal Brougham Way, the potential risks relating to seismic damage could be greatest under Alternative 3.	Potential damage risks are similar to those under Alternative 1.

CHAPTER TWO

DESCRIPTION OF ALTERNATIVES

INTRODUCTION AND LOCATION OF PROPOSAL

The Livable South Downtown planning process was initiated in 2005 by the City's Department of Planning and Development (DPD). Preliminary recommendations were released by DPD in March 2006. Land use and zoning alternatives are required to undergo environmental review prior to legislative decision-making. Consequently, DPD has published this environmental impact statement (EIS) to provide information to decisionmakers, agencies and interested citizens.

The EIS studies the environmental impacts of three "action" alternatives that include possible land use and zoning changes associated with Livable South Downtown planning, and one "no-action" alternative. These changes, if adopted, would influence future patterns of growth and development in South Downtown, including maximum heights and sizes of future buildings that may be built in the area. The EIS analysis considers the implications of the full range of recommendations covered within the Livable South Downtown planning process.

The South Downtown study area addressed in this EIS covers the southern portion of the Downtown Urban Center (Pioneer Square and Chinatown/I.D. neighborhoods), segments of industrial lands located at the northern boundaries of the Greater Duwamish Manufacturing and Industrial Center (MIC), and a peripheral edge of the Jackson Place neighborhood just east of Rainier Avenue S. (see Figure 2-1). This narrow strip extends as far north as the intersection of 12th Avenue S. and Boren Avenue S. and as far south as S. Dearborn Street.

BACKGROUND

Origins of the Livable South Downtown planning process

The South Downtown planning process was inspired by a vision for future growth in South Downtown expressed by neighborhood plans, community organizations and property owners. The idea of encouraging more residents through infill development and through improvements to the physical environment was attractive to city leaders, and is an extension of neighborhood plan objectives for Pioneer Square and Chinatown/I.D.

DPD staff identified current challenges and impediments to desired objectives, including:

- a high water table and earthquake hazards that influence building design and renovation
- public safety perceptions
- traffic congestion
- possibly dated land use and zoning designations and regulations
- the complexity of special review processes in areas of historic and cultural significance
- affordable housing needs
- preservation and rehabilitation of historic structures
- effective transition between Downtown and industrial areas to the south
- preservation of industrial lands and potential impacts of residential uses near industrial uses.

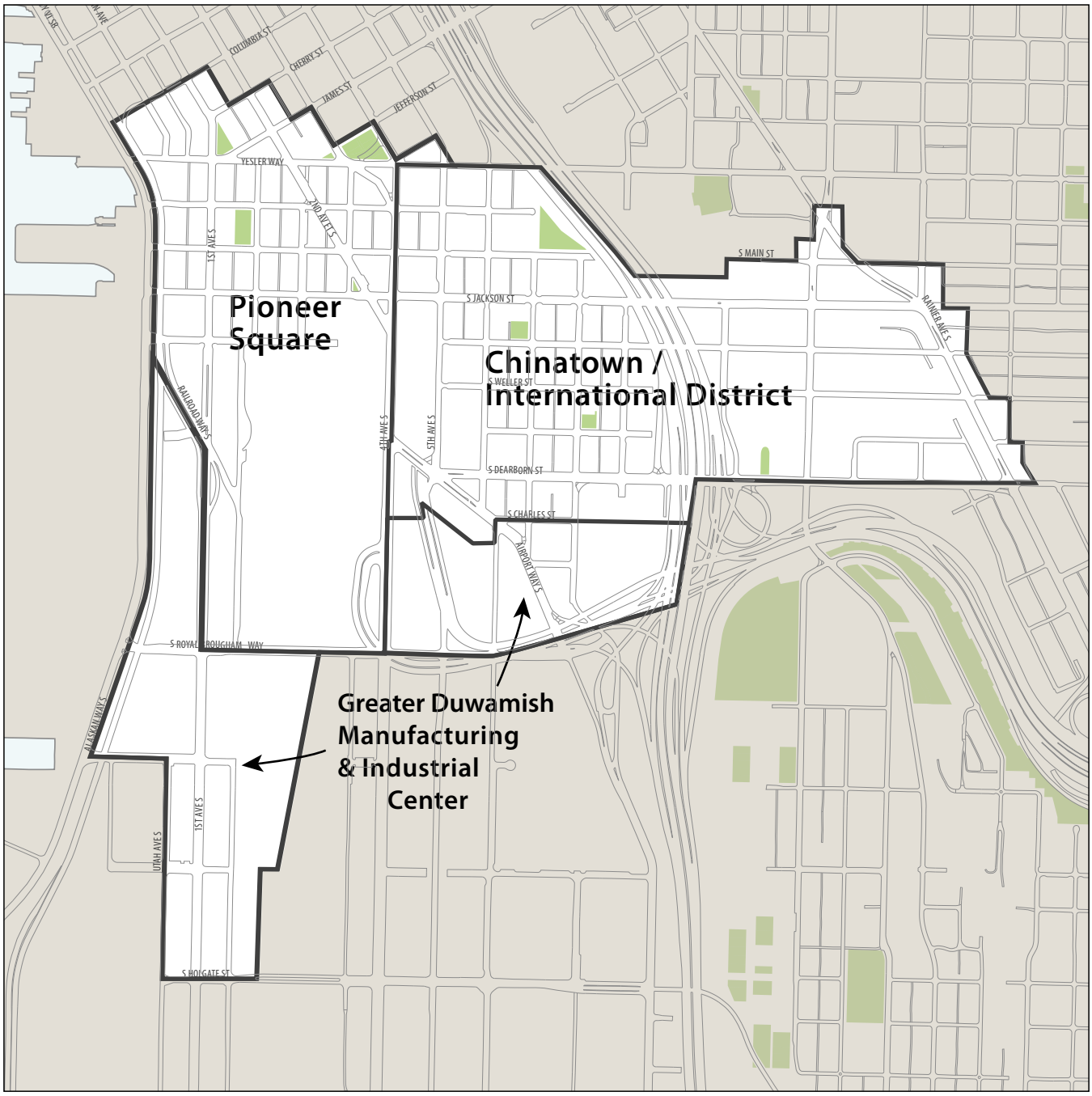


Figure 2-1

Study Area

Livable South Downtown

Positive influences and opportunities were also identified, including:

- a well-established and valued historic, cultural and social character in core neighborhoods;
- access to transportation including the interstate, light rail, seaport, and intercontinental rail, including the transit hub at King Street Station;
- commercial areas composed of small and large businesses
- proximity to the Downtown employment center
- the presence of several large parcels where future development could create new business activity, jobs, housing and amenities that could enhance the area's overall character.

The Department of Planning and Development initiated a planning process for the South Downtown study area to examine land use and zoning in the area. This effort was informed by advice and feedback from an advisory group comprised of approximately 25 area stakeholders representing the diversity of interests in the South Downtown area. After ten advisory group meetings and additional general public meetings, DPD issued a "Phase 1 Staff Report" with preliminary land use recommendations in March 2006. Subsequently, staff has proceeded with the required environmental reviews that accompany such proposals. Legislation to amend the Land Use Code and possibly the Comprehensive Plan is expected to follow in 2008.

Objectives of the Livable South Downtown planning process

Goals for the Livable South Downtown project include:

- Stimulate future housing and job growth through adjustments in zoning and land use codes
- Respect neighborhood character and neighborhood plans
- Promote an integrated mix of uses
- Support quality connections between neighborhoods and downtown as a whole
- Encourage economic vitality and environmental sustainability
- Accommodate regional services and ensure they align with the goals of the local community

Specific objectives to accomplish through the project include:

- Evaluate zoning opportunities and constraints, particularly in regard to achieving more housing and job growth
- Identify desired development direction
- Recommend and implement City land use actions to support emerging residential/employment communities
- Consider opportunities for environmentally sustainable practices in future development
- Recommend public and private investments that would contribute to a well-balanced community in South Downtown.

The South Downtown advisory group has also helped refine other key issues that planning recommendations should address, including:

- improved streetscape design;
- amenities and services available to support an increased population;
- a range of housing opportunities for households at different income levels;
- maintaining freight mobility;
- industrial land preservation;
- recognition and accommodation of Port activities and mobility needs;
- quality design in new development and compatibility with existing neighborhood character; and
- a viable environment for all businesses, particularly small businesses throughout Chinatown/I.D.

SUMMARY OF DRAFT PLANNING RECOMMENDATIONS

For the purposes of this Draft EIS, the Livable South Downtown planning recommendations are summarized below in a draft form. At this point in the planning process, these are not meant to represent final recommendations but to illustrate a range of possible actions that could be taken. After the Draft EIS is published and circulated, additional public comments will inform the development of final recommendations. In this manner, the environmental review process will fulfill a purpose to inform planning staff, the public, and decision-makers about the implications of decisions to be made on possible land use and zoning changes.

Overall Vision

The South Downtown study area includes neighborhoods that are cherished for their historic and cultural resources. South Downtown is also uniquely positioned at the juncture of Seattle's Downtown business district, its deep-water port terminals, its regional transportation facilities and largest sport entertainment venues.

The Livable South Downtown planning process provides an opportunity to reflect on the area's past, its present and consider its possible futures. The area must maintain its historic and cultural identity while at the same time prepare for the future. Seattle and the region will grow substantially over the coming years. South Downtown will be subject to the forces and effects of growth perhaps as much or more than any area in the region. Recommendations from this process will play an important role in shaping how these neighborhoods grow in the coming years.

As a collection of neighborhoods with distinctive history and character, South Downtown is highly valued by the City and by people who reside and work in the area. Many of the physical patterns of use and development in South Downtown's neighborhoods have changed little over several decades. While this has supported the preservation of the historical legacy of the neighborhood, it has also contributed to its decline. Some properties have not been adequately maintained, failing to retain their full usefulness even as the city's economy has changed. Other properties have remained vacant or lightly developed, fulfilling a variety of functions ranging from vehicle parking to light industry and product distribution.

From a national and global perspective, Seattle is an important west coast port city that is well situated for trade with Asia, supporting the export and import of goods that drives the local economy. City policies support the continued and long-term well-being of port-related activity. As a regional center, Downtown Seattle supports a wide variety of jobs and economic activity that are key to the well-being of the region, and generate daily volumes of people commuting to and from jobs and residences. The South Downtown study area is complementary to Downtown's economic role, supporting a variety of businesses and an increasing population of office workers.

Recent economic trends, combined with expressed interest in developing several larger properties, suggest that the future will inevitably bring new development that will affect these neighborhoods regardless of zoning. The challenge for the Livable South Downtown planning process is to assess present-day conditions and identify measures that will help to achieve the desired future vision of the neighborhoods as they evolve. These choices will influence how each neighborhood functions, and how they fit into the larger framework of the city's infrastructure. More importantly, the choices will affect the quality of environment and the quality of life for neighborhood residents and employees for many decades to come.

Consistent with the goals of Seattle's Comprehensive Plan and the neighborhood plans of Pioneer Square and Chinatown/I.D., the Livable South Downtown planning process envisions neighborhoods that are

complemented by new developments that incorporate appropriate mixes of uses and are compatible with their surroundings due to high-quality and sensitive architectural design. New development will be optimally sized to fit with each area's location within or near the Downtown Urban Center and transit hub. Infill of properties in Pioneer Square and Chinatown/I.D. will enliven and knit together the neighborhoods, and provide continuity of street-level uses including retail and other services for residents and visitors. An increase in residents within and near these neighborhoods will provide additional customers for local businesses, increased social activity and "eyes on the street" that will contribute to public safety. Police and emergency protection will be sufficiently provided to ensure that personal safety is improved and criminal activity is discouraged.

The South Downtown planning process also envisions a system of public spaces and streetscapes that are pleasant environments, well-located, well-lit, well-connected, with ample amenities including parks, art and landscaping. As growth occurs, it will be important to retain the cultural, socioeconomic and historic character of Pioneer Square and Chinatown/I.D. through appropriate actions to support the health of residents, businesses and the social character of these neighborhoods. Similarly, the physical and aesthetic qualities that define these neighborhoods will not be damaged by poor-quality or insensitively designed new structures, but will be enhanced by design that is respectful of the historic and cultural context.

Functionally, transit and road systems will effectively encourage efficient travel choices within manageable congestion levels. Freight mobility will be maintained by appropriately-sized streets, truck routes, highways and inter-connected rail systems. Industrial uses south of the study area, including Port activities, will be protected through thoughtful transition from the mixed use environment of South Downtown to the maritime industrial environment of the Duwamish. New development will be energy-efficient and incorporate features and techniques that will support environmental sustainability.

Emphasis on Recommending Land Use and Zoning Actions

The planning process has focused on how land use and zoning regulations may better support the diverse planning objectives related to residential and economic growth. These regulations typically focus on the size and shape of buildings, and the intended overall land uses and functions encouraged in specific areas. They also address complementary purposes such as urban design, public spaces, architectural quality, and how different areas relate in their functioning and characteristics. These factors also play an important role in influencing overall livability and character.

Identifying and implementing land use and zoning actions to support future growth in South Downtown will continue to be a high priority of the Livable South Downtown planning process. This will include consideration of supporting strategies or actions that may be needed to avoid or mitigate significant adverse impacts. In addition, recommendations will touch on other matters relating to livability, including housing, economic development, public safety, transportation, utilities and the environment.

Themes That Inform the Land Use and Zoning Recommendations

The planning analysis continues to support the goals, themes and approaches identified in the Phase 1 Staff Report:

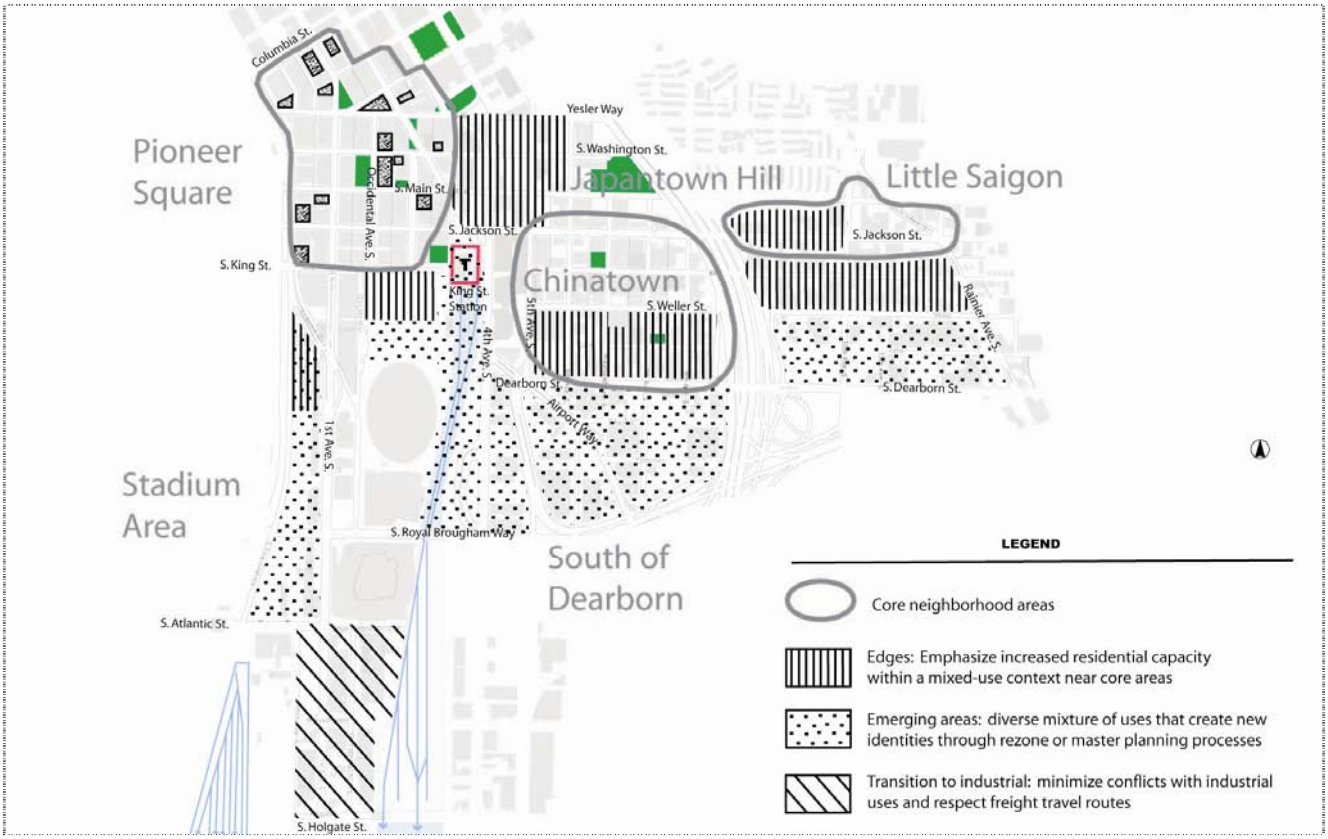
Area-Wide Themes

- Create diverse opportunities for housing
- Ensure continued mobility
- Prioritize good design and connectivity
- Reinforce historic preservation policies and regulations
- Support the economic health of South Downtown
- Support sustainable patterns of development and transportation consistent with the City's Comprehensive Plan

Geographic Themes

- Careful infill in existing core neighborhoods
- Housing emphasized in "edge" areas
- A mix of uses in "emerging areas"
- Transition to industrial

Figure 2-2
Geographic Themes



Area-wide and geographic themes have implications for the range of actions likely to be included in final recommendations (see Figure 2-2 above). They suggest a priority for actions that will encourage compatible infill growth within the historic core neighborhoods, to enliven them and activate

underutilized areas. Similarly, the themes suggest a preference for increased development capacity, particularly for residential-oriented development, to grow efficiently around core neighborhoods.

In the "emerging areas", generally those south of the historic neighborhoods, south to S. Royal Brougham Way (and S. Dearborn Street in Little Saigon), the planning themes support actions that would increase development capacity, allowing employment growth, as well as encouraging opportunities for residential development where it would support neighborhood objectives.

In the southern portion of the study area, the themes support a transition to industrial use and activity to the south. Transition may favor the retention of current zoning, or a transition in height and density between Downtown and the Greater Duwamish Manufacturing and Industrial Center.

References to Geographic Areas Throughout the Draft EIS Report

Throughout the DEIS, both formally-recognized and informal references are made to specific geographic sub-areas within South Downtown to aid discussion (see Figure 2-3). In general these sub-areas are identified as follows:

Pioneer Square refers to areas that are zoned Pioneer Square Mixed (PSM) within the Pioneer Square neighborhood area.

Central Pioneer Square, or the "core" generally refers to areas located within the PSM 100 zone.

Chinatown/International District (I.D.), as a designated neighborhood refers to areas within South Downtown located east of 4th Avenue S., north of approximately S. Dearborn Street and west of Rainier Avenue S. However, some analyses refer to the Chinatown vicinity as the portion of this neighborhood west of I-5 approximately south of S. Main Street.

Chinatown historic core refers to areas located within the National Register Historic District. These areas are zoned IDM 75-85, predominantly north of S. Weller Street, south of S. Main Street and east of 5th Avenue S.

Japantown refers to the northern portion of Chinatown/I.D. located approximately north of S. Jackson Street and east of 4th Avenue S. The hill portion of Japantown is located east of 5th Avenue S. between Yesler Way and S. Jackson Street.

South-of-Dearborn means the area located south of S. Dearborn Street and east of 4th Avenue S. Lands in the South-of-Dearborn areas are currently zoned for general industrial (IG2) and general commercial (C2) use.

Little Saigon refers to the area within the Chinatown/I.D. neighborhood that is located east of Interstate 5, to approximately Rainier Avenue S.

The WOSCA property is located on IC-65' zoned land north of Royal Brougham Way and west of 1st Avenue S., north almost to Railroad Way S. "WOSCA" refers to former site users, the "Washington Oregon Shippers Cooperative Association."

The Stadium Area primarily refers to land located within the Stadium Transition Overlay, near the 1st Avenue S. corridor south to S. Holgate Street, and both sides of the 4th Avenue S. corridor south to S. Royal Brougham Way.

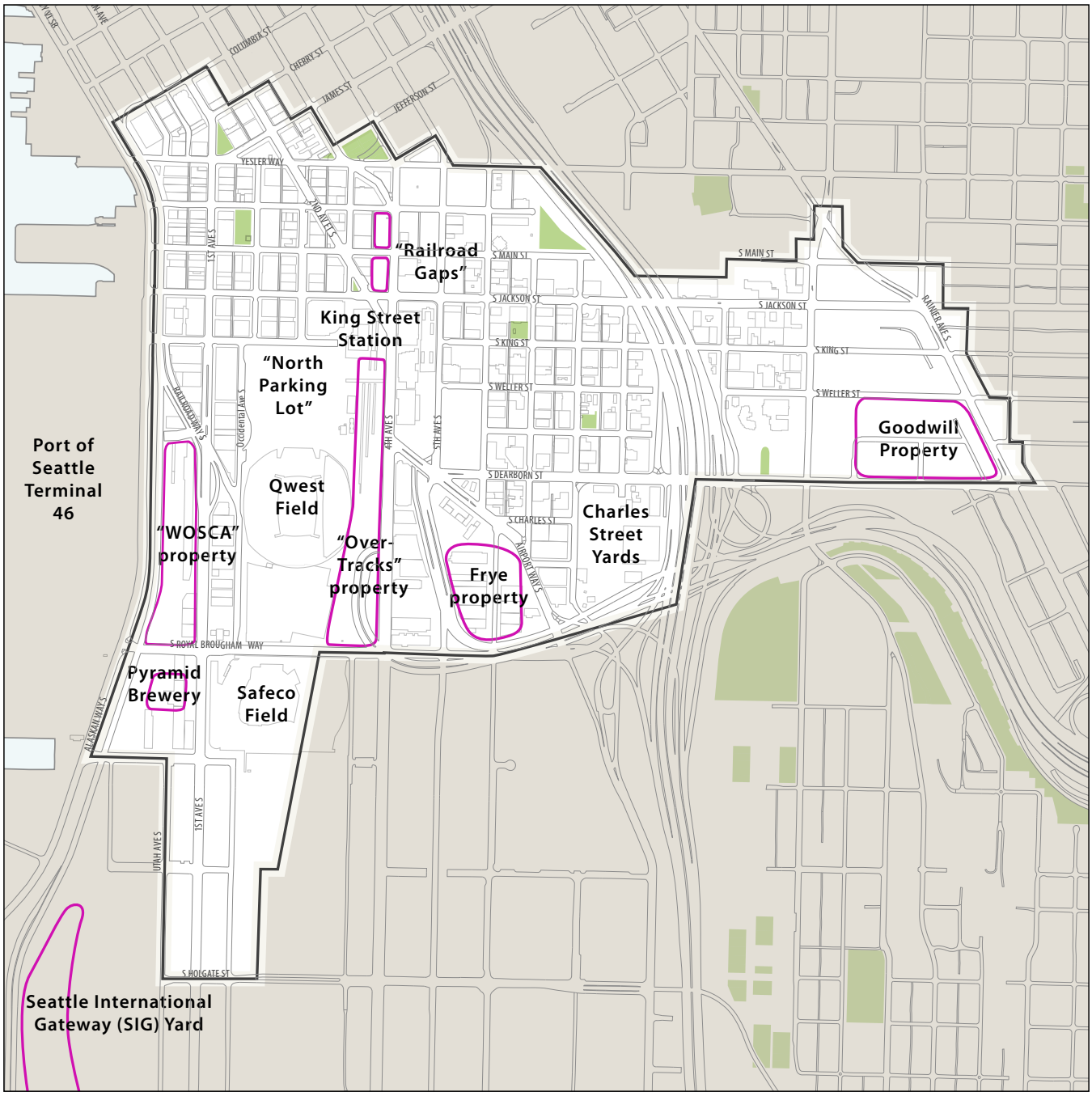


Figure 2-3

Properties Identified in the EIS Analysis

Livable South Downtown

The "Over-Tracks" property refers to the vicinity just west of 4th Avenue S. between approximately King Street Station and S. Royal Brougham Way, that primarily consists of development rights directly above the existing railroad right-of-way. A limited amount of other property not over the railroad tracks is also located in this vicinity.

The "Railroad gap" properties are two half-blocks located north of S. Jackson Street on the west side of 4th Avenue S., within Pioneer Square zoning. These properties extend north to S. Washington Street, north of which is the portal to a rail tunnel below Downtown. These blocks contain railroad right-of-way at ground level, which is below the street level of 4th Avenue S.

How and Why SEPA Alternatives are Defined

The EIS alternatives, defined by City staff, cover a range of possible land use and zoning actions and Code amendments. The net result of these alternatives will be a varied development pattern across the study area, with a range of possible environmental impacts. The EIS findings provide perspective on the range of choices and how particular choices could influence the future shape, patterns, and impacts of development.

Preparation of SEPA EISs for "programmatic" or "non-project" actions is allowed "more flexibility… because there is normally less detailed information available on their environmental impacts..." State law indicates that "the lead agency shall discuss impacts and alternatives in the level of detail appropriate to the scope of the non-project proposal and to the level of planning for the proposal." (SMC 25.05.442).

Environmental review provides information to decision-makers so they can choose from a range of possible actions. This range of choices can vary from "no change" to the maximum level of change under consideration. The studied alternatives should be defined to cover this range, an approach known as "bracketing" or "book-ending." Decisionmakers then can be confident that combinations of possible choices that are made within the range of the alternatives have received sufficient environmental review. Otherwise, supplemental analysis may be needed. The Alternatives studied in this EIS follow this approach.

This EIS also is likely to support "phased review" of future development proposals in the study area, as indicated by SMC 25.05.060 E. Future development proposals may adopt all or part of a programmatic SEPA analysis and add further site-specific impact analysis as necessary. This can increase the efficiency of environmental review for development proposals in the study area.

DESCRIPTION OF ALTERNATIVES

The EIS alternatives address a range of possible regulatory choices, with different implications for the amount and distribution of future growth and related environmental impacts. Alternative 1's zoning choices would likely result in greater commercial development toward the west of the study area (along the 1st Avenue S. corridor, including the WOSCA property), while Alternative 2's zoning choices would likely result in greater concentration of commercial development toward the east and central portion of the study area (along the 4th Avenue S. and Airport Way S. corridors, including the "over-tracks" and Frye properties sites). Alternative 3 assumes a more balanced distribution of future growth across the study area. Alternative 4 is the "No Action Alternative" that analyzes what may happen with future growth and development if no changes are made to existing zoning and the Land Use Code. Refer to Figures 2-1 and 2-3 for location of subareas and key identified locations, and see Figures 2-4, 2-5, 2-6 and 2-7 for depictions of the Alternatives.

Alternative 1 – Neighborhood Infill with Commercial Growth Toward the West

Overview of Planning Concept

Alternative 1 encourages growth that will reinforce the neighborhood core areas, with modest expansion of development capacity in other peripheral vicinities. This means that the rezones would encourage infill development within the Pioneer Square and Chinatown/I.D. cores in locations where historic resources would not be directly impacted. Additional zoned development capacity would be provided in three areas at the edges of these neighborhood cores—the Qwest Field north lot vicinity, the Japantown vicinity (especially between 4th and 6th Avenues north of S. Jackson Street) and in the northern portion of the WOSCA property. This should result in the central neighborhoods experiencing the benefits of increased residential occupation, a more engaging streetscape with greater continuity of uses, and improved business vitality.

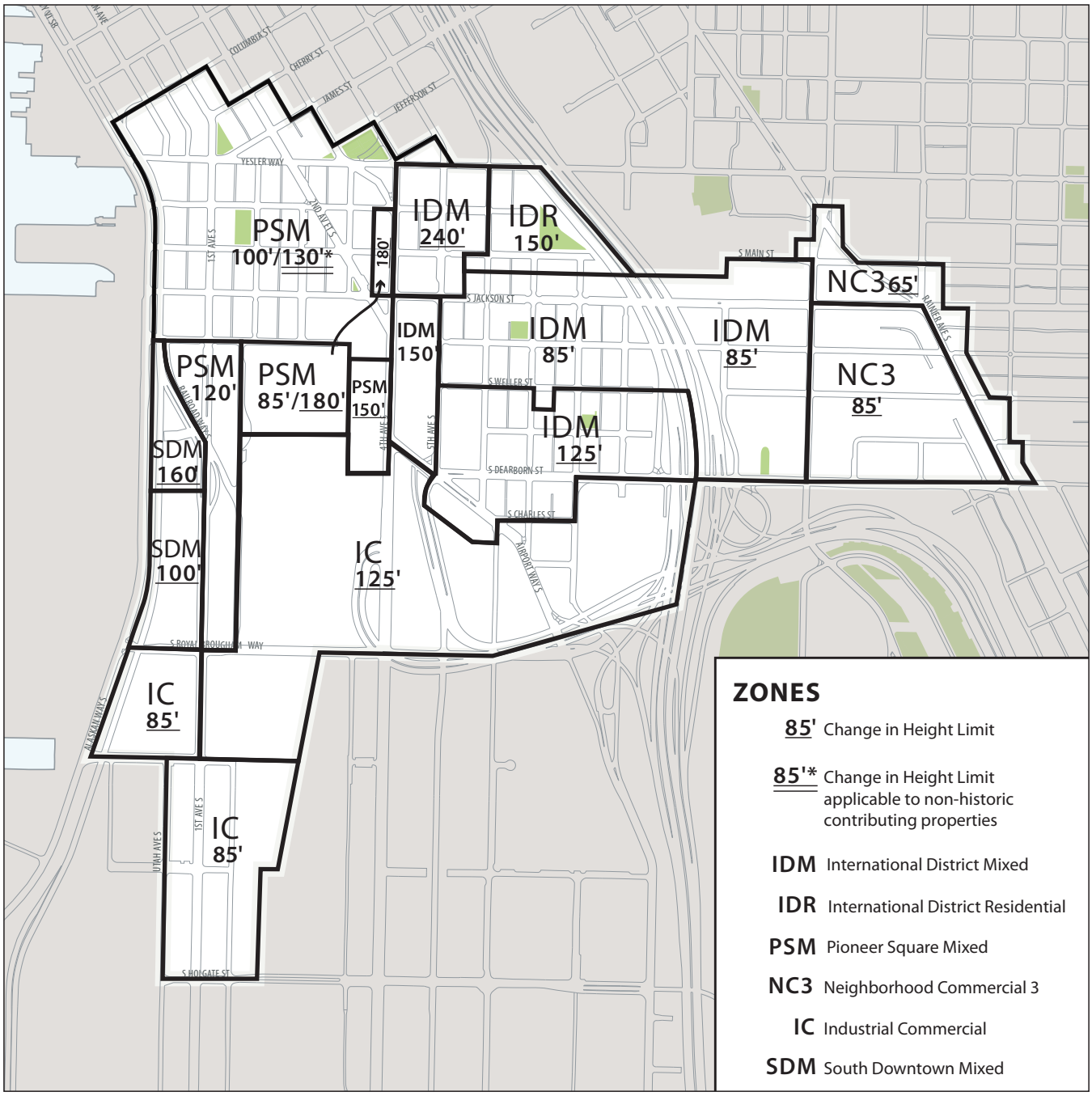
An emphasis on commercial growth "toward the west" would occur in part through increases in commercial development capacity along the 1st Avenue S. corridor south of Pioneer Square. The following summarizes Alternative 1's proposals for the individual subareas within South Downtown. Also, see Figure 2-4.

Zoning to Encourage Infill Development in Neighborhood Core Areas

Additional residential or commercial infill development of vacant properties would likely result in a more continuously activated streetscape within neighborhood core areas, thereby improving overall vitality and safety. Zoning and land use regulations would encourage infill development that is compatible with and complementary to existing development in neighborhood core areas. In Pioneer Square, the alternative envisions allowing additional height to encourage infill development at vacant properties (most in parking lot use) and at non-historically-contributing properties (see Appendix I). In the Chinatown/I.D. core, zoning changes would target the blocks south of S. Weller Street, outside the National Register Historic District, for residential infill development.

Increased Residential Development Capacity at Edges of Core Neighborhoods

Zone changes to encourage a significant new and denser residential presence at the edges of the neighborhood cores would help revitalize these established neighborhoods. Infill high-density residential development would add a new residential presence, would efficiently use these lightly developed areas near the King Street Station transit hub, and would provide a more continuously activated streetscape, all of which would augment neighborhood character. Affected areas include the Japantown vicinity located between 4th and 6th Avenues S. and approximately S. Jackson Street and Yesler Way, the northern portion of the Qwest Field parking lot, and properties near Railroad Way S. (south to approximately S. Dearborn Street, if extended) on the west side of 1st Avenue S. This 1st Avenue S. vicinity is part of an area that would



Note: Height limits shown correspond to maximum heights of future development anticipated by zoning concepts. However, final zoning designations could vary from this labeling.

Figure 2-4

Livable South Downtown

Alternative 1 Zones

be moved from the Greater Duwamish Manufacturing and Industrial Center into the Downtown Urban Center.

Increased Commercial Development Capacity along 1st Avenue S.
Zone changes along the west side of 1st Avenue S., south of approximately S. Dearborn Street (if extended) would encourage dense new commercial development with high-quality design, open space and pedestrian features, primarily on the WOSCA property, as far south as S. Royal Brougham Way. In this location, a new "South Downtown Mixed" (SDM) zone would be created to facilitate development that would include high-quality architectural design, public open space features, and pedestrian amenities. These zoning changes would help improve the character of development in the corridor that lies between State Route 99 to the west and Pioneer Square-zoned properties on the east side of 1st Avenue S. As noted above, this vicinity would be moved into the Downtown Urban Center.

Moderate Commercial Concentration along 4th Avenue S. and the south-of-Dearborn vicinity
Alternative 1 would accommodate a moderate amount of additional density of commercial development along the west side of 4th Avenue S. above and near the existing railroad corridor. This would occur within the Pioneer Square Mixed and Industrial Commercial zones through increases in height and density limits.

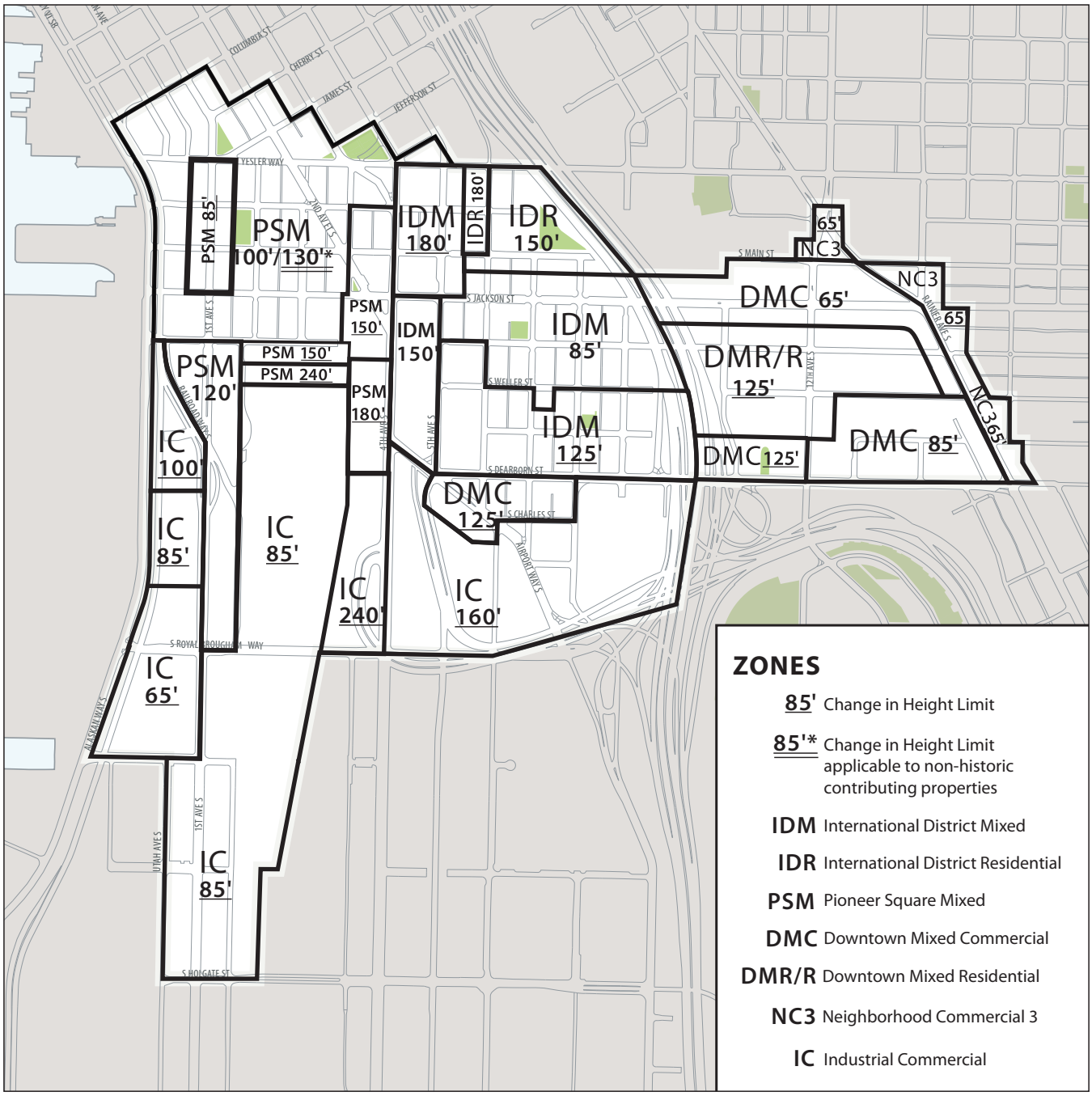
Retention of Industrial zones and transition to industrial center to the south
Areas on the southern periphery of the study area would continue to be zoned Industrial (proposed as Industrial Commercial zones) prohibiting housing, and accommodating development that is compatible with and provides a transition to the industrial areas to the south. Under Alternative 1, the block containing the Pyramid Brewery (refer to Figure 2-4), between S. Atlantic Street and S. Royal Brougham Way, is proposed for a 20-foot increase in height limit to 85 feet but with no additional development capacity proposed.

Alternative 2 – Neighborhood Infill with Commercial Growth Toward the East

Overview of Planning Concept

Similar to Alternative 1, Alternative 2 encourages infill development within the central areas of Pioneer Square and the Chinatown/I.D., and dense residential development at the edges of the core neighborhoods on properties that are vacant, underused, or consist of non-historically-contributing structures. The primary difference is that Alternative 2 assumes an increased concentration of commercial development within the central and eastern portion of the study area. This would test a scenario of significant commercial growth along the 4th Avenue S. corridor, south of S. Dearborn Street, and in Little Saigon. The south-of-Dearborn vicinity would remain industrially-zoned, allowing more intensive commercial and industrial development transitioning to the more intensive industrial zone (IG2) to the south. No changes to Downtown Urban Center boundaries are proposed under this alternative. The following summarizes Alternative 2's proposals for the individual sub-areas within South Downtown (see Figure 2-5).

Zoning to Encourage Infill Development in Neighborhood Cores
Similar to Alternative 1, additional infill development of vacant properties would likely increase residential development and result in a more continuously activated streetscape within the neighborhood cores. Adjustment to zoning and land use regulations would encourage infill development compatible with and complementary to the neighborhood cores. In Pioneer Square, in addition to Alternative 1 strategies, maximum height limits would be assigned in sub-areas within the historic district to recognize variation in the existing building patterns. Also, an optional zoning strategy that would favor residential infill development in the core of Pioneer Square is studied. In the Chinatown/I.D. core, the Alternative 2 proposal is for rezones to 125 feet for residential-oriented development south of S. Weller Street similar



0 2 4 6 8 10
Scale in 100 Feet

N

Note: Height limits shown correspond to maximum heights of future development anticipated by zoning concepts. However, final zoning designations could vary from this labeling.

Figure 2-5

Livable South Downtown

Alternative 2 Zones

to Alternative 1, but also an extension of the 125-foot zone to the "old Uwajimaya grocery" block that is north of S. Weller Street, east of 5th Avenue S., south of S. King Street, and west of 6th Avenue S. Also, the optional zoning strategy of accommodating residential uses at ground-level is analyzed.

Increased Residential Development Capacity at Edges of Core Neighborhoods
Similar to Alternative 1, a significant new residential presence at the periphery of the neighborhood cores would contribute toward revitalization of these established neighborhoods, and extend the pattern of development between the core neighborhood areas. Alternative 2 includes a proposal to increase maximum height limits to 180 feet in the Japantown vicinity (see Figure 2-5), to 240 feet in a portion of the Qwest Field north parking lot, and to 125 feet in Little Saigon.

Increased Commercial Concentration along 4th Avenue S. and the south-of-Dearborn vicinity
Zoning choices would accommodate a significant concentration of commercial uses in these areas immediately east of Qwest Field (over and near the railroad tracks) and south of the Chinatown/I.D. neighborhood. Areas over the railroad tracks would accommodate a greater concentration of commercial uses in a Pioneer Square zone with a height limit to 180 feet north of S. Dearborn Street (if extended), and Industrial Commercial zoning in the southern portion of this 4th Avenue S. corridor, with height limits extending to 240 feet. The denser commercial character would also extend to the south-of-Dearborn vicinity, with maximum height limits to 160 feet possible in Industrial Commercial zoning.

Industrial and Commercial mix retained along 1st Avenue S.
Under Alternative 2, the retention of Industrial Commercial zoning within the Stadium Transition Overlay, with modest increases in height limits, would accommodate taller buildings in the northern portion of the WOSCA property vicinity, but with no increase in maximum development density.

Increased Residential Development Capacity in Little Saigon
Alternative 2 zoning options encourage denser and taller residential-oriented mixed-use development in a Downtown Mixed Residential (DMR/R) zone with a 125-foot height limit, on properties from one-half block south of S. Jackson Street to S. Weller Street (and some abutting properties to the south), east of I-5 to just west of Rainier Avenue S. They also encourage retention of the commercial-use orientation of corridors along S. Jackson Street, S. Dearborn Street and Rainier Avenue S., through Downtown Mixed Commercial (DMC) and Neighborhood Commercial 3 (NC3) zones (see Figure 2-5). This would allow continued functioning as a retail commercial center while providing the possibility of a new residential population. Downtown Mixed Residential and Downtown Mixed Commercial zones would acknowledge the area's location within the Downtown Urban Center, and would accommodate the collection and possible future use of bonus funds for affordable housing development in this vicinity.

Alternative 3 – Balanced Growth

Overview of Planning Concept

Alternative 3 defines a more balanced distribution of future employment growth capacity throughout the study area compared to the other alternatives. This includes lesser increases in zoned height limits in several areas, moderate changes in commercial capacity across the emerging area's large properties, and consistent Neighborhood Commercial (NC3-85') zoning throughout the Little Saigon vicinity (see Figure 2-6). Alternative 3 also includes a 20-foot increase in height limits to IC 85' north of S. Atlantic Street and hotel uses as a permissible use within the Stadium Transition Area Overlay. No zoning changes are proposed within the Chinatown/I.D. core, but in the south-of-Dearborn vicinity a new South Downtown Mixed zone with a 160-foot height limit is proposed to allow for a more diverse mix of uses, including residential uses. Alternative 3 includes a proposal to move the WOSCA property and south-of-Dearborn vicinity into the Downtown Urban Center and out of the Greater Duwamish Manufacturing and Industrial Center.

The following summarizes Alternative 3's proposals for the individual subareas within South Downtown.

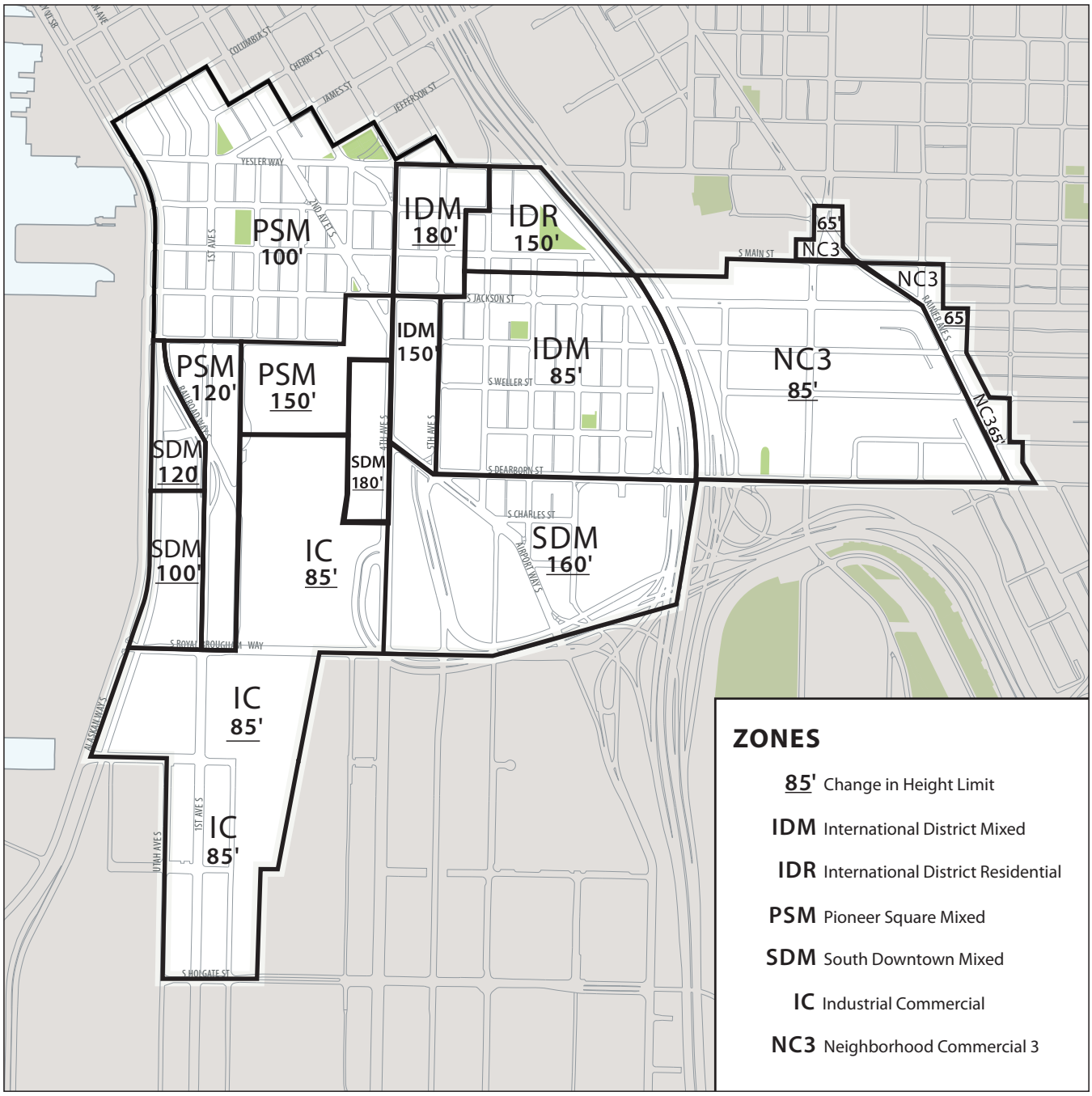
Zoning to Encourage Infill Development in Pioneer Square
Similar to Alternatives 1 and 2, adjustments to zoning and regulations to suit the needs and characteristics of the Pioneer Square neighborhood core would encourage compatible infill development. Alternative 3 examines the possibility of other height limit strategies for Pioneer Square that do not include an incentive to exceed 100 feet in the area currently zoned PSM 100' and other property east to 4th Avenue S. In the Chinatown/I.D. core, Alternative 3 retains the existing zoning with no changes.

Moderately Increased Residential Development Capacity at Edges of Cores
Additional residential presence is encouraged at the periphery of the neighborhood cores, but with modest increases in height and development capacity that may have fewer impacts in terms of aesthetics and building bulk. This includes height limits to 180 feet in the Japantown vicinity, to 150 feet in the Qwest Field north parking lot, and to 120 feet in the northern portion of the WOSCA property.

Mixed-Use Zoning South of S. Dearborn Street
Alternative 3 would rezone from industrial and commercial zones to a new South Downtown Mixed (SDM) zone that would accommodate mixed uses and a range of possible forms of development. This could result in future growth that is complementary to the adjacent Chinatown/I.D. core. Increased height and density, and provisions to allow residential use through a special review process, could promote more intensive mixed use development.

Moderately Increased Commercial Development Capacity along 1st and 4thAvenue S.
For Alternative 3, the proposed SDM zoning with height limits ranging from 100 to 120 feet along the 1st Avenue S. corridor and to 180 feet along the 4th Avenue S. corridor (south to approximately S. Charles Street) would encourage more evenly distributed commercial growth through the center of the study area.

Moderately Increased Mixed-Use Development Capacity in Little Saigon
For Alternative 3, the Little Saigon vicinity would be zoned Neighborhood Commercial 3 with an 85-foot height limit to provide a modest increase in development capacity consistent across the area between I-5 and Rainier Avenue S., S. Main Street, and S. Dearborn Street. This would allow flexibility in how future development defines overall land use patterns for this neighborhood—for commercial or mixed-use development.



Note: Height limits shown correspond to maximum heights of future development anticipated by zoning concepts. However, final zoning designations could vary from this labeling. (South of S. Atlantic St., IC 85' represents no change from existing zoning.)

Figure 2-6

Livable South Downtown

Alternative 3 Zones

Alternative 4 – No Action

Overview of Planning Concept

Under Alternative 4, the No Action Alternative, no changes would be made to the existing zoning and Land Use Code regulations (see Figure 2-7). The residential and employment growth targets established in the Comprehensive Plan for 2024 would continue to be the benchmarks for expected growth. See the Population and Employment section in Chapter 3 for further discussion.

The current zoning system would likely continue into the foreseeable future, including the existing zoning tailored to the Pioneer Square and Chinatown/I.D. neighborhoods (west of I-5), Industrial zoning with a Stadium Area Overlay along 1st Avenue S. and in the stadium vicinity, general Industrial zoning in the vicinity near Airport Way south of S. Charles Street, and a mixture of Commercial, Neighborhood Commercial and Industrial zoning in the Little Saigon vicinity.

Over time, the trend of gradual infill development in and around the neighborhood cores would likely continue. The northern half of Qwest Field's north parking lot would likely develop with at least 400 residential units. Major transportation projects, including SR99 construction and the second phase of SR 519, are assumed to be in place by 2030.

Summary of Action Alternatives' Zoning Details

Table 2-1 summarizes details of Alternatives 1, 2 and 3.

BENEFITS AND DISADVANTAGES OF RESERVING IMPLEMENTATION

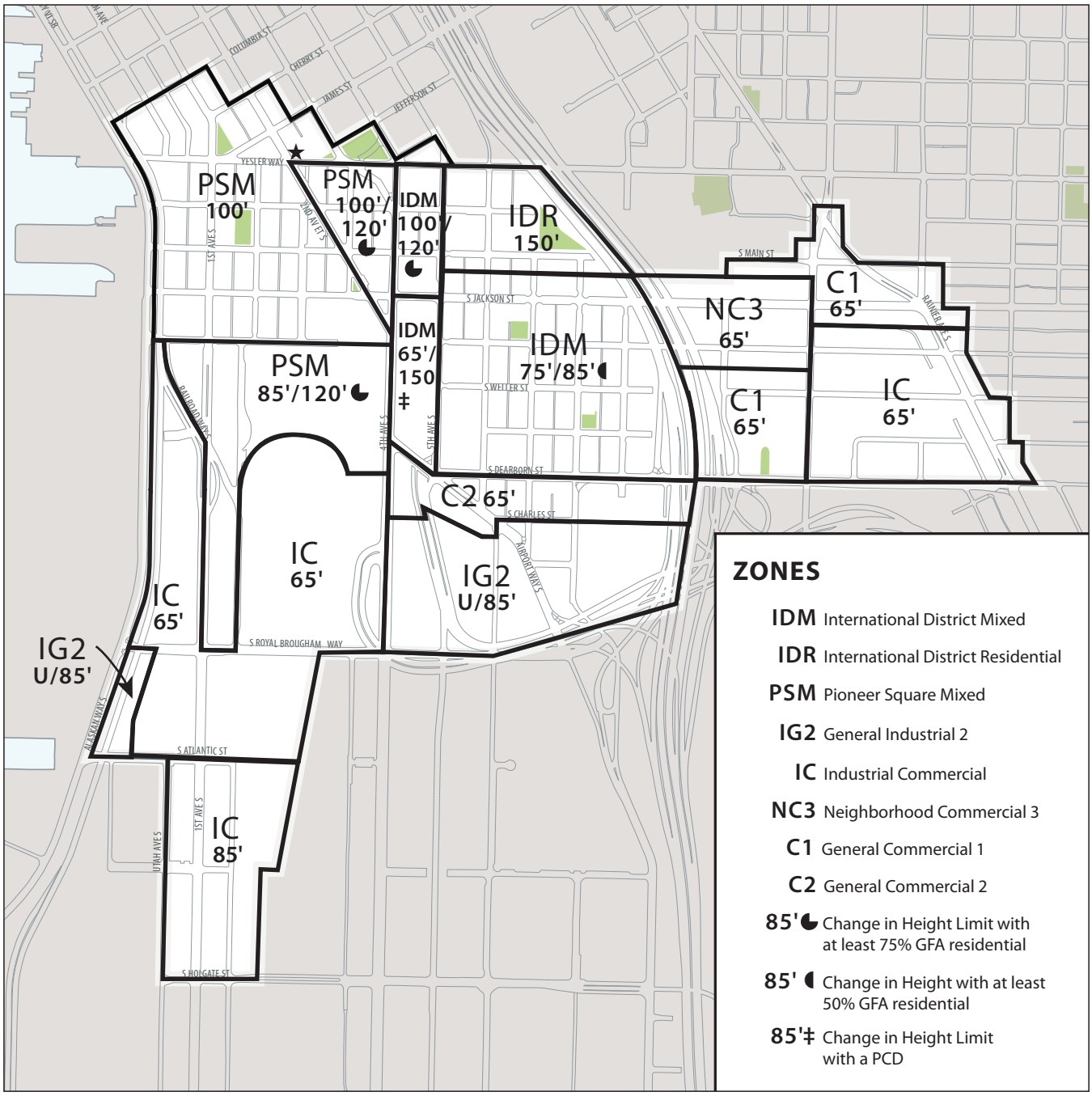
"Reserving implementation" means delaying or stopping decision-making processes on the proposal. This section briefly compares the relative benefits and disadvantages of not taking action.

Benefits

- Reserving implementation of proposed zoning and land use regulatory changes would allow additional time to evaluate growth trends, future growth needs, vulnerabilities of existing resources, and relationships to infrastructure needs.
- Reserving implementation would avoid potential risks inherent in any change away from the status quo.

Disadvantages

- Future infill growth could be delayed or stymied by zoning and land use regulations that do not correspond to contemporary conditions affecting real estate development.
- If current zones are retained, there would be a lost opportunity to adjust zoning in ways that would be compatible with increased density for housing and jobs envisioned by neighborhood plans within the Downtown Urban Center. This could contribute to lesser fulfillment of neighborhood and citywide growth management objectives, inconsistent land use patterns, and perhaps stagnation or declines in the vitality of these neighborhoods.
- There would be a lost opportunity to adjust zoning in ways that would be likely to generate additional funds through future development that would support affordable housing programs and preservation of valued historic resources.
- There would be a lost opportunity to realize physical improvements in the neighborhoods that could include: increased connectivity and quality of the streetscape, other community amenities, and improvements that would better realize environmental sustainability objectives.



0 2 4 6 8 10
Scale in 100 Feet

N

Note: PSM zone with a 245 foot height limit at the Smith Tower shown with a ★

Figure 2-7

Alternative 4 Zones
No Action / Existing Zones

Livable South Downtown

Table 2-1
Summary of Alternative Zoning Details

Sub-Area	Alternative 1	Alternative 2	Alternative 3
Pioneer Square Core	**PSM 100'/130':** • On vacant & non-historic contributing properties, development up to 130 feet • Eliminate the existing "variable height limit" (within 15 feet of bldg. heights on same block or across street) • Consider other code adjustments and regulatory tools and incentives to encourage preservation, rehab and affordable housing	**PSM 85', PSM 100'/130'** • Similar to Alt. 1 in zone to 130 feet, except residential use could be encouraged in upper levels • Eliminate the "variable height limit" • Set a lower 85-foot max height in 1st Ave. S. portion of the core • Consider other code tools and incentives, similar to Alt. 1	**PSM 100':** • Set a consistently applied 100-foot height limit throughout the core, adjusting the existing "variable height limit" mechanism or eliminating it • Consider other code tools and incentives, similar to Alt.1
Qwest Field north half of north parking lot	**PSM 85'/180':** • Density limit: 4.2 FAR base for non-residential uses to 85', 6.7 FAR maximum for all uses to 180' in height. 75% of building in residential uses above 85'. • Floor plate restrictions, upper-level coverage limits or similar strategies on building bulk and extent of non-residential uses	**PSM 85'/240':** • Density limit: 4.2 FAR base for non-residential uses to 85', 6.7 FAR maximum for all uses to 240' in height. 75% of building in residential uses above 85'. • Floor plate restrictions, upper-level coverage limits or similar strategies on building bulk and extent of non-residential uses	**PSM 85'/150':** • Density limit: 4.2 FAR base for non-residential uses to 85', 6.7 FAR maximum for all uses to 150' in height. 75% of building in residential uses above 85'. • Floor plate restrictions, upper-level coverage limits or similar strategies on building bulk and extent of non-residential uses
Over-Tracks property, S. King St. to approx. S. Dearborn St.	**PSM 85'/150':** • Density limit: 3.5 FAR maximum for all uses (no base FAR defined) • Bonus required for building floor area exceeding a base 85-foot height limit • Floor plate restrictions, upper-level coverage limits or similar strategies on building bulk	**PSM 85'/180':** • Density limit: 3 FAR base, 4 FAR maximum for all uses • Floor plate restrictions, upper-level coverage limits or similar strategies on building bulk and extent of non-residential uses	**SDM 85'/180 (south to S. Charles St.)** • Density limit: 3 FAR base, 5 FAR maximum for commercial-only, 6 FAR maximum for all uses in mixed-use • Floor plate restrictions, upper-level coverage limits or similar strategies on building bulk • Public meeting and negotiation process to define public amenity objectives
"Railroad gap" properties, north of S. Jackson St.	**PSM 100'/180':** • No density limit, as in current PSM • Must have 60% of floor area in residential use to reach 180-foot max. height	**PSM 100'/150':** • No density limit, as in current PSM • Must have 60% of floor area in residential use to reach 150-foot max. height	**No Change**

Sub-Area	Alternative 1	Alternative 2	Alternative 3
Chinatown/Japantown Japantown 4th-6th Ave. vicinity	**IDM 100'/240':** • Density limit: No change from existing (residential use does not count against FAR limit) • Floor plate restrictions, upper-level coverage limits at various levels, and minimum site size required for building to extend above 100 feet. • Tower spacing requirement • Minimum site size of 19,000 square feet for building to maximum height • Bonus/TDR participation for density above base limit	**IDM 100'/180':** • Density limit: No change from existing (residential use does not count against FAR limit) • Floor plate restrictions, upper-level coverage limits at various levels, and minimum site size required for building to extend above 100 feet. • Tower spacing requirement • Minimum site size of 19,000 square feet for building to maximum height • Bonus/TDR participation for density above base limit	**IDM 100'/180':** • Same as Alternative 2, except different geographic coverage
Japantown hill area	**IDR 150':** • Density limit: No change from existing (residential development does not count against FAR limit) • Adjustments to upper-level coverage limits at various levels, floorplate dimensional restrictions • Tower spacing requirement	**IDR 150', IDR 180':** • Similar to Alternative 1, but with a variation to 180-foot maximum height for properties on west side of 6th Ave.	**IDR 150':** • Similar to Alternative 1, slight difference in geographic coverage
Core south of Weller St	**IDM 75'/125':** • Density limit: No change from existing • Must have at least 50% of floor area in residential use to reach 125-foot max. height • A 15-foot setback from street property lines at a height of 45 feet • Other specific bulk or setback controls are possible	**IDM 75'/125':** • Same as Alternative 1, but this zone also extended to "old Uwajimaya grocery block" north of S. Weller St. and west of 6th Avenue S.	**IDM 75'/85':** • No change from existing zoning
Between S. Dearborn St. and Charles St.	**IDM 75'/125':** Same as zone shown above	**DMC 125':** • Density limits: 5 base, 7 maximum for all uses • Facades and setbacks: per existing DMC rules	**SDM 160':** • Grouped with South-of-Dearborn Alt. 3, shown below.

Sub-Area	Alternative 1	Alternative 2	Alternative 3
"South-of-Dearborn" Area south of Charles St.	**IC 125':** • Density limit: 3 FAR maximum, exempting the first 75,000 sq.ft. • Façade setback requirements, floorplate restrictions, upper-level coverage limits or similar building bulk controls	**IC 160':** • Density limit: 2.5 FAR base, 3 FAR max., exempting the first 75,000 sq.ft. • Must obtain density above base through participation in bonus/TDR programs • Façade setback requirements, floorplate restrictions, upper-level coverage limits or similar building bulk controls	**SDM 160' (w/block north of Charles St.)** • Density limit: 2.5 FAR base, 3.5 FAR maximum for commercial-only development, 6 FAR maximum for all uses in mixed-use development • Must obtain density above base through participation in bonus/TDR programs • Floorplate restrictions, upper-level coverage limits or similar building bulk controls • Public meeting and negotiation process to define public amenity objectives
Little Saigon West of 12th Avenue S. East of 12th Avenue S. East of Rainier Avenue S.	 **IDM 75'/85':** • Same as existing zoning in the Chinatown core • Density limit: 3 FAR for non-residential uses, 6 for hotels **NC3 85':** • Density limit: 4.5 FAR for single uses, 6 FAR for mixed-use development • Setbacks: Per NC zone, upper levels limited per density limits **NC3 65':** • Density limit: 4.25 FAR for single uses, 4.75 FAR for mixed-use development • Setbacks: Per NC zone, upper levels limited per density limits	**Addressing areas west & east of 12th Avenue S.** **DMR/R 125':** • Density limit: 1 FAR base and 2 FAR maximum for non-residential uses (resid. use not counted in FAR limit) • Facades and setbacks: per existing DMC rules **DMC 65':** • Density limit: 4 FAR base and max. • Facades and setbacks: per existing DMC rules **DMC 85':** • Density limit: 4.5 FAR base and max. • Facades and setbacks: per existing DMC rules **DMC 125':** • Density limit: 5 FAR base, 7 FAR max. • Facades and setbacks: per existing DMC rules **NC3 65':** • Density limit: 4.25 FAR for single uses, 4.75 FAR for mixed-use development • Setbacks: Per NC zone, upper levels limited per density limits	 **NC3 85' (West and East of 12th Ave. S.)** • Density limit: 4.5 FAR for single uses, 6 FAR for mixed-use development • Setbacks: Per NC zone, upper levels limited per density limits **NC3 65' (East of Rainier Ave. S.)** • Density limit: 4.25 FAR for single uses, 4.75 FAR for mixed-use development • Setbacks: Per NC zone, upper levels limited per density limits

Sub-Area	Alternative 1	Alternative 2	Alternative 3
Stadium Area WOSCA property vicinity-north of approx. Dearborn St.	**SDM/R 65'/160':** • 2 FAR base, 3 FAR maximum for commercial-only development, 6 FAR maximum for all uses exempting the first 75,000 sf of ground floor uses per existing Stadium Transition Overlay. • Must obtain density above base through bonus/TDR programs • Floor plate restrictions, upper-level coverage limits or similar tools • Public meeting, negotiation process to define public amenity objectives	**IC 100':** • Density limit: 3 FAR maximum, exempting the first 75,000 sq.ft. • Existing façade setback requiremts.	**SDM/R 65'/120':** • 2 FAR base, 3 FAR maximum for commercial-only development, 6 FAR maximum for all uses exempting the first 75,000 sf of ground floor uses per existing Stadium Transition Overlay. • Must obtain density above base through bonus/TDR programs • Floorplate restrictions, upper-level coverage limits or similar tools • Public meeting, negotiation process to define public amenity objectives
WOSCA property vicinity – south of approx. Dearborn St.	**SDM 65'/100':** • 3 FAR base, 4.5 FAR maximum exempting the first 75,000 sq. ft. of street level retail sales, cust. service • Must obtain density above base through bonus/TDR programs • Floor plate restrictions, upper-level coverage limits or similar tools • Public meeting, negotiation process to define public amenity objectives	**IC 85':** • Density limit: 3 FAR maximum, exempting the first 75,000 sq.ft. • Existing façade setback requirements.	**SDM 65'/100':** • 3 FAR base, 4.5 FAR maximum exempting the first 75,000 sq. ft. of street level retail sales, cust. service • Must obtain density above base through bonus/TDR programs • Floorplate restrictions, upper-level coverage limits or similar tools • Public meeting, negotiation process to define public amenity objectives
"Over-Tracks" property, south of approx. Dearborn St., and other nearby Stadium Overlay area	**IC 125':** • Density limit: 3 FAR maximum, exempting the first 75,000 sq.ft. of street level retail sales, cust. service • Façade setback requirements, floor plate restrictions, upper-level coverage limits or similar building bulk controls	**IC 240':** • 3 FAR base, 5 FAR maximum exempting the first 75,000 sq. ft. of street level retail sales, cust. service • Must obtain density above base through bonus/TDR programs • Floorplate restrictions, upper-level coverage limits or similar tools	**IC 85':** • Density limit: 3 FAR maximum, exempting the first 75,000 sq.ft. • Existing façade setback requirements
East edge of 4th Ave. S., Airport Way to Royal Brougham Way	**IC 125':** • Same as "Over-Tracks" IC zone described above	**IC 160':** • Density limit: 2.5 FAR base, 3 FAR max., exempting the first 75,000 sq.ft. • Must obtain density above base through bonus/TDR programs • Façade setback requiremts., floorplate restrictions, upper-level coverage limits or similar building bulk controls	**SDM 160:** Same as "South-of-Dearborn", as discussed above in Alternative 3

Sub-Area	Alternative 1	Alternative 2	Alternative 3
South of S. Royal Brougham Way ("Pyramid Brewery block")	**IC 85':** • Density limit: 3 FAR maximum, exempting the first 75,000 sq.ft. • Existing façade setback requirements.	**IC 65'** • No change from existing zoning	**IC 85':** • Density limit: 3 FAR maximum, exempting the first 75,000 sq.ft. • Existing façade setback requirements.
Other properties south of S. Royal Br. Wy to S. Holgate	**IC 65' and 85':** • No change from existing zoning	**IC 65 and IC 85:** • No change from existing zoning	**IC 65 and IC 85:** No change from existing zoning

LAND USE—ZONING, LAND USE AND DEVELOPMENT PATTERNS

AFFECTED ENVIRONMENT

SUMMARY OF EXISTING LAND USE AND ZONING

The study area includes land south of the Downtown office core and east of Alaskan Way, including the entire Pioneer Square and Chinatown/International District neighborhoods, the northern periphery of the Greater Duwamish Manufacturing and Industrial Center (MIC), and the western periphery of the Jackson Place neighborhood at Rainier Avenue S. This diverse area is many things to many people, including: a center of historic and cultural heritage, art and tourism; a place to live and work and conduct business; an entertainment center; a transportation hub; and a corridor for commerce and industry.

Land Use Patterns

An overview of South Downtown's land use patterns begins with its neighborhoods and districts.

Pioneer Square

Pioneer Square adjoins the Downtown office core and government core, extending as far north as Columbia Street and as far south as S. Royal Brougham Way. This historic district is characterized by an extensive and varied assemblage of century-old buildings, most with brick and stone facades and distinctive architectural qualities (see the Historic and Cultural Preservation section of this chapter for additional discussion). Typical buildings range from 20 feet up to 100 feet in height. Several taller buildings are located along the 1st Avenue corridor and along S. Jackson and S. King Streets. In the Occidental Park vicinity and eastward to around 3rd Avenue S., lower-height buildings are most common, in the range of approximately 10 to 50 feet. Interspersed throughout the district are approximately 30 properties used as parking lots, garages or with other structures that are considered non-contributing to the historic district. This creates a land use pattern with numerous buildings developed to the property line, but also occasional gaps in the continuity of streetfront uses created by vacant lots.

Complementing this pattern and creating localized open space nodes are Pioneer Place Park, Occidental Park, the Occidental pedestrian mall, Fortson Square and City Hall Park. The combination of a change in street grid orientation and a continuation of 2nd Avenue Extension at an angle from the dominant Pioneer Square street grid creates several triangular blocks and triangular spaces along 2nd Avenue Extension until it intersects with 4th Avenue S. at S. Jackson Street. South of S. King Street, the northern parking lot of Qwest Field creates a large open space, bordered by Qwest Field to the south, railroad tracks and King Street Station to the east, and buildings along Occidental Avenue S. and S. King Street. Along 1st Avenue S. south of S. King Street, an architectural style and building pattern compatible with Pioneer Square extends to uses on both sides of the street for approximately two blocks and then only on the east side of 1st Avenue S. to S. Royal Brougham Way. The west side is part of the Greater Duwamish MIC.

The mix of street-level uses in Pioneer Square includes many retail businesses devoted to tourism and specialty goods, art galleries, restaurants, bars and nightclubs, and social service agencies. Upper-story uses include a variety of offices, artist live-work spaces, social services, housing and assorted commercial uses. Some upper-story floors in historic buildings may be under-utilized or vacant. Residential uses are not very visible in the mix of uses, except the Florentine Condominiums south of S. King Street and subsidized housing structures such as the Morrison and Frye Hotels on Third Avenue near the King County Courthouse. However, recent renovation or new construction is bringing an increased inventory of residential uses in some vicinities, including the Lowman Building apartments (near 1st and Cherry),

the Tashiro Kaplan Building (at Prefontaine Place), and the Quintessa Apartments near 2nd and Yesler Way. The Smith Tower is also in design and permitting for conversion to residential uses.

King Street Station provides a hub for regional commuter trains, Amtrak and other train traffic. The bus tunnel stations accessed in Pioneer Square via 3rd Avenue entrances and near Union Station at 5th Avenue S., and various surface bus stops nearby King Street Station complement this hub by providing bus and eventual light rail transit service that generates daily commuting activity in the vicinity.

Chinatown/International District

This neighborhood and historic district adjoins the Downtown office core and government center, east of Pioneer Square between approximately Yesler Way to the north and S. Charles Street to the south. Its boundaries extend from 4th Avenue S. east to Rainier Avenue S., also encompassing the Little Saigon neighborhood described later. The Chinatown and Japantown vicinities west of I-5 are characterized by a varied assemblage of buildings, many with brick and stone facades and historic architectural character, located within a north-south-east-west gridiron street system. Most of the buildings range from 10 feet to approximately 60 feet in height; in Japantown a few residential buildings range up to approximately 150 feet. The architecture and use patterns in these areas reflect the cultural heritage of the Asian American communities of Seattle, and have historically served as a business and activity center for those communities. Street-level uses include a wide variety of restaurants, customer service offices, specialty goods stores, grocers, banks, a post office, private associations and social service providers. Upper-level uses include several buildings with residential uses, others with office or service uses, private associations, and a number of buildings with vacant or under-utilized upper floors.

Physically, the land use patterns include the densest core of historic buildings within a National Register Historic District that extends approximately between S. Main Street, S. Weller Street, 5th Avenue S. and I-5. This encompasses the active east-west corridors of S. King Street and S. Jackson Street. The vicinity centered at 6th Avenue S. and S. Main Street is known as Japantown or Nihonmachi, with a collection of buildings identified as a center of Japanese-American architectural and cultural heritage. Between approximately S. Main Street and Yesler Way to the north along 6th Avenue S., the pattern of use is primarily in apartment buildings of varying ages and heights, interspersed with parking lots, and other uses such as the Nippon Kan Theater commercial building. In this same vicinity between 4th and 5th Avenue S. is a lightly developed vicinity including surface parking lots that is a transitional area between Pioneer Square, Downtown and this neighborhood. A new Emergency Operations Center and fire station, under construction, will occupy one of the blocks in this vicinity.

At the west perimeter of the Chinatown neighborhood south of S. Jackson Street, a series of large office buildings and Union Station form an employment center and a physical "edge" that is penetrated by a few pedestrian walkways most notably at S. Weller Street, connecting to the Weller Street Bridge west of 4th Avenue S.

South of S. Weller Street in the Chinatown neighborhood, the character of development includes a mix of newer residential/mixed-use buildings, parking lots and utilitarian single-use buildings, as well as the Uwajimaya mixed-use grocery/retail and apartment complex. Compared to Pioneer Square, the Chinatown/Japantown neighborhood as a whole is less densely developed, and includes more parking lots and vacant or lightly developed properties in its land use mix.

Little Saigon and Jackson Place

This neighborhood, east of I-5, is the easternmost extension of the Chinatown/International District neighborhood and the Downtown Urban Center. It is characterized by a varied mixture of predominantly

commercial buildings, ranging from warehouses and poultry processing, to grocery stores, small businesses, social service agencies, small office buildings, churches, and the mixed-use Pacific Rim Center. Most of the buildings range from approximately 10 to 30 feet in height. Physically, this vicinity is characterized by its long east-west blocks, the intersecting S. Jackson Street and 12th Avenue S. corridors, and a terraced topography bounded by upslopes north of S. Jackson Street and downslopes south of S. Lane Street.

Little Saigon is identified as a key center of Vietnamese-American community business and cultural activity in Seattle. Many households take advantage of the clustering of businesses, restaurants, and nearby religious facilities to make this neighborhood a multi-stop destination, especially on weekends. In addition, this area is considered a point of entry where immigrants can find an economic foothold in the workforce and business world.

The most active business center is located at 12th Avenue S. and S. Jackson Street, with several small-scale commercial buildings providing space for numerous businesses, service providers and restaurants. Several of these uses include parking for automobiles between the street and the building. Along S. King Street is a diverse mixture of retail, warehouse, wholesale, goods and services uses, along with the historic Victorian Row Apartments. Along S. Weller Street, uses include the Leschi Center that provides services to Native Americans, and a variety of light industrial, commercial, and office uses east of 12th Avenue S. In the southeast corner of this vicinity is the Goodwill property south of S. Weller Street and west of Rainier Avenue S.

To the east of this vicinity across Rainier Avenue S. are the Jackson Place residential neighborhood and S. Jackson Street commercial corridor, to the north is the Yesler Terrace residential community and to the southeast is the continuation of the Rainier Avenue S. commercial/industrial corridor. The southeast-northwest angle of Boren Avenue S. provides an approximate northern edge to Little Saigon, connecting with Rainier Avenue S. and S. Jackson Street to form a five-way intersection. Commercial uses are located along both sides of Rainier Avenue S., and within a narrow transitional area immediately to the east of Rainier Avenue S. that is part of the Jackson Place vicinity. In this vicinity, the topography toward the east defines a transition in land use to low-density residential uses and provides territorial views for occupants. The Seattle Housing Authority is beginning to evaluate future development actions in the Yesler Terrace vicinity north of Main Street and east of I-5.

Stadium Area and "south-of-Dearborn"

These study areas lie at the northern bounds of the Greater Duwamish MIC, extending as far south as S. Holgate Street in the 1st Avenue S. vicinity and S. Royal Brougham Way elsewhere. Functionally, these vicinities serve as a transitional area between Downtown neighborhoods to the north and the industrial area to the south, accommodating a variety of industrial and commercial uses. In addition to the Qwest Field Event Center and Safeco Field complexes, the mix of industrial and commercial uses includes restaurants, warehouse/distribution, home products retail stores, wholesale, parking lots and offices. The WOSCA property extends north of S. Royal Brougham Way on the west side of 1st Avenue S. in this vicinity, representing the northernmost extension of the MIC. The 1st Avenue S., 4th Avenue S., S. Royal Brougham Way and Occidental Avenue S. corridors are intermittently affected by stadium and event center activities, such as 80+ baseball games a year, 10 football games a year, and numerous other regularly scheduled soccer, tradeshow and concert activities. These events bring large volumes of pedestrians and related festival-style street vending that intermittently affect traffic congestion and the efficiency of business activities.

South of S. Dearborn Street in the Airport Way S. vicinity, uses include warehouses, printing, automobile repair, City operations yard, food preparation and distribution, as well as the William Booth Center (transitional housing), the vacant former Immigration and Naturalization Service (INS) building, and parking lots. Typical buildings in these vicinities range from 10 to 20 feet in height.

The largest nearby uses west and southwest of this vicinity are the Port of Seattle Terminal 46 container terminal and Seattle International Gateway (SIG) Railyard. These facilities provide for movement of large volumes of goods into and out of the country via container traffic by ship, truck and rail. Truck movements to and from the terminal occur via all streets in the local network, including movements that transfer goods to and from trains. A "tail track" that extends north-south near Alaskan Way allows for connection of railcars and other train movements. East of the stadiums, a Burlington Northern Santa Fe (BNSF) railyard and rail corridor serves Sound Transit, Amtrak and other rail service to/from King Street Station; at-grade rail crossings intermittently affect traffic on Royal Brougham Way and S. Holgate Street. Also adjacent to the study area at S. Atlantic Street, the Bemis Building provides live/work space for more than 30 tenants. East of 4th Avenue S. and south of S. Royal Brougham Way, the dominant uses near the study area are transportation-oriented, primarily related to the King County Metro bus base.

Zoning Patterns

Pioneer Square

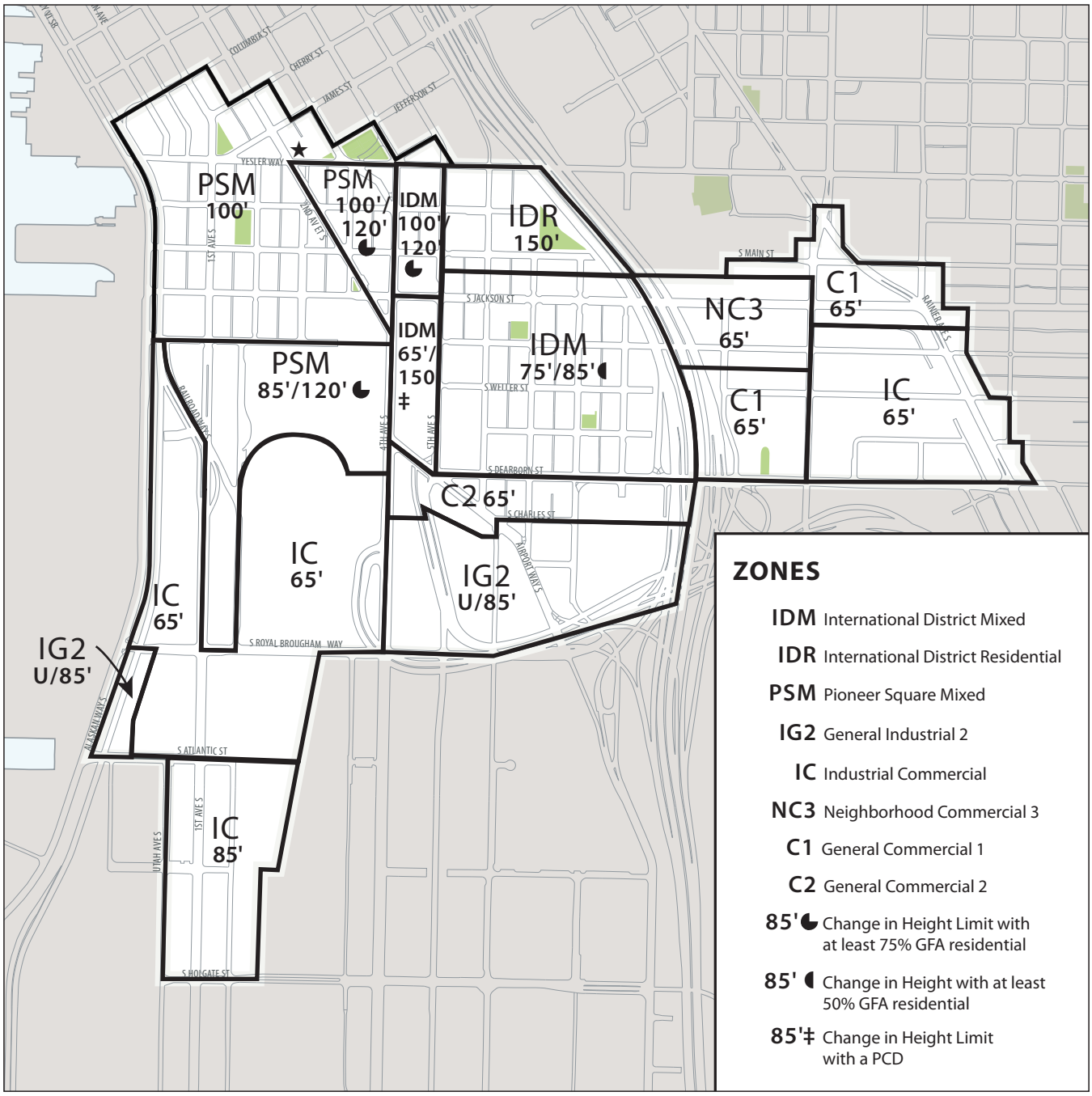
The Pioneer Square neighborhood is uniformly zoned "Pioneer Square Mixed" (PSM), denoting a Special Review District and neighborhood-specific zone regulations. The PSM zone accommodates a wide variety of uses, but prohibits several types of heavy commercial and light industrial uses. Four different height districts are present in Pioneer Square: a 100-foot district, an 85/120-foot district, a 100/120-foot district, and a 245-foot district (the latter primarily at the Smith Tower property). The 100-foot district is the most prevalent, covering most of the area between Columbia Street and S. King Street. The 100/120-foot district lies predominantly east of Second Avenue Extension south of Yesler Way. The 85/120-foot district lies south of S. King Street in the stadium vicinity, including the North Lot of Qwest Field and properties along the east side of 1st Avenue S. south to Royal Brougham Way (see Figure 3-1). The maximum 120-foot height may be achieved in these areas only if 75% of the floor area of a building is in residential use.

Chinatown/I.D. West of I-5

This area is zoned "International District Mixed" (IDM) or "International District Residential" (IDR), denoting a Special Review District and neighborhood-specific zone regulations. The IDM and IDR zones accommodate a wide variety of uses, but prohibit several types of heavy commercial and light industrial uses. The IDR zone encourages residential uses. Three different height districts are present in the IDM zone: a 75/85-foot district, a 100/120-foot district, and a 150-foot district. The 75/85-foot district is the most prevalent, covering the central area between the north side of S. Jackson Street to S. Dearborn Street, and from 5th Avenue S. east to I-5. The 100/120-foot district lies north of S. Jackson Street in the 4th and 5th Avenue vicinity, adjacent to the similar height Pioneer Square zone. In both the aforementioned zones, the maximum heights may be achieved in these areas if 50% of the floor area of a building is in residential use. The 150-foot district defines the Union Station office development vicinity between 4th and 5th Avenues S., between S. Jackson Street and Airport Way S. (see Figure 3-1).

Little Saigon

This area east of I-5 includes two commercial zones and one industrial zone that are unusual in their application to areas within the Downtown Urban Center. The "General Commercial 1" (C1) zone is



0 2 4 6 8 10
Scale in 100 Feet

N

Note: PSM zone with a 245 foot height limit at the Smith Tower shown with a ★

Figure 3-1

Existing Zones

Livable South Downtown

present along S. Jackson Street east of 12th Avenue S., and also west of 12th Avenue S. on properties accessed by S. Weller Street south to S. Dearborn Street. The "Neighborhood Commercial 3" (NC3) zone is present on properties accessed by S. Jackson Street and S. King Street west of 12th Avenue S. An area-specific rule for this vicinity allows for maximized building bulk to the height envelope. The Industrial Commercial (IC) zone is present east of 12th Avenue S., on properties accessed by S. King Street south to S. Dearborn Street and beyond, and is also present on the east side of Rainier Avenue S. (refer to Figure 3-1).

South-of-Dearborn

This vicinity includes two zones: a "General Commercial 2" (C2) zone with an 85-foot height limit in the first block south of S. Dearborn Street (including the former INS building), and a General Industrial 2 (IG2) zone with an U/85-foot height limit, meaning industrial uses have no height limit and other non-industrial uses can reach 85 feet (refer to Figure 3-1).

Stadium Area

This portion of the study area is zoned "Industrial Commercial" (IC) with a "Stadium Transition Area Overlay" zone. The IC zone category accommodates a wider variety of commercial uses than the other Industrial zones. The area north of S. Atlantic Street, including the WOSCA property, Pyramid brewery, Safeco Field and Qwest Field event center uses, is zoned IC with a 65-foot height limit. South of S. Atlantic Street to S. Holgate Street along 1st Avenue S. and Occidental Avenue S., there is an 85-foot height limit (refer to Figure 3-1). This 85-foot height limit is comparable to other limits for non-industrial uses in the IG1 and IG2 zones located further south in the MIC. Within the Overlay, the spectator sports facilities are accommodated by other regulations that allow for heights for stadiums to be higher than 65 feet.

ENVIRONMENTAL IMPACTS

The objectives of Livable South Downtown planning are multi-layered—favoring a high-quality livable urban environment, increased housing opportunities complementary to these neighborhoods, respecting and enhancing neighborhood character and functions, encouraging appropriate economic growth, and ensuring efficient and sustainable transportation and utility systems. Urban design objectives encourage several kinds of streetscape, recreational and other improvements with amenities and aesthetic value. Not all of these potentially positive effects are included in this impact analysis, due to an emphasis in SEPA on identifying and disclosing adverse impacts.

The historic nature of the study area neighborhoods is an important aspect of the land use context. The alternatives have been defined in light of the historic values, with an intention to encourage land uses that will maintain compatibility with the existing historic neighborhood character.

The studied alternatives include zoning choices that would affect *where* infill development should occur, and *how much* growth should occur in terms of building height and density. These alternatives have been tailored to the characteristics of each subarea, with the intent of defining future development patterns that are plausible and would be compatible within the context of South Downtown. This should limit the potential for significant adverse land use and zoning impacts.

The impact discussion below discusses changes that would affect comprehensive plan designations, and land use and development pattern impacts. Further discussion about the height/bulk/scale implications of the alternatives is included in the Chapter 3 section "Land Use—Height, Bulk, Scale and Compatibility" and Appendix B to this Draft EIS. Development capacity implications of the alternatives are discussed in the Population and Employment section of Chapter 3 of this Draft EIS.

POTENTIAL CHANGES AFFECTING COMPREHENSIVE PLAN DESIGNATIONS

The alternatives include proposals for amendments to the Comprehensive Plan. Such changes occur through the annual amendment process for the Comprehensive Plan. In this process, decisionmakers make choices about amendments relating to land use plans, policies and preferred future land use patterns. The following paragraphs summarize and comment on the proposed changes that would affect the Comprehensive Plan. Figure 3-2 illustrates the areas addressed by these alternative proposals.

Stadium Area – West side of 1st Avenue S. – Alternatives 1 and 3

Under Alternatives 1 and 3, the west side of 1st Avenue S. south to Royal Brougham Way, consisting primarily of the WOSCA property, would be included in the Downtown Urban Center and removed from the Greater Duwamish Manufacturing and Industrial Center (MIC). Under both alternatives, the proposed zoning is a new "South Downtown Mixed" (SDM) zone that would accommodate commercial development in the southern two-thirds of the WOSCA property, and accommodate residential or mixed-use development in the northern third of the WOSCA property. This would represent a change in the current Comprehensive Plan's preferred future land use pattern, moving away from industrial uses and toward denser commercial and possible residential uses. Residential land use would be newly allowed on the west side of 1st Avenue S. south of Railroad Way S. (it is already permitted on the east side of 1st Avenue S. that is zoned Pioneer Square Mixed). Development density would be increased with adoption of SDM zones.

South-of-Dearborn vicinity – Alternative 3

Under Alternative 3 the south-of-Dearborn vicinity would be moved into the Downtown Urban Center and removed from the Greater Duwamish MIC. Proposed zoning under Alternative 3 would be to the new SDM zone, encouraging a mix of commercial and residential development. The residential land use would be a type of use newly permitted in this vicinity, and development density would be increased through these changes.

Stadium Area, Pioneer Square – southern portion of Qwest Field north parking lot – Alternative 2

Alternative 2 includes a proposed rezone of the southern half of the Qwest Field north parking lot to Industrial Commercial, which would require a change in the comprehensive plan designation from a Downtown designation to an Industrial designation. This would also represent a change in future land use in an area currently zoned and designated within the Pioneer Square Preservation District. Such a change would alter the range of possible land uses that could occur within the Preservation District, including prohibiting residential land uses. It would also reduce density limits, given the difference between Pioneer Square and IC zones, of which the latter has a density limit of 3 FAR. Due to the extent of change in land use designation and potential future development patterns and the corresponding effects on a part of the Pioneer Square Preservation District, this proposal is interpreted as generating significant adverse land use impacts. For this reason, it is an action not likely to be included in Livable South Downtown final zoning recommendations.

Little Saigon – Vicinity east of 12th Avenue S. – all Alternatives

In 2006, the City Council approved an amendment to the Comprehensive Plan for the Goodwill property vicinity from Industrial to Commercial/Mixed Use. This leaves the balance of an area from one-half block south of S. King Street and west of 12th Avenue S., including property east of Rainier Avenue S., still within an Industrial use designation. All of the alternatives in this EIS assume a proposed change in this area from the Industrial use designation to Commercial/Mixed Use in the Comprehensive Plan. Such a change would newly accommodate residential uses and may increase the overall development density depending upon zoning choices. As of September 2007, a Comprehensive Plan amendment was proposed to reverse the 2006 changes and re-designate the Goodwill property vicinity back to an Industrial designation, but no decision had been made.

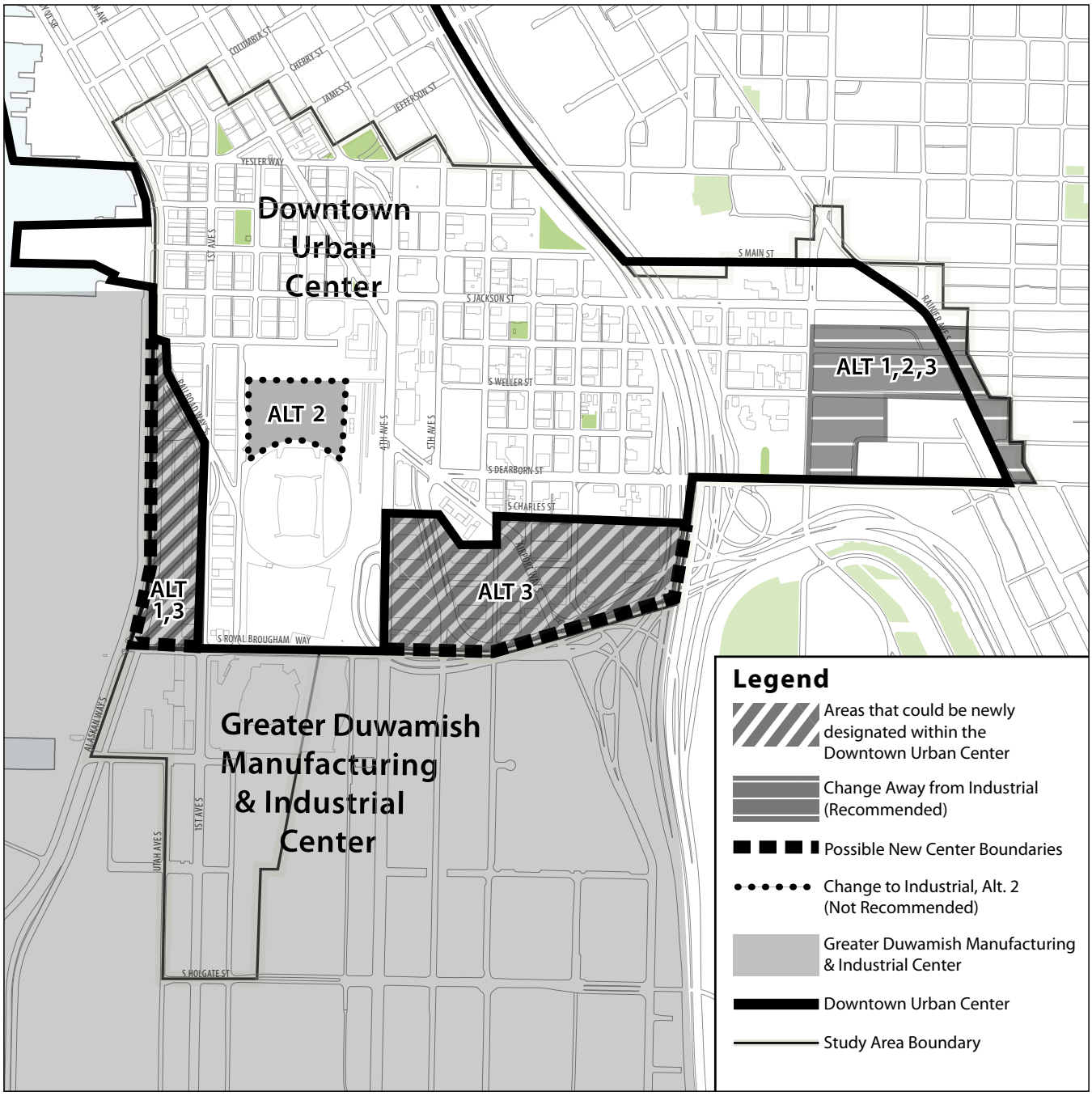


Figure 3-2

Summary Map of Alternative Changes to Comprehensive Plan Designations

Livable South Downtown

LAND USE AND DEVELOPMENT PATTERNS

This impact analysis discusses whether proposed land use and zoning under the alternatives would create conflicts due to the adjacency of zones and/or the future use and development patterns that could result from the zoning. This encompasses zoning principles such as impacts of more intensive zones on less intensive zones and similar concepts like transitions between zones. It also overlaps with the topic of compatibility, for which additional discussion is provided in the next section entitled "Land Use – Height, Bulk, Scale and Compatibility."

In general, the range of changes proposed in Alternatives 1, 2 and 3 would in most cases increase overall development capabilities within and near the historic cores of Pioneer Square and Chinatown/I.D., including a swath of property east and west of the Qwest Field vicinity extending eastward to I-5. The range of changes in Alternatives 1, 2 and 3 would also increase the capacity to grow in Little Saigon, which functions as a second core of the Chinatown/I.D. neighborhood, east of Interstate 5. The following interprets potential adverse land use impacts of future development under the alternatives' zone proposals.

Pioneer Square

The analysis reviews four primary sub-areas in this neighborhood: the "core" area currently in a PSM 100' zone; the north half of the Qwest Field north parking lot; the "over-tracks" properties south of S. Jackson Street; and the "railroad gap" properties on the west side of 4th Avenue S. that are north of S. Jackson Street. In each of these areas, the analysis concludes that the alternative zoning proposals would be able to occur without significant adverse impacts to land use and zoning patterns. This conclusion is independent of the height, bulk and scale impact analysis discussed in the next section of Chapter 3. The conclusions indicate that future uses within these zones would fit into the existing land use and zoning pattern without significant impacts related to transitions, development intensities or conflicts between zones. The conclusions are summarized briefly below for the neighborhood sub-areas, for the Alternatives.

"Core" area

Protections afforded by the existing PSM zone and Special Review District oversight, the limited extent of change, and the targeting of height increases (in Alternatives 1 and 2) to vacant and non-historic contributing properties would help avoid significant adverse land use impacts. Alternative 3's height limit at 100 feet would generate the least potential for significant impacts. These alternatives would accommodate infill development within the Pioneer Square core area that would fit into the historic district and could have positive impacts through increased numbers of residents, expanded business activity and a better-activated street environment with fewer gaps.

Qwest Field north parking lot

Future infill development in the north half of the north parking lot would likely consist of multifamily residential uses, retail commercial uses at ground floor, and other possible commercial uses such as hotel or office. These kinds of uses would fit into and extend the land use pattern of the Pioneer Square neighborhood without generating significant adverse land use or development pattern impacts or conflicts. This conclusion is inferred due to expected conformance with Pioneer Square regulations, and a scarcity of incompatible uses and activities. Stadium and event center activities would not generate significant adverse land use conflicts or incompatibilities. Staging activity could continue to occur, even if off-street area available for staging is reduced by future development in the north half of the north parking lot. Transitions between existing buildings surrounding this vicinity and future development would vary, but controls on building bulk and density that lead to good transitions would be possible. Of the alternatives, Alternative 2 with up to a 240-foot maximum height would present the greatest transition

in height from the existing building pattern, Alternative 1 would accommodate up to 180 feet, and Alternative 3 would accommodate up to 150 feet. See the height, bulk, and scale analysis in the next section of Chapter 3 and Appendix B for further discussion.

"Over-tracks" property

Under Alternatives 1, 2 and 3, future infill development over the railroad tracks south of King Street Station would increase overall density of land uses and could provide enhanced pedestrian connectivity between the Pioneer Square and Chinatown/I.D. neighborhoods. It would be consistent with a growth planning approach that locates dense employment centers and mixed uses near a primary transit hub in Downtown. Under Alternative 3, a new "South Downtown Mixed" (SDM) zone would result in increased potential to achieve overall compatibility of future development with its immediate surroundings. No significant adverse land use-related impacts are identified. This conclusion is independent of the height, bulk and scale impact analysis, which is discussed in the next section of Chapter 3.

"Railroad gap" properties north of S. Jackson Street

In this area at the edge of the Pioneer Square historic core along 4th Avenue S., Alternatives 1 and 2 identify increased height limits to 180 feet and 150 feet, respectively. No changes in this area are proposed under Alternatives 3 and 4. Alternatives 1 and 2 would encourage denser development than possible today in an area where infill development would increase continuity of land uses and provide a transition to the Chinatown/I.D. neighborhood vicinity immediately to the east that could have denser and taller development. These changes would not generate significant adverse impacts on land use or development patterns, except that the inclusion of historic-contributing properties abutting 3rd Avenue S. under Alternative 2 could subject those properties to increased pressure for future development. If those properties are omitted from the rezone, significant adverse impacts would be avoided. Also, see the height, bulk and scale analysis in the next section of Chapter 3 and Appendix B, which identifies significant adverse height-related impacts related to Alternative 1.

Chinatown/Japantown, West of I-5

Japantown

Changes accommodating predominantly residential development up to 240 feet in Alternative 1 and 180 feet in Alternatives 2 and 3, would encourage infill development in vacant or lightly-developed properties that would increase residential density in this area. No significant adverse land use or development pattern impacts are identified under these alternatives. Rather, net positive impacts of increased residential occupation could occur. Height and bulk controls incorporated into the alternatives (or as part of mitigation strategies) would help avoid significant height, bulk and scale impacts, as discussed in the next section of Chapter 3 and Appendix B.

Chinatown

Changes accommodating predominantly residential development up to 125 feet in Alternatives 1 and 2 would encourage infill development in vacant or lightly-developed properties that are mostly located south of S. Weller Street in the core of Chinatown. The optional concept to allow for "townhouse-style" residential units at street level is also included in Alternative 1 for selected street-faces south of S. Weller Street. Regardless of street-level use type, Alternatives 1 and 2 are not expected to result in significant adverse land use impacts south of S. Weller Street because future development patterns would not negatively affect land use patterns or create significant incompatibilities with the rest of the historic core. Net positive land use impacts could occur through increased numbers of residents, a more-activated street environment, and expanded business activity. See the other sections in Chapter 3 on height, bulk, scale,

economic and business impacts, historic and cultural preservation, population, employment and housing for additional impact discussion.

Alternative 2 also includes the possibility of extending the 125-foot height limit to the block bounded by 5th and 6th Avenues S., S. Weller Street to the south and S. King Street to the north. This would overlap with the National Register Historic District only at the Publix Hotel property. Due to the combination of increased development scale and a sensitivity to maintaining compatibility of development character within and adjacent to the National Register Historic District, the extension of a 125-foot height limit to this particular block adjacent to S. King Street could result in significant adverse land use impacts. This does not mean that height limits to 125 feet cannot be adopted for this block. However, mitigation strategies to further influence the height, bulk and scale of future development should be implemented. See the next section in Chapter 3 and Appendix B for further discussion of height/bulk/scale impacts.

No changes to the Chinatown vicinity south of S. Weller Street are proposed under Alternative 3 or Alternative 4, meaning no potential for adverse impacts.

Little Saigon

Under Alternatives 1 and 3, different combinations of zones in Little Saigon (a majority of which would be Neighborhood Commercial zones) would include increased height limits up to 85 feet. For both of these alternatives, future development could contribute to the evolution of Little Saigon away from its current use mix that includes heavier commercial and industrial uses. While these trends can be interpreted as having net positive impacts on the livability of the Little Saigon vicinity, they can also be interpreted as adversely affecting the long-term availability of the existing commercial retail structures for small businesses that have emerged along the Jackson Street retail corridor. However, these are not considered to be significant adverse land use impacts. Please see the Land Use—Economic and Business Impacts section of Chapter 3 and Appendices A, B and C for further discussion of impacts.

Under Alternative 2, proposed zones include Downtown Mixed Commercial (DMC) zones with a 65-foot or 85-foot height limit along commercial-use corridors, and a Downtown Mixed Residential (DMR/R) zone with a 125-foot height limit for residential use through the central portion of Little Saigon. As noted in the Chapter 3 Land Use—Height, Bulk, Scale and Compatibility section and Appendix B to the DEIS, the proposed DMR/R zoning, with the moderating effects of recommended bulk controls, would avoid significant adverse height/bulk/scale impacts. Alternative 2 may also adversely affect the long-term availability of the existing commercial retail structures and properties for small businesses. Please see the Land Use—Economic and Business Impacts section of Chapter 3 and Appendices A, B and C for further discussion of impacts.

Under all alternatives, the vicinity east of Rainier Avenue S. is proposed for a Neighborhood Commercial 3 zone with a 65-foot height limit, the same maximum height limits as currently accommodated. Compared to existing Industrial Commercial and other incidental zones, this would be a favorable change for the sake of transition and compatibility of uses in this well-defined commercial corridor that quickly transitions to low-density residential uses uphill to the east.

South-of-Dearborn

Under Alternatives 1 and 2, an IC zone with a height limit of 125 feet or 160 feet, respectively, would alter the probable future use pattern toward a more intensive mix of structures more likely to be taller and intended for primarily commercial/office uses. Under Alternative 1 or 2, properties within the first block south of S. Dearborn Street could develop either as commercial or as mixed-use structures including housing. None of these outcomes are identified as generating significant adverse land use or development

pattern impacts, due to the retention of Industrial zoning, the relatively low potential for conflicting land uses in this vicinity due to natural and manmade "edge" conditions, and the prevailing land use patterns in the surrounding area. See the height, bulk, and scale analysis in the next section of Chapter 3 and Appendices A and B for further discussion of impacts.

Under Alternative 3, proposed "South Downtown Mixed" (SDM) zoning could result in future development up to 160 feet in height that would likely include residential and commercial office uses concentrated along 6th Avenue S. This could achieve the greatest overall density of development and activity levels among the EIS alternatives. Due to the emphasis of SDM zoning on achieving enhanced public spaces and amenities, the overall urban design quality of sidewalks and outdoor areas could be higher than under other alternatives, potentially helping to establish a more pedestrian-friendly identity for this vicinity and improved connections to the Chinatown core to the north.

Under Alternative 3, a choice by City decisionmakers to move this vicinity into the Downtown Urban Center and out of the Manufacturing and Industrial Center would represent a significant shift in the preferred land use pattern expressed in the Comprehensive Plan. However, the predicted land use and development patterns identified in this EIS are not likely to generate significant adverse impacts. Several of the trends described in the paragraph above have the potential for net positive effects on land use and development patterns, through evolution of an enhanced multi-use district adjacent to Chinatown/I.D. Adverse impacts would include increased proximity of residents to the Charles Street Yards and potential increase in noise complaints due to that facility's operations, and increased density of non-industrial uses along freight routes in that immediate vicinity. These are interpreted as adverse but not significant adverse land use impacts. Other potential for land use conflicts with industrial areas to the south is already mitigated by existing manmade features (e.g., Interstate 90 ramps) and topographical edge conditions and the predominant presence of low-density transit base uses nearby to the south—meaning a low potential for industrial land use-related conflicts. See the height, bulk, and scale and compatibility analysis in the next section of Chapter 3 and Appendices A and B for further discussion of impacts.

Under the No Action Alternative, no zoning-related impacts would occur. In the absence of zoning changes, this vicinity could continue to experience a trend away from small-scale commercial and industrial uses, toward denser commercial uses. A planned automobile dealership on two blocks is assumed, as is re-use of the former INS Building. This could encourage additional gradual infill of commercial uses over time, but likely at densities lower than other alternatives. Beyond 2030, this vicinity could still have properties available for additional future development.

Stadium Area

The Stadium Area's current zoning and land use patterns establish it as a transitional area where both industrial and commercial uses are accommodated. For example, the Downtown Urban Center includes property on the east side of 1st Avenue S., while the Greater Duwamish MIC includes property on the west side of 1st Avenue S. north of S. Royal Brougham Way. The zoning pattern is similarly defined, with a further flexibility in the Industrial Commercial zone and Stadium Transition Area Overlay that accommodates both industrial and commercial uses in locations within the MIC. In this context, a choice to shift the Comprehensive Plan's preferred land use pattern from "Manufacturing & Industrial Center" to "Downtown Urban Center" would represent a significant shift in the City's land use policy. However, the actual effect on future land use and development patterns would depend on the differences in what may be built within the possible zones.

Under Alternatives 1, 2 or 3, the future development pattern would continue to represent a transitional environment, with a higher height and possibly higher density of development in locations farthest to the

north, stepping down in a graduated fashion in locations further to the south. The relative incompatibility of residential uses with nearby Port property and railroad uses due to activity levels and possible light and noise impacts, results in the identification of probable significant adverse compatibility-related impacts for Alternative 1 and 3 zoning in the northern WOSCA property vicinity. The primary strategies for avoiding such impacts would be to either prohibit residential uses in the relevant zone, or constrain their location and orientation to shield them from adverse exposure to Port facilities.

The Alternative 3 concept to define hotel (lodging) as a permissible use in the 1st Avenue S. vicinity south of S. Royal Brougham Way is identified as generating a probable significant adverse impact. This is due to the relative incompatibilities of hotels with industrial uses in this vicinity, the area's function as a transportation crossroads for freight, event and commuter traffic, and relatively high noise levels generated by rail systems and other activities. However, no other significant adverse land use and development pattern impacts are identified for either the 1st Avenue S. corridor or the 4th Avenue S. corridors in the Stadium Area.

Additional supporting discussion for the conclusions above is provided below for the 1st Avenue S. and 4th Avenue S. corridors.

1st Avenue S. Corridor

Under Alternatives 1 and 3, the expected future land use and development patterns could be altered. Alternative 1 and 3 zoning in a new "South Downtown Mixed" zone would accommodate residential uses in taller, denser buildings in the northern portion of the WOSCA property, north of approximately S. Dearborn Street if extended, where they are not currently allowed. Alternative 1 defines a maximum height limit of 160 feet, and Alternative 2 defines a maximum height limit of 120 feet in that vicinity. Both alternatives would allow taller, denser commercial buildings (to 100 feet in height) in the balance of the WOSCA property. This zoning would likely encourage future infill development along the west side of 1st Avenue S. The SDM zone would include a special review process that would positively influence characteristics such as the layout of buildings, public spaces and access to/from large properties. This would encourage land use patterns compatible with adjacent streets and properties, compared to other zoning options.

Under Alternative 2, IC zoning in all locations south of Pioneer Square would be compatible with existing zoning patterns at the northern edge of the MIC, and no change in Comprehensive Plan designation would be needed. Along the west side of 1st Avenue S. in the northern two-thirds of the WOSCA property, height limits would be raised to 85 and 100 feet (refer to Figure 2-5), but the IC zone would be retained with no increase in the permissible density of development. No significant adverse land use impacts would be associated with these changes. See the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendices A and B for further discussion.

On the "Pyramid Brewery block" (located between Royal Brougham Way, 1st Avenue S., S. Atlantic Street and railroad right-of-way), the proposal under Alternatives 1 and 3 to increase the height limit from 65 feet to 85 feet would accommodate taller forms of future development, but would not increase the permissible density of development. No significant adverse land use impacts would be associated with these changes. See the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendices A and B for further discussion.

In portions of the study area south of S. Atlantic Street under all alternatives, retention of IC zoning and Stadium Area Overlay at the current height limit of 85 feet means there would be no change in the expected land use and development pattern and no associated potential for significant adverse land use

impacts. However, please note the conclusion earlier in this discussion about probable significant compatibility-related impacts of lodging uses under Alternative 3.

4th Avenue S. Corridor

On the east side of 4th Avenue S. between approximately S. Royal Brougham Way and S. Charles Street, a rezone from IG2 to IC under Alternatives 1 and 2 would increase the probability of office uses and the probable commercial density of use just outside the Downtown Urban Center. The same is true for proposed height increases within the IC zone on the west side of 4th Avenue S. These changes can be categorized as "adverse" land use impacts but not "significant adverse" impacts, because they would diminish the probability of future industrial uses, even though the industrial zone would be retained.

Similarly, under Alternative 3, a rezone to SDM east of 4th Avenue S. (which includes the entire south-of-Dearborn vicinity) would increase the probable density of future commercial use of this vicinity and would also introduce the possibility of new residential development as well. This type of change would be the result of a conscious choice by decision-makers to alter the future land use designations in this vicinity away from industrial uses and toward a mix of uses. This would represent a significant change from the land use patterns advocated by the Greater Duwamish MIC Plan. It can be categorized as an "adverse" land use impact. However, it would not likely represent a "significant adverse" land use impact under Alternative 3 because this is an "edge" area of the MIC, there is a scarcity of substantive conflicts with surrounding land uses, and there is an ability to accommodate development in this vicinity without significant impairments to freight and general traffic in the 4th Avenue S. corridor.

Under the No Action Alternative, no zone changes would occur and no zoning-related impacts would occur. In the absence of zoning changes, this vicinity could experience a gradual trend toward increased commercial development and reduced presence of industrial uses. This might include development on larger parcels such as the WOSCA property, but existing low-density use patterns might otherwise continue on such parcels indefinitely. Construction staging demands for SR 99 highway construction could mean an occupation of some parcels for several years.

MITIGATION STRATEGIES

Alternatives 1 and 3

Stadium Area

- Significant adverse land use impacts generated by the potential location of residential uses west of 1st Avenue S. could be mitigated by strictly limiting the location and orientation of residential uses such that they are effectively screened from exposure to significant light/noise impacts from Port facilities to the west, and/or constructed using materials and construction techniques that will ensure adequate attenuation of noise.

Alternative 2

Pioneer Square

- Confining a proposed 150-foot zoned height limit only to the "railroad gap" properties on the west side of 4th Avenue S. north of S. Jackson Street would avoid increasing development pressures on other historic-contributing properties just to the west in the 3rd Avenue corridor.

Chinatown/I.D.

- See the mitigation strategy proposed in the next section of this chapter, with respect to height, bulk and scale impacts at the block bounded by 5th and 6th Avenues S. and S. King and S. Weller Streets.

Alternative 3

Stadium Area

- If lodging uses are allowed in locations south of S. Royal Brougham Way in the study area, additional controls should be identified to maintain compatibility with existing industrial uses in the affected area, minimize impacts to on-street traffic flows and minimize exposure to significant noise sources including rail yards, railroad tracks, highways and port facilities.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

With implementation of mitigation strategies to address the identified significant adverse land use impacts for the alternatives, no significant unavoidable adverse impacts are expected to occur.

LAND USE—HEIGHT, BULK, SCALE AND COMPATIBILITY

AFFECTED ENVIRONMENT

HEIGHT, BULK AND SCALE

"Height, bulk and scale" relates to the size of buildings and their relationship to surrounding properties. The City's environmental policies recognize that physical characteristics of buildings affect the character of neighborhoods. The policies also recognize an interest in addressing building height, bulk and scale to maintain smooth transitions from one zone to another.

Pioneer Square

Pioneer Square's dominant building pattern consists of buildings built abutting all property lines including alleys. This contributes to a continuity of street-level uses adjacent to public sidewalks and creates street corridors that are well-defined by the bulk of buildings on both sides of the street. This is most evident along 1st Avenue S., portions of 2nd and 3rd Avenue north of Yesler Way, and in the vicinity of S. Jackson Street and S. King Street, where the height of the buildings averages roughly 70-90 feet. Near Occidental Park and eastward to approximately 3rd Avenue, the predominant building scale is somewhat lower, in the range of 10 to 50 feet. However, several taller buildings such as the Frye Hotel, Smith Tower and King Street Station's clock tower tend to create a variety of heights in the built environment. The intermittent presence of vacant properties or parking lots provides some visual relief in portions of this area, but also creates gaps in the continuity of streetfront uses.

A distinctive aspect of Pioneer Square architecture is a frequent incidence of floor-to-floor heights that are larger than 10 feet. Heights of street-level spaces can range up to 15 feet. This tends to result in distinctive architectural treatments and shapes of windows (sometimes tall and narrow, sometimes large in both dimensions), and a perceived moderation in building scale due to the appearance of fewer but taller floors. The distinctive historic architecture and building materials also lend a grace and visual interest to a viewer's perception of the urban environment.

The northernmost portion of Pioneer Square is adjacent to the Downtown core, which includes larger-scale buildings nearby. In addition, the sloping streets of James, Cherry and Columbia Streets create a different street environment on east-west streets (including fewer ground-level uses) and increase the elevation of buildings on nearby blocks. These factors contribute to a transitional environment in building height, bulk and scale between Pioneer Square and Downtown.

Chinatown/I.D.

In Chinatown, both sides of S. King Street west of I-5 feature historic buildings ranging from 3 to 6 stories, approximately 30 to 70 feet in height. Other buildings in the immediate vicinity of S. Jackson and S. King Streets contribute to a concentration of development that is mostly continuous in street-level uses and roughly similar in average building height, bulk and scale. The primary exception is the old Uwajimaya grocery site near 6th Avenue S. and S. King Street which includes a large parking lot and low-scale building. Most of the buildings in this vicinity include Asian-American and/or historic architectural design features, many with brick facades, distinctive parapets and signage that help define the area's visual character.

In the vicinity south of S. Weller Street, typical buildings are lower in height, bulk and scale than along S. King Street. The development pattern south of S. Weller Street includes numerous parking lots and buildings widely varying in age, size and architectural design quality. The Uwajimaya mixed-use development is the largest structure in this area, filling much of a city block to a height of approximately

75 to 85 feet. A few relatively new residential and mixed-use buildings are also present, generally in the range of 5 to 7 stories. However, one-to-two story buildings and parking lots are the most common building pattern in this area.

Japantown has a somewhat different development pattern than Chinatown. Japantown includes an area in the National Register Historic District with several low- to moderate-scaled buildings along Main Street and 6th Avenue S. In addition, this immediate vicinity includes two senior apartment towers ranging up to approximately 150 feet in height. A variety of other residential buildings on the hill south of Yesler Way are generally in the range of 70 feet. In addition, an office building and the Downtowner Apartments, both at approximately 100 feet in height, are present between 4th and 5th Avenues near S. Jackson Street. Throughout this vicinity, parking lots and one-story buildings are also interspersed, contributing to a varied character in land use, building height, bulk and scale, but also adding to a sense of "missing teeth," breaking the continuity of the district.

Little Saigon

Given its location east of I-5 and current zoning, the pattern of building height, bulk and scale is lower than most other areas in the Downtown Urban Center. Most buildings in this vicinity are 10 to 30 feet tall, several with parking lots located between the building and the sidewalk. These are generally single-purpose retail buildings or multi-tenant strip shopping centers. However, several other buildings are built to the property line, contributing to a widely varying pattern and character of development. Vacant lots are also present on S. Jackson and S. King Streets, and a few single-family residences remain. The tallest buildings in this vicinity are the Pacific Rim Center at approximately 65 feet, an office building on S. Weller Street at approximately 60 feet and a retail center near 12th Avenue S. and S. Jackson Street, at approximately 40 to 50 feet. Along Rainier Avenue S., the commercial buildings are generally one or two stories. East of Rainier Avenue S., a few commercial-oriented buildings sit behind and above the Rainier Avenue-abutting buildings, but further eastward the pattern immediately transitions to low-density single-family residences. Southeast of Rainier Avenue S./S. Dearborn Street, newer multistory apartment residences lie behind and slightly above the low-density commercial uses along Rainier Avenue S.

South-of-Dearborn

This longtime industrial area is low-scaled, primarily consisting of one-to-two story warehouses, up to three-to-four story commercial buildings and the former INS Building, which is roughly 50 feet in height. Much of the development extends to or near the property lines, with parking lots interspersed. These characteristics contribute to an environment that is well-defined at the sidewalk edge in some places, but also relatively open to light and air. At the eastern and southern perimeters of this area, I-5 and the I-90 ramps provide a visual boundary that separates it from Beacon Hill to the east and the rest of the Duwamish industrial area to the south. The Charles Street Yard, encompassing several City operations facilities, is located in the eastern portion of this vicinity adjacent to I-5.

Stadium Area

Building heights in the Stadium Area cover a range that reflects a diverse mixture of low- and moderate-scale building types, from 1-2 story structures to buildings up to approximately 80 feet in height, some of which are located within Pioneer Square zoning. Building patterns generally reflect the transitional nature of this vicinity. Along 1st Avenue S., typical buildings are typically lower to the south, with an increasing presence of buildings in the 50-80 foot range further to the north, in proximity to Pioneer Square neighborhood boundaries. In the middle of this transitional area along 1st Avenue S., the new Silver Cloud Hotel (in Pioneer Square zoning) reaches a height of 85 feet. Along 4th Avenue S. just north of Royal Brougham Way, the building heights range up to 40-60 feet. North of Airport Way the typical scale on the east side of 4th Avenue S. ranges up to approximately 150 feet. In addition, this vicinity

includes the Qwest Field and Safeco Field complexes that are over 260 feet in height, tall and massive structures that reflect a larger scale of development and define street corridor spaces along 1st Avenue S., Occidental Avenue S., 4th Avenue S., and S. Royal Brougham Way. Safeco Field's massing includes concourse areas that are scaled at approximately 65 feet along 1st Avenue S., reflecting the approximate proportions of other buildings in this corridor. A multi-story parking garage and large plaza associated with Safeco Field contribute to the streetscape character of Occidental Avenue S. one block south of Edgar Martinez Way (S. Atlantic Street). A proposed commercial building extending the full length of the Home Plate Parking property (south of S. Atlantic Street, west of 1st Avenue S.) also is expected to contribute to a larger building scale and denser presence of building bulk in this vicinity. However, at present, large segments of the 1st Avenue S. streetfront remain in groups of relatively low-scaled structures conforming to the long north-south rectangular blocks in this vicinity. This includes the low-scaled warehouse structures currently present on the WOSCA property.

One interesting height-related juxtaposition in this vicinity is the extension of Pioneer Square zoning—PSM 85'/120'—on the east side of 1st Avenue S. as far south as Royal Brougham Way. This existing zoning affords the potential for 120-foot buildings if three-quarters of the building space is in residential use. Given the availability of some vacant parcels in this vicinity, there is a possibility that future development under existing zoning would result in buildings to that 120-foot height.

COMPATIBILITY AMONG EXISTING USES

Land Use Patterns and Height Transitions

Pioneer Square

This neighborhood is completely within a City-defined historic preservation district, and most of it also is located within a National Register Historic District. Only the Pioneer Square-zoned portion on the east side of 1st Avenue S. south of Railroad Way is outside of the National Register Historic District. Land use and zoning regulations protect historic character by ensuring compatible uses and visual relationships between buildings in the National Register Historic District and City-defined historic preservation district of Pioneer Square. Special Review District regulations and standards address many elements, such as how alterations, new construction, renovations of existing structures, signage changes, building relationships to the streetscape and street level uses may occur in a manner compatible with the historic district.

Actual building patterns exhibit a mix and distribution of buildings that are mostly compatible in terms of land use and heights within Pioneer Square. This is likely due to the preservation of historic buildings, a low amount of infill development, and effectiveness of existing zoning regulations. Taller buildings include the Smith Tower, which at 467 feet towers over other buildings in its vicinity, the King Street Station clock tower at 247 feet, and Qwest Field at 263 feet immediately adjacent to the Pioneer-Square zoned area.

Zoning regulations that affect height compatibility include: the zoned height limits, and a variable height limit in the PSM 100' zone, which indicates, "no structure shall exceed by more than 15 feet the height of the tallest structure on the block or the adjacent block front(s), to a maximum of 100 feet." On the whole, these rules promote similarity of new buildings to existing building heights. However, despite its intentions, the variable height limit does not preclude the possibility of variations up to 75 feet in height between buildings. Also, the variable height limits can change over time. For example, if a building on a neighboring block becomes taller through renovation or new construction, the height limit affecting a nearby block face would increase, though it could not exceed 100 feet.

Chinatown/I.D.

This neighborhood is within a City-defined historic preservation district (extending east to 12th Avenue S.), a subset of which is a National Register Historic District, located approximately between Main Street and S. Weller Street, 5th Avenue S. and I-5. As with Pioneer Square, compatibility among uses and structures is an important purpose of the land use and zoning regulations. The Special Review District regulations are comparable to Pioneer Square's, but adapted in ways that address particular aspects of the neighborhood's visual character and use patterns. Similar to Pioneer Square, the zoned height limits accommodate more building height for residential uses in peripheral areas of the neighborhood, up to 150 feet in the IDR zone. The central part of the Chinatown neighborhood is currently limited to a maximum building height of 85 feet for structures with a majority of space in residential use, and 75 feet for structures with a majority of space in non-residential use.

These rules promote compatibility of land use and building heights. However, a few interesting implications of the current zoning patterns are noted.

- The boundary between the IDR 150' and IDM 75'/85' zones that is one-half block north of and parallel to S. Jackson Street creates a condition where maximum-height 150-foot buildings would be notably different in scale to the existing low-scale buildings along S. Jackson Street that are part of the National Register Historic District. Relatively steep up-sloping topography further contributes to this potential difference in height.
- SEPA view protection policies may be a constraining factor on the full use of the IDR 150-foot height limit along S. Main Street (east of 6th Avenue), if a building would substantially block views from the Kobe Terrace Park and Danny Woo Gardens property.
- The Chinatown/I.D. zone regulations do not include a "variable height limit" as described for Pioneer Square.

Helicopter flight paths to and from Harborview Hospital are another potential influence on building height in the Japantown hill vicinity. Maintaining sufficient clear airspace to allow helicopter inbound and outbound movements is preferred for aircraft safety. This airspace is located in the general vicinity of Harborview Hospital and Interstate 5. This is a potential influence on building height limit choices for the portion of the Japantown hill near Yesler Way and I-5.

Little Saigon

Existing land use regulations, the height limit of 65 feet, and past market forces have contributed to the existing pattern of automobile-oriented uses and low-rise building forms. The area is predominantly commercial but has residential uses in some peripheral locations. Zoning accommodates a wide variety of commercial uses, and some industrial uses east of 12th Avenue S. Topographical breaks provide natural transitions that aid in maintaining overall compatible conditions.

South-of-Dearborn

Existing land use and building patterns, along with a consistently-scaled zoned height limit of 85 feet, have contributed to good compatibility between uses. The area is undergoing change, with the introduction of retail and housing in recent years. Pacific Food Importers is an existing retail use, and a multi-block BMW dealership is proposed. The William Booth Center provides transitional housing, located at S. Charles Street/Maynard Avenue S., across the street from the General Industrial 2 zone.

Stadium Area

The range of land uses, daily activity patterns, and the street environment in the stadium area influence overall compatibility. Events at Qwest Field and Safeco Field on many days create influxes of pedestrian and vehicular traffic ranging as high as 50,000-60,000 people. This can impact small and medium-sized commercial, warehouse and light industrial uses that operate in the vicinity, due to parking demand, pedestrian and vehicle traffic, and street closures. Large events can increase the difficulty of Port truck and rail traffic movements on all streets in the local street network, which access the heavily used Seattle International Gateway rail yard near this vicinity. Physically, local blocks include warehouse load/unload spaces that must remain open for efficient business activity. Trucks at times are parked perpendicular to and partially blocking streets. No sidewalks are present along these block faces, which, along with increased event-related pedestrian volumes, may encourage pedestrians to walk in the street. Food vending along certain street edges such as Occidental Avenue S. near Qwest Field also occurs during events. Major streets including 1st Avenue S. and S. Atlantic Street are key commuting corridors, adding to the potential for pedestrian-vehicle conflicts.

Existing zoning in the area provides some transition in zoned height limits, including 85-foot maximum heights south of S. Atlantic Street and 65-foot maximum heights north of S. Atlantic Street. These limits contrast with the 120-foot height limit present in the nearby Pioneer Square zoning on the east side of 1st Avenue S., and with the much taller presence of the athletic stadia.

Light and Glare Compatibility

Exposure of residential uses to excessive light or glare is an unfavorable condition. The level of exposure and proximity of the light source to the receivers are important factors. Glare issues can arise if reflections from glassy or shiny portions of new buildings adversely affect residents or passing motorists.

Sources of light/glare in the study area vicinity include: the athletic facilities, major highway and street arteries, port operations, and local commercial and business operations. Existing conditions are not known to create significant light/glare issues presently, except headlights from SR99 traffic passing near upper floors of Pioneer Square buildings may create unwanted light/glare for building occupants. Port facilities and athletic stadium facilities lighting contribute to illumination in the vicinity.

Shadows on Open Spaces

The City's SEPA regulations pertaining to shadow impacts are narrowly defined for Downtown. The policy background statement in SMC 25.05.675 Q recognizes that:

- access to sunlight is an amenity of public spaces;
- the Downtown land use code provides some protections against shadow impacts (through height, bulk and setback controls); but
- it is not practical to prevent shadowing at all public open spaces Downtown.

The SEPA policy defines five open spaces in Downtown where shadow impacts may be mitigated, including Freeway Park, Westlake Park/plaza, Victor Steinbrueck Park, Convention Center Park, and Kobe Terrace Park/Danny Woo Gardens (located in the Chinatown/I.D. neighborhood). Potential mitigation measures can include limiting the height and bulk of a proposed building, redesigning its profile or altering other building details, or adjusting its location on a property.

In the existing condition at Kobe Terrace/Danny Woo Gardens, there is one existing senior apartment building that reaches to approximately 150 feet in height located just southwest of the garden area. At certain times of day and certain times of year, this building likely casts shadows on portions of the garden.

The garden is located on a slope that otherwise has good southern exposure toward sunlight. Another apartment building adjacent to the north has no probable shadowing effect on the garden. Other buildings nearby to the south, including a new 7-story apartment building, have no influence on sunlight access at the garden due to up-sloping topography.

In other portions of the study area, existing tree canopies and the characteristics of many existing buildings create conditions at street level that are often shaded. Other areas have fewer trees and lower buildings such that shadowing is not a significant factor affecting the streetscape.

Please see other discussion of compatibility-related topics in the Environmental Health section in Chapter 3.

ENVIRONMENTAL IMPACTS

The height and shape of buildings are two of the most direct influences on the character of an urban environment and on perceptions of compatible land use patterns. For this reason, Livable South Downtown planning emphasizes careful consideration of the height and bulk dimensions of future development. The preferred approach is to accommodate taller residential buildings in targeted areas around the edges of core neighborhoods, and allow infill of other buildings with contextually-appropriate heights and density limits in the historic cores.

The following discussion summarizes conclusions made about the potential for significant adverse impacts with future development under the EIS alternatives. More details on the analysis leading to these conclusions are provided in Appendix B to this Draft EIS. Also, see the Land Use—Zoning, Land Use and Development Patterns section, Economic and Business Impacts section, Environmental Health and Historic and Cultural Preservation sections in Chapter 3 and Appendices A, C, F and H for other impact discussion.

HEIGHT, BULK AND SCALE

Pioneer Square

In Pioneer Square, the range of alternatives addresses different height, bulk and scale levels for different parts of the neighborhood. Individual areas examined within Pioneer Square include the "core" area, the Qwest Field north parking lot, the "over-tracks" properties, and the "railroad gap" vicinity west of 4th Avenue S. and north of S. Jackson Street. In many cases, the alignment of height/density limits with favored land use patterns should help to limit the potential for impacts. However, for certain alternatives involving a greater increase in the scale of possible development, significant adverse height, bulk and scale impacts are identified. These conclusions relate to the worst-case outcomes if building bulk and scale is not adequately controlled. In all of the cases where significant adverse impacts are identified, it would be possible to implement mitigation strategies to mitigate these impacts. This would be expected to occur through the rezone process and subsequent City decision-making processes.

"Core" area:

In the Pioneer Square "core" area, the range of zoning proposals in the alternatives would not be expected to generate significant adverse height, bulk and scale impacts. Protections afforded by the existing PSM zone and special review district processes, the limited extent of change, and the targeting of height increases (in Alternatives 1 and 2) to vacant and non-historic contributing properties would help avoid significant adverse height/bulk/scale impacts. Alternative 3's height limit at 100 feet would generate the least potential for significant impacts.

Qwest Field north parking lot:

Under Alternatives 1 and 2, maximum height limits would reach 180 feet and 240 feet respectively (see Figure 3-3). Compared to surrounding building scale and zoned height limits, these maximum building heights would represent "moderate-to-large" and "large" differences in scale, respectively. Even though bulk controls are included in these alternatives, significant adverse height/bulk/scale impacts could result with future development, if those controls are not specified in sufficient detail. Alternative 3's maximum height limits would reach 150 feet, which is assessed as generating potential "adverse" impacts but not "significant adverse" impacts related to height, bulk and scale (see Figure 3-4). This relates to the 150-foot maximum height leading to future building development that would be closest in scale to the prevailing Pioneer Square building scale. For Alternatives 1 and 2, mitigation strategies to further influence the height, bulk and scale of future development should be implemented to protect against such adverse impacts.

"Over-tracks" properties:
Based on a rationale similar to that stated above for the Qwest Field north parking lot, Alternatives 1, 2 and 3 could result in significant adverse impacts related to height, bulk and scale with future development. Proposed height limits under these alternatives would be 150 feet under Alternative 1 (see Figure 3-5), and 180 feet under Alternatives 2 and 3 (see Figure 3-6 and 3-7). These conclusions indicate the importance of defining bulk controls in sufficient detail so that building designs avoid arrangements of bulk that might relate poorly to the 4th Avenue S. corridor, King Street Station, Qwest Field and the Qwest Field north parking lot. This means that mitigation strategies to further influence the height, bulk and scale of future development should be implemented to protect against such impacts.

"Railroad gap" properties north of S. Jackson Street:
In this area at the edge of the Pioneer Square historic core along 4th Avenue S., Alternatives 1 and 2 identify increased height limits to 180 feet and 150 feet, respectively. No changes in this area are proposed under Alternatives 3 and 4.

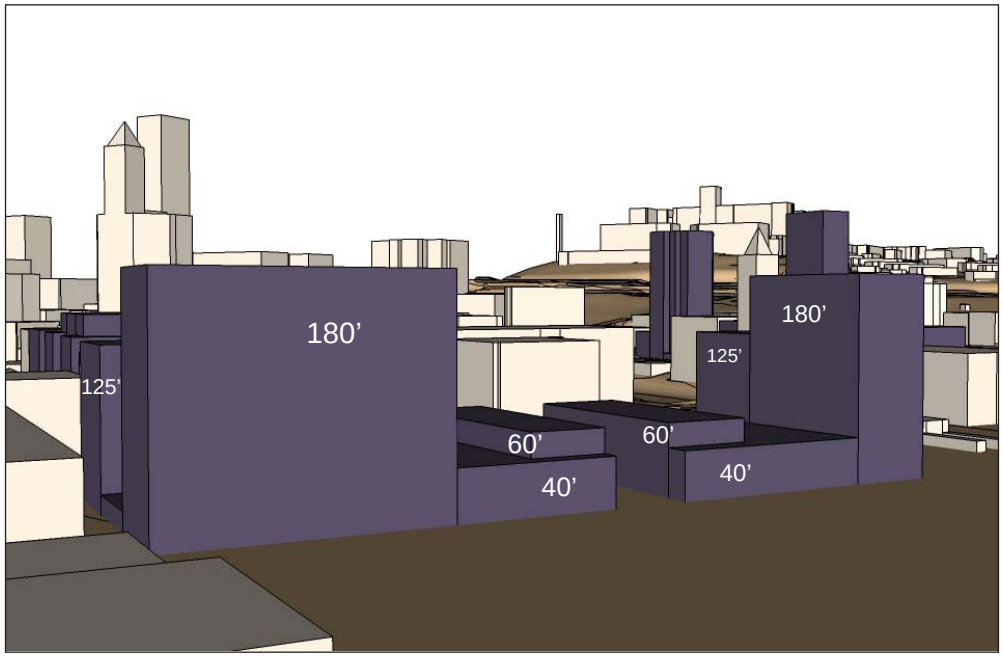
Under Alternative 1, future development rising to a maximum of 180 feet would present a relatively large contrast to the surrounding lower-scaled building pattern. Due to the magnitude of this difference and the sensitivity of the historic district context, significant adverse height/bulk/scale impacts could occur with future development (see Figure 3-8).

Under Alternative 2, the proposed zone would define a 150-foot maximum height limit for an area east of 3rd Avenue S. that includes the "railroad gap" properties but also other historically-contributing properties in the Pioneer Square historic district. This larger area with an increased height limit would mean an increased amount of total building bulk in future development that could contrast with nearby historic properties in Pioneer Square, such as the Union Gospel Mission. This could generate significant adverse height/bulk/scale impacts with future development, given the sensitivity of the historic context. However, limiting the 150-foot zoned height limit only to the "railroad gap" areas, as a mitigation strategy, would avoid these significant adverse impacts, due to its avoidance of zone changes on properties with historically contributing structures, a building scale that is closer to what is permitted in the adjacent Pioneer Square Mixed zone, and also due to the transitional nature of the "railroad gap" areas to the Japantown vicinity properties (see Figure 3-8).

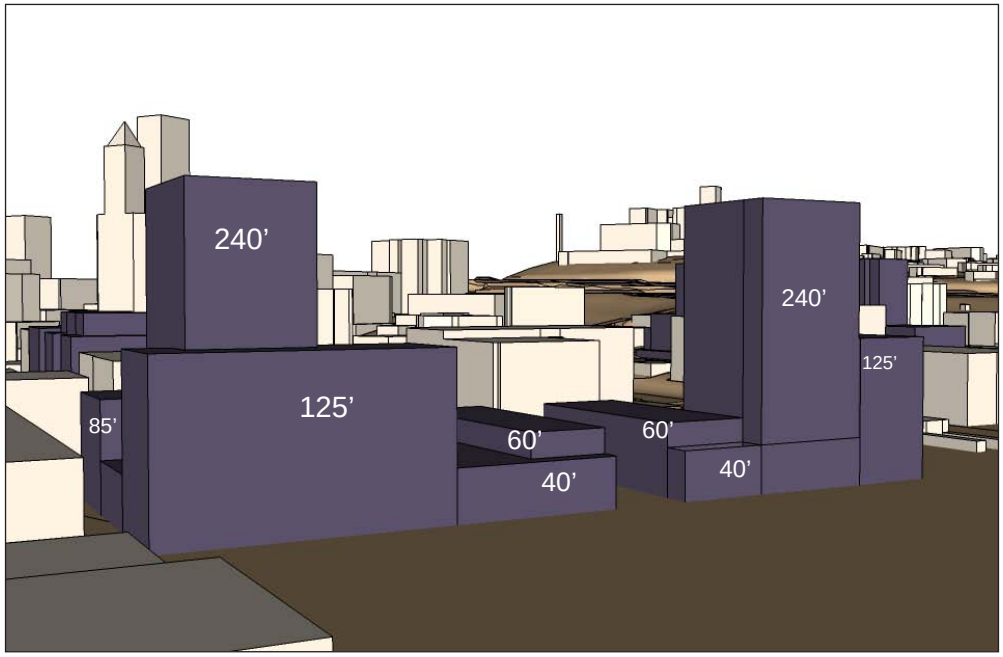
Variable height limit:
Part of all three zoning alternatives is to discontinue the variable height limit, because it would conflict in intent with other zoning strategies addressing height. The variable height limit conceptually appears beneficial. However, the standard does not guarantee predictable or equitable outcomes in its regulation of building heights. The net result of discontinuing this regulation would be the accommodation of building heights potentially reaching 130 feet on non-historically-contributing properties, and potentially reaching 100 feet on a variety of properties with historic structures.

Alternative 4 – No Action Alternative
Under Alternative 4, with no regulatory changes there would be no potential for significant adverse height/bulk/scale impacts. Future development, including in the Qwest Field north parking lot, would be assumed to occur according to the existing zoned height limits and other provisions of the Land Use Code (see Figure 3-4).

Alternative 1



Alternative 2

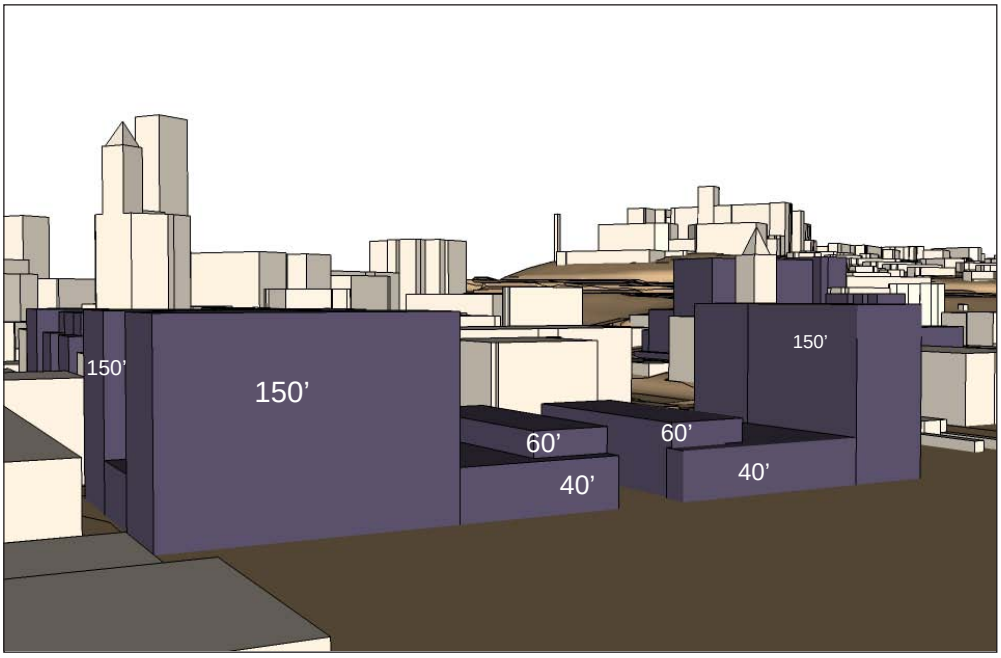


Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario. Density limits and bulk controls would influence how building bulk is arranged.

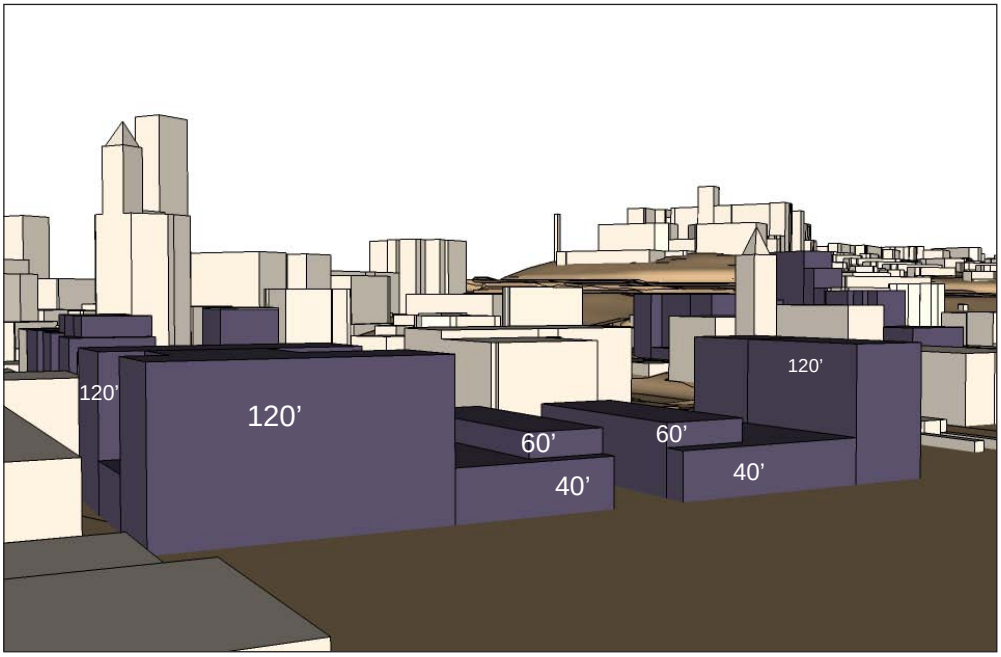
Figure 3-3

Hypothetical Height and Bulk at North Parking Lot, Alternatives 1 and 2

Alternative 3



Alternative 4



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario. Density limits and bulk controls would influence how building bulk is arranged.

Figure 3-4

Hypothetical Height and Bulk at North Parking Lot, Alternatives 3 and 4

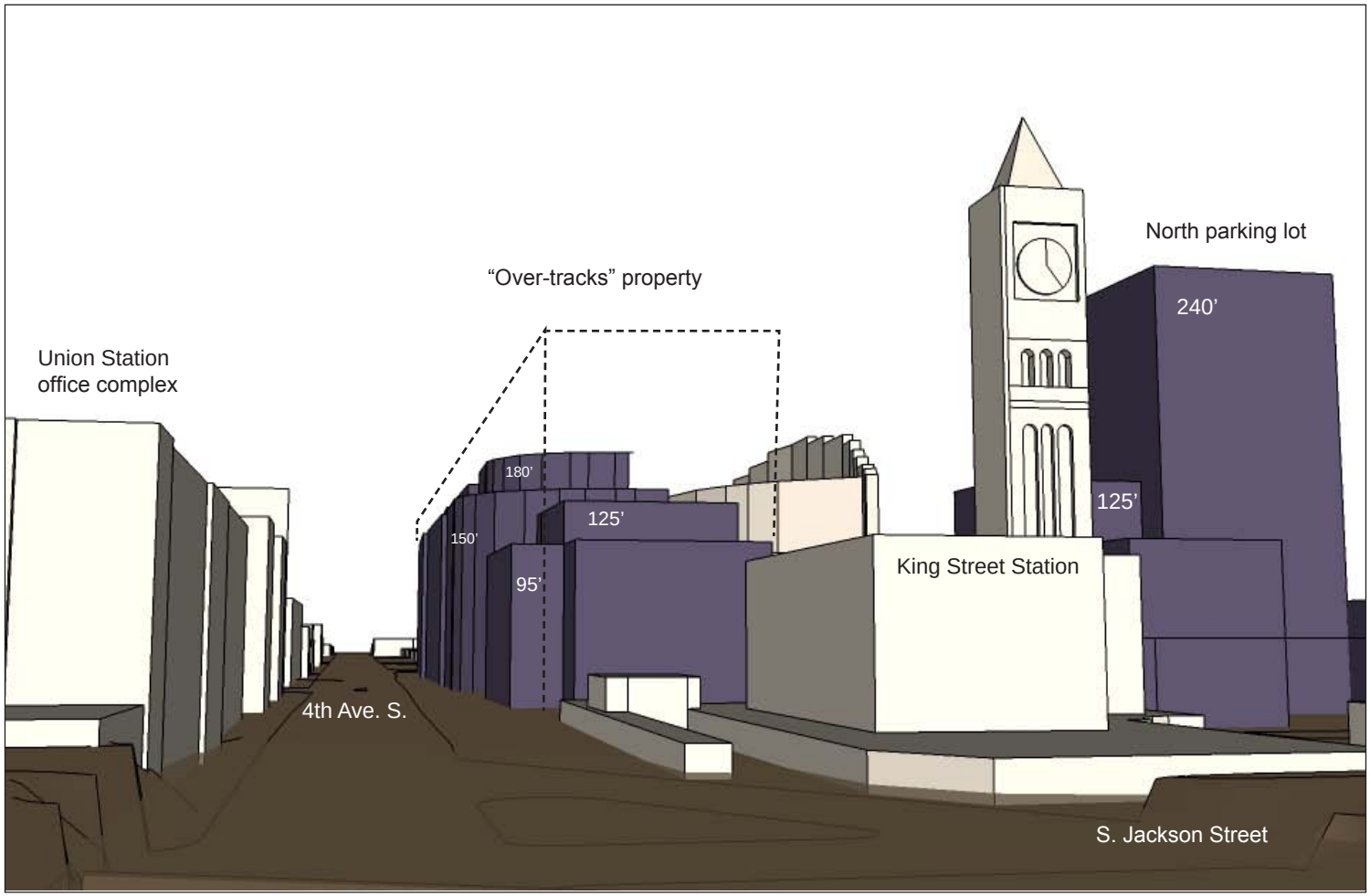
Alternative 1

Note: Buildings shown represent a hypothetical development that matches the growth assumed per the EIS growth scenario. Dotted lines indicate a possible maximum "building envelope" defined by the height limit. Density limits and bulk controls would prevent filling the entire building envelope.

Figure 3-5

Hypothetical Height and Bulk at "Over-Tracks" Property, Looking South on 4th Ave. S. from S. Jackson St., Alternative 1

Alternative 2

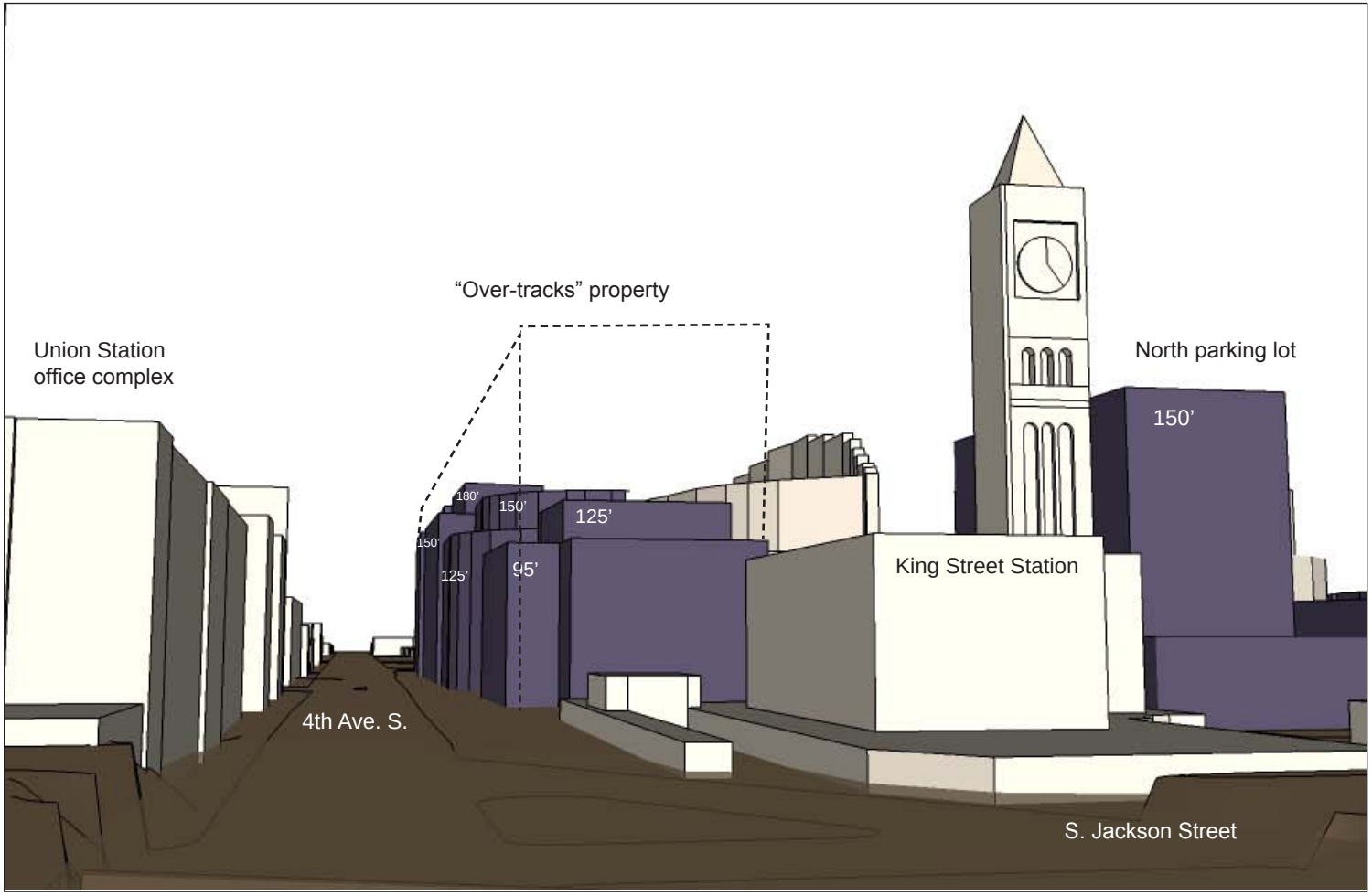


Note: Buildings shown represent a hypothetical development that matches the growth assumed per the EIS growth scenario. Dotted lines indicate a maximum possible "building envelope" defined by the height limit. Density limits and bulk controls would prevent filling the entire building envelope.

Figure 3-6

Hypothetical Height and Bulk at "Over-Tracks" Property, Looking South on 4th Ave. S. from S. Jackson St., Alternative 2

Alternative 3

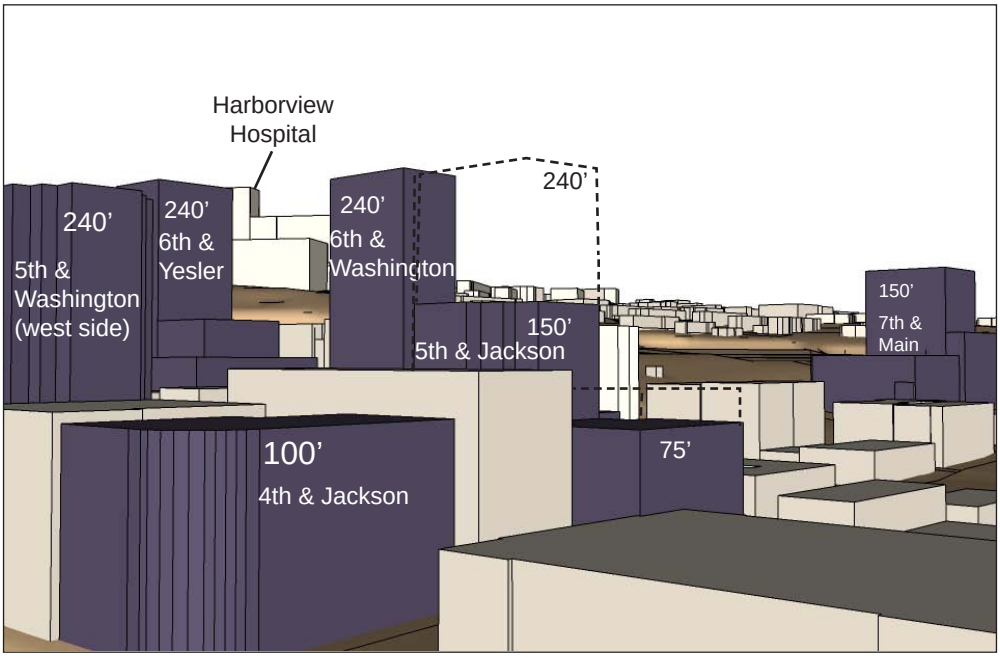


Note: Buildings shown represent a hypothetical development that matches the growth assumed per the EIS growth scenario. Dotted lines indicate a possible maximum "building envelope" defined by the height limit. Density limits and bulk controls would prevent filling the entire building envelope.

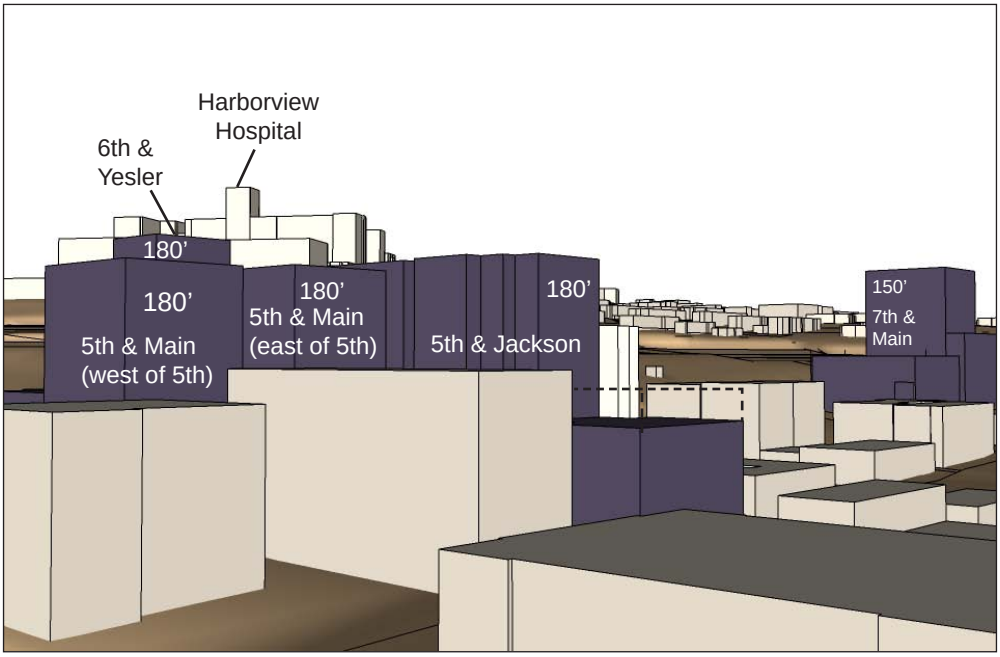
Figure 3-7

Hypothetical Height and Bulk at "Over-Tracks" Property, Looking South on 4th Ave. S. from S. Jackson St., Alternative 3

Alternative 1



Alternative 2



Note: Hypothetical buildings shown, per the EIS growth scenario, except one additional building shown at 6th & Yesler. Dotted lines show a possible maximum “building envelope” only at 5th & Jackson, for illustrative purposes.

Figure 3-9
Hypothetical Height and Bulk of Future Development, Japantown, Alternatives 1 and 2, Looking Northeast Across S. Jackson Street

Chinatown/I.D. West of I-5

In the Chinatown/I.D. neighborhood west of I-5, the range of alternatives addresses height limits for residential development in the IDM zone, ranging from 180 feet for Alternatives 2 and 3 to 240 feet for Alternative 1 in the Japantown vicinity. This vicinity is located generally north of S. Jackson Street, south of Yesler Way and east of 4th Avenue S. In the core of the Chinatown neighborhood west of I-5, the range of alternatives addresses height limits for residential development in the IDM zone, up to 125 feet in Alternatives 1 and 2. These alternatives also include a few possible variations that include extending the 125-foot height limit as far north as S. King Street for the block between 5th and 6th Avenues S., and the potential for residential uses at street level in portions of the vicinity south of S. Weller Street. No zoning changes are proposed in Alternative 3 in the core of Chinatown.

Japantown

The Alternative 1 proposal for a 240-foot height limit extending as far east as 6th Avenue S. could result in 240-foot buildings located at upper elevations on the hill in this vicinity (see Figure 3-9). A building of this height on the hill, adjacent to 6th Avenue, could result in significant adverse impacts of height, bulk and scale with future development. However, no other such impacts are identified for the alternatives in this vicinity, because building bulk controls included in the alternatives would contribute to a moderation of building bulk and scale. Also, the 180-foot height limits associated with Alternatives 2 and 3 would generate less potential than Alternative 1 for adverse height/bulk/scale impacts (see Figures 3-9 and 3-10). These conclusions extend to locations as far south as 5th Avenue S./S. Jackson Street. Despite the relatively tall potential 240-foot maximum height that would contrast with the scale of other existing buildings near 5th and Jackson (including the cluster of Japantown landmark buildings to the northeast), the positive influence of recommended bulk controls (such as probable upper-level setbacks along S. Jackson Street) would help future development at this location to avoid significant adverse height/bulk/scale impacts.

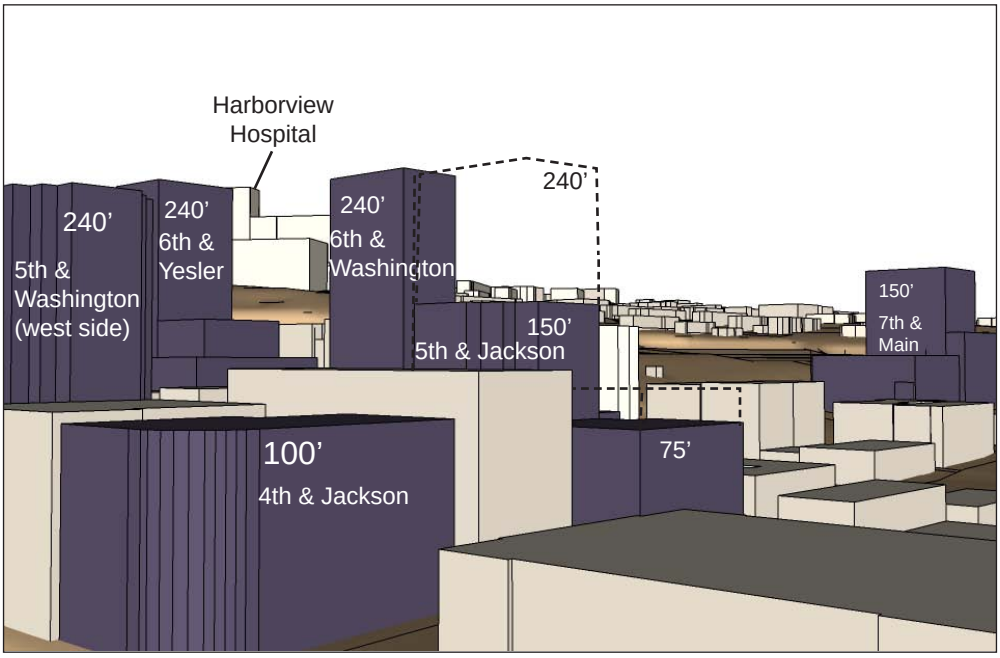
Under Alternative 1, a potential for a 240-foot building located near 6th Avenue/Yesler Way is also identified as generating a "potential adverse height-related impact" because it could potentially intrude slightly into airspace preferred by emergency service providers for emergency helicopter flightpaths to Harborview Hospital. (This airspace is not specifically mandated by federal rules). Because this intrusion could be avoided through future design of such a building, it is not characterized as a significant adverse impact.

Chinatown

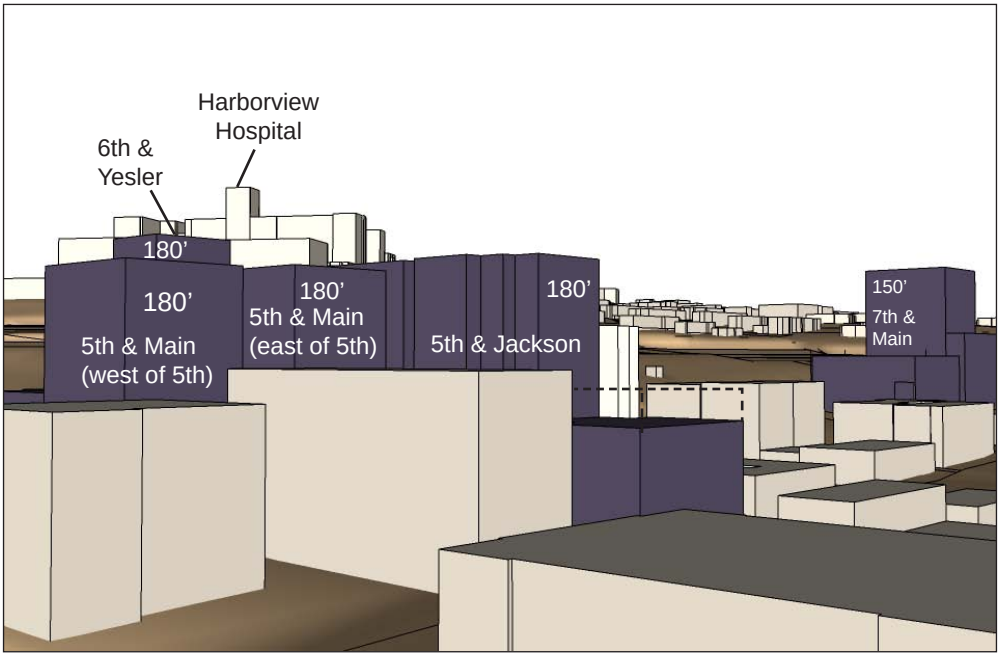
In the Chinatown core vicinity, the Alternative 1 and 2 proposals are for IDM zoning with a maximum height limit of up to 125 feet, 40 feet greater than the existing IDM zoning (see Figure 3-11). The Alternative 1 proposal also includes provisions that would shape the bulk of future development in this vicinity – likely including coverage limits or 15-foot setbacks at a building elevation of 45 feet. This level of change is interpreted to represent a moderate increase in building height and scale—it is higher than the predominant Chinatown height and scale context, but is not considered a "high-rise" scale.

Under Alternatives 1 and 2, within the relatively lightly developed context of blocks south of S. Weller Street, the alternative proposals are not likely to generate significant adverse height, bulk and scale impacts. A similar conclusion applies to the adjacency of that vicinity with the National Register Historic District immediately north of S. Weller Street. However, Alternative 2 also includes an extension of the 125-foot height limit to S. King Street in the block west of 6th Avenue S (see Figure 3-11). In this block, only the Publix Hotel is located within the National Register Historic District, but this block does abut that District on S. King Street and 6th Avenue S. block faces. Due to the combination of increased development scale and sensitivity to maintaining compatibility of development character within and

Alternative 1



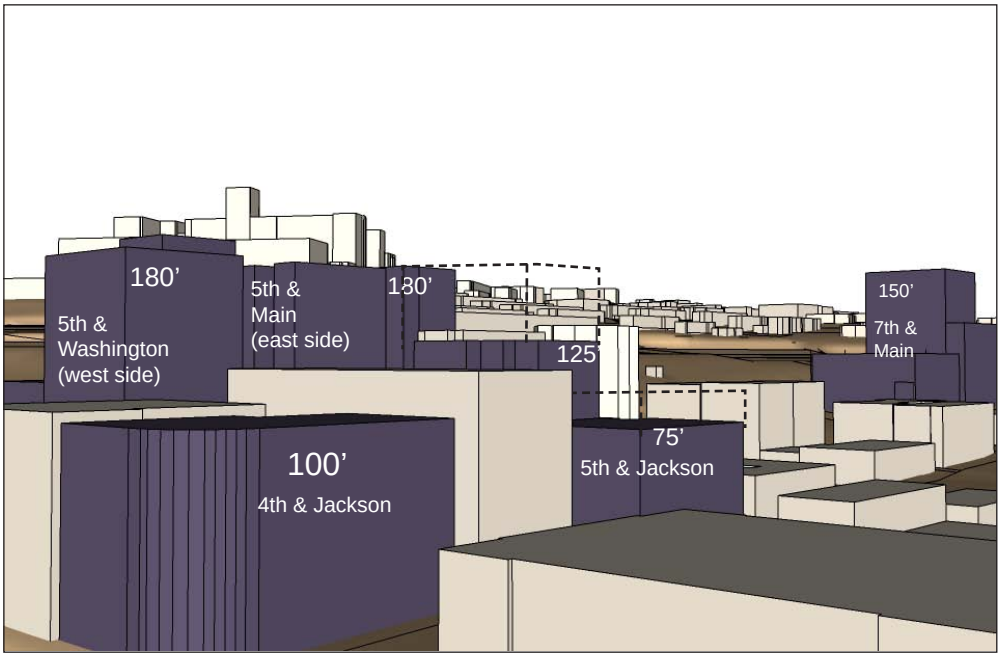
Alternative 2



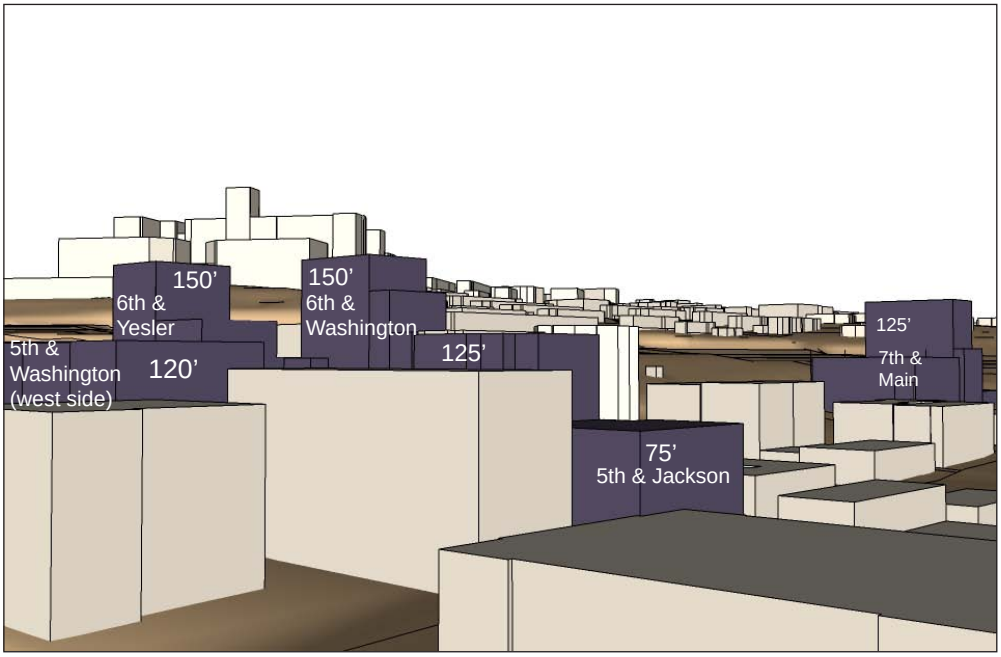
Note: Hypothetical buildings shown, per the EIS growth scenario, except one additional building shown at 6th & Yesler. Dotted lines show a possible maximum “building envelope” only at 5th & Jackson, for illustrative purposes.

Figure 3-9
Hypothetical Height and Bulk of Future Development, Japantown, Alternatives 1 and 2, Looking Northeast Across S. Jackson Street

Alternative 3



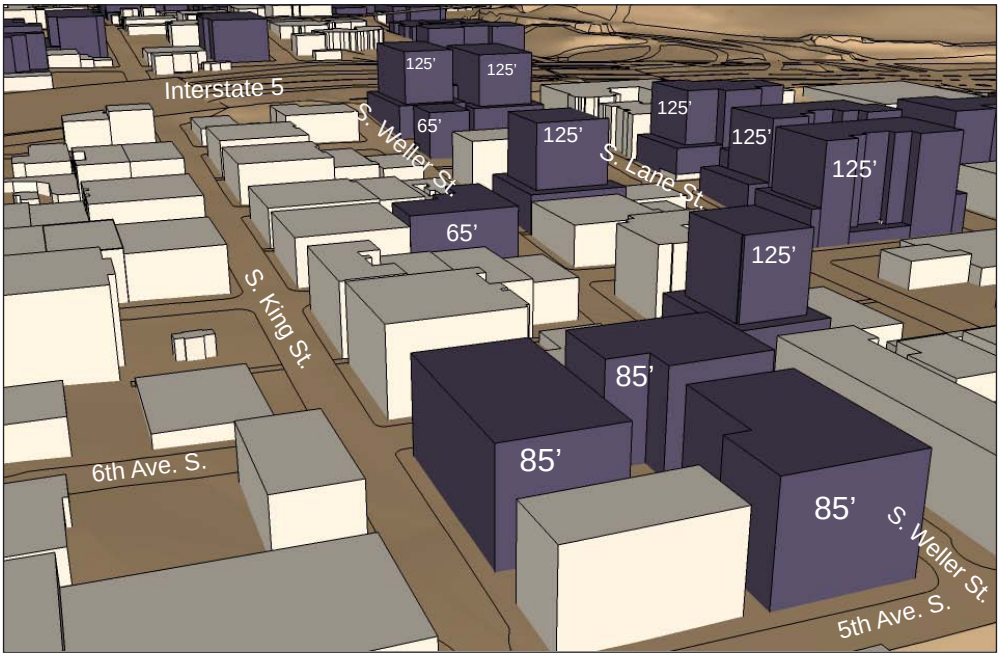
Alternative 4



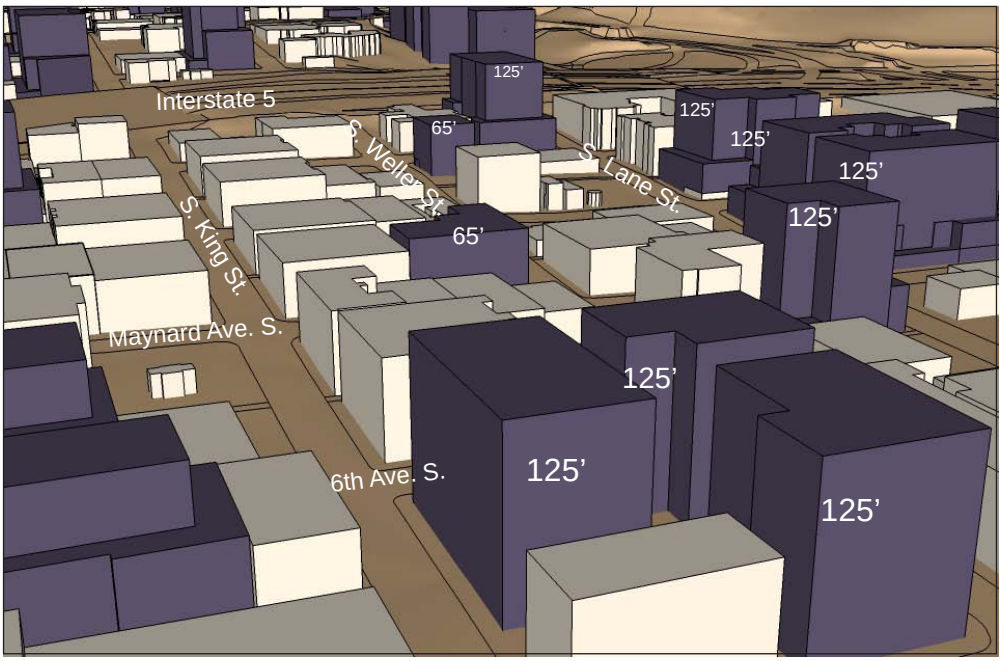
Note: Hypothetical buildings shown, per the EIS growth scenario, except one additional building shown at 6th & Yesler. Dotted lines show a possible maximum “building envelope” only at 5th & Jackson, for illustrative purposes.

Figure 3-10
Hypothetical Height and Bulk of Future Development, Japantown, Alternatives 3 and 4, Looking Northeast Across S. Jackson Street

Alternative 1



Alternative 2



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure 3-11

Hypothetical Height and Bulk of Future Development, Chinatown, Alternatives 1 and 2

adjacent to the National Register Historic District, Alternative 2's extension of a 125-foot height limit to this particular block could result in significant adverse height/bulk/scale impacts with future development, depending on the design and siting of new buildings. Mitigation strategies to further influence the height, bulk and scale of future development should be implemented to protect against such impacts. Under Alternatives 3 and 4 with no zone changes, there would be no potential for height, bulk and scale impacts.

Little Saigon

In the Little Saigon neighborhood east of I-5, the range of alternatives includes height limits up to 85 feet under Alternatives 1 and 3, and height limits up to 125 feet under Alternative 2 (refer to Chapter 2 for other details). The increases to 85 feet in Alternatives 1 and 3 represent a minor increase in building height and scale that would not generate significant adverse height, bulk or scale impacts with future development (see Figures 3-12 and 3-13). Under Alternative 2, applying a 125-foot height of future development to the proposed area would result in a somewhat larger contrast in building scale with surrounding zones and existing buildings than zoning under Alternatives 1 and 3. However, the recommended bulk controls included in Alternative 2, as well as the design review process, would help future development to avoid significant adverse height/bulk/scale impacts by moderating the effects of height and bulk.

Under all alternatives, the study area portion east of Rainier Avenue S. in the Jackson Place vicinity would have minimal potential for significant adverse height/bulk/scale impacts due to no increase in the proposed height limits and a density increase of less than 2 FAR compared to existing zoning. Also, sloping topography in most of this vicinity would help moderate the potential effects of future development. Under Alternative 4, there would be no potential for height, bulk and scale impacts due to no zoning changes.

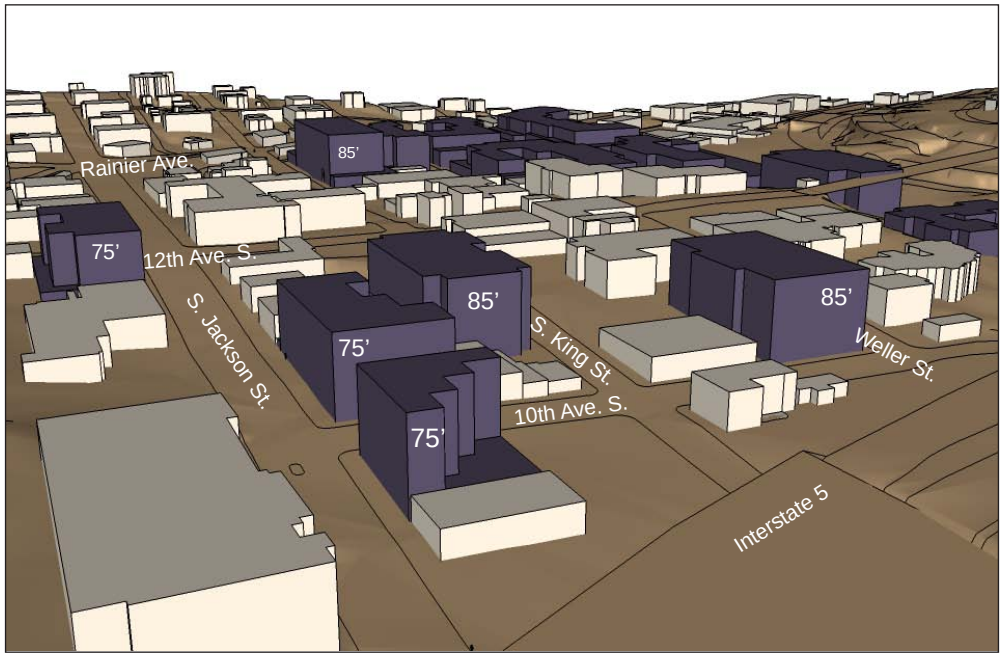
South-of-Dearborn

Under Alternatives 1, 2 and 3 the height, bulk and scale implications of future development in this vicinity are influenced by the relationship between height and density regulations and the pattern of single-ownership for several properties along 6th Avenue S. Alternative 1 zoning would increase maximum height limits to 125 feet, while Alternatives 2 and 3 zoning would increase height limits to 160 feet (see Figures 3-14 and 3-15).

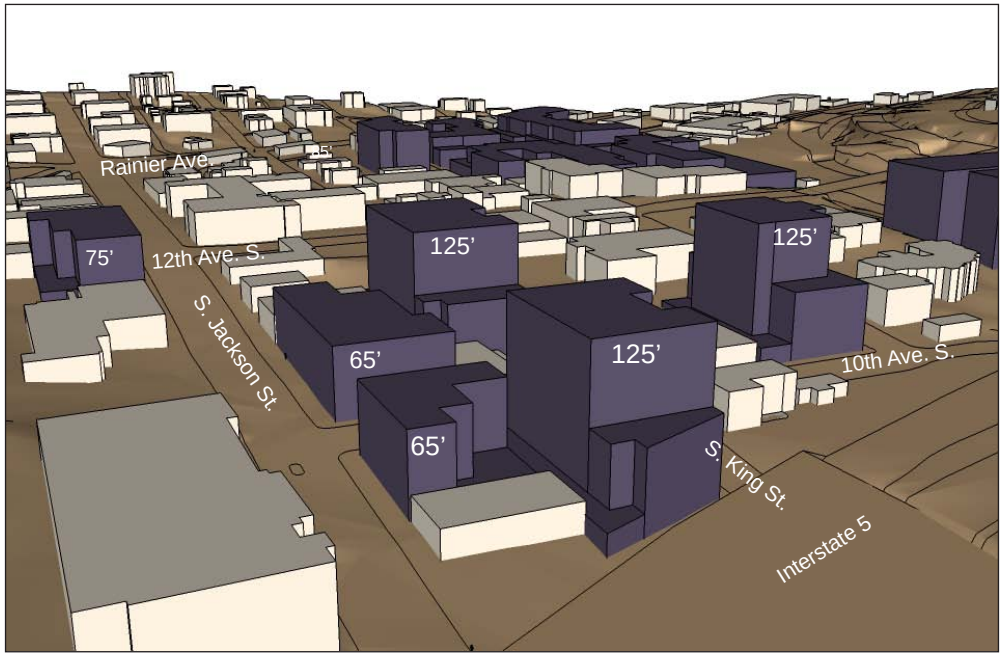
Assuming commercial office uses would be the favored future use, zoning under any of these alternatives may result in the development of fewer but taller buildings that consolidate development capacity from many properties into a single large office project. Under Alternative 1, this probable pattern of future development and the proposed density limits would limit the potential total amount of building bulk that could be added to this vicinity. Smaller properties, with fewer options in siting, might be designed in buildings ranging from 40 to 70 feet in height if they fully used the maximum possible density. Future possible development in adjacent zones, proposed with height limits of 125 feet or higher, and the presence of the elevated freeway ramps and sloping topography are factors that would moderate the perceived building scale. Under Alternative 1, the additional height and bulk of future development would likely represent an "adverse" impact, but it would not likely result in "significant adverse" height, bulk and scale impacts.

In contrast, under Alternatives 2 and 3, the proposed 160-foot height limit and higher densities (and mixed-use development under Alternative 3) could result in significant adverse height/bulk/scale impacts, based on a worst case scenario of poor design and siting decisions and insufficient controls on building bulk and scale. Under Alternative 3 only, a special review process required by the SDM zone would help

Alternative 1



Alternative 2

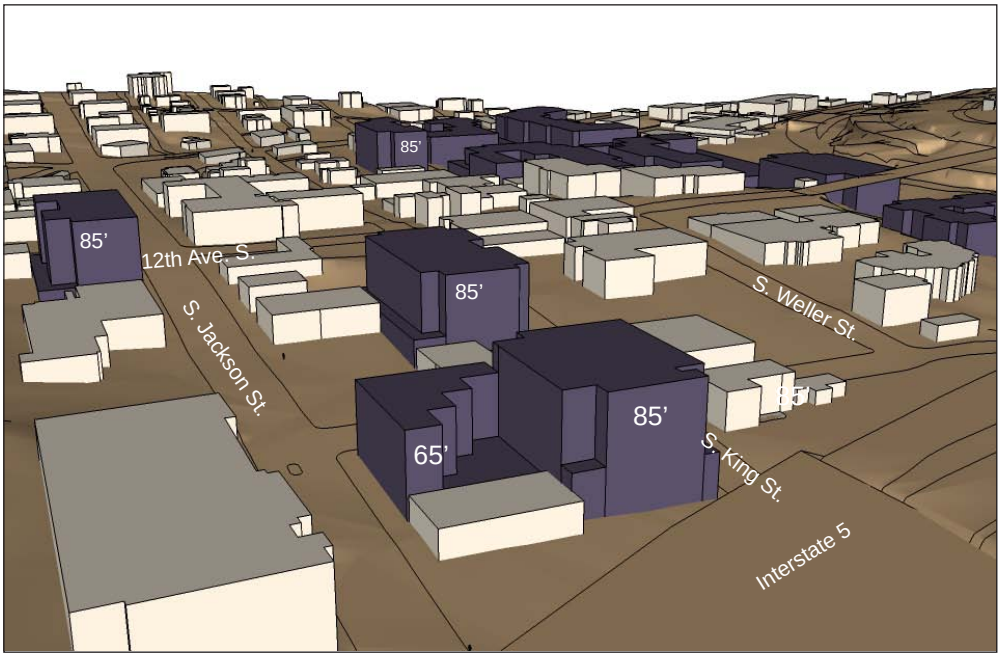


Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

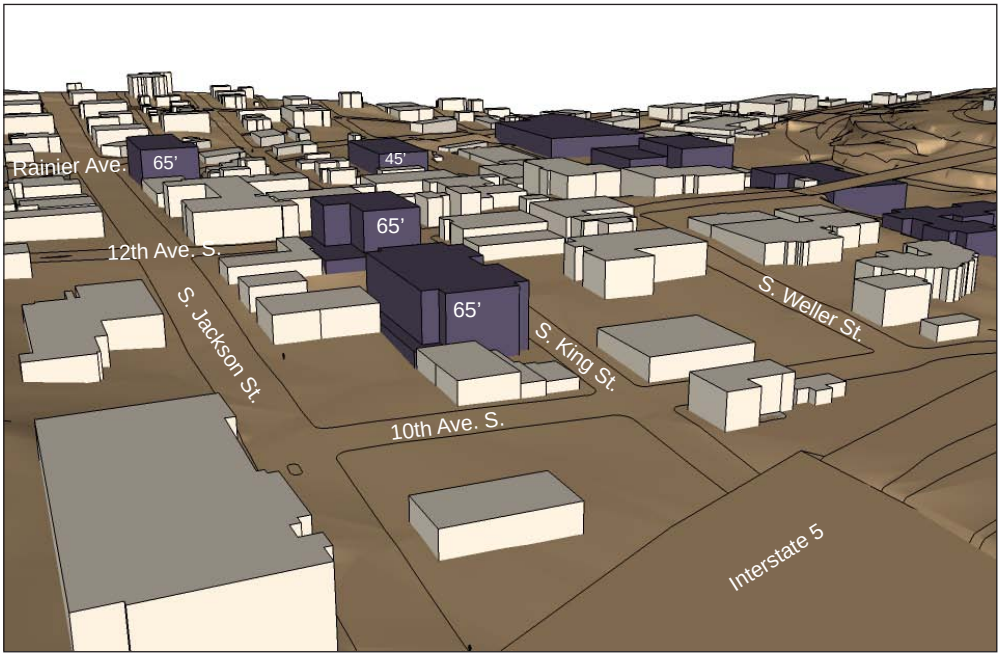
Figure 3-12

Hypothetical Height and Bulk of Future Development, Little Saigon, Alternatives 1 and 2

Alternative 3



Alternative 4

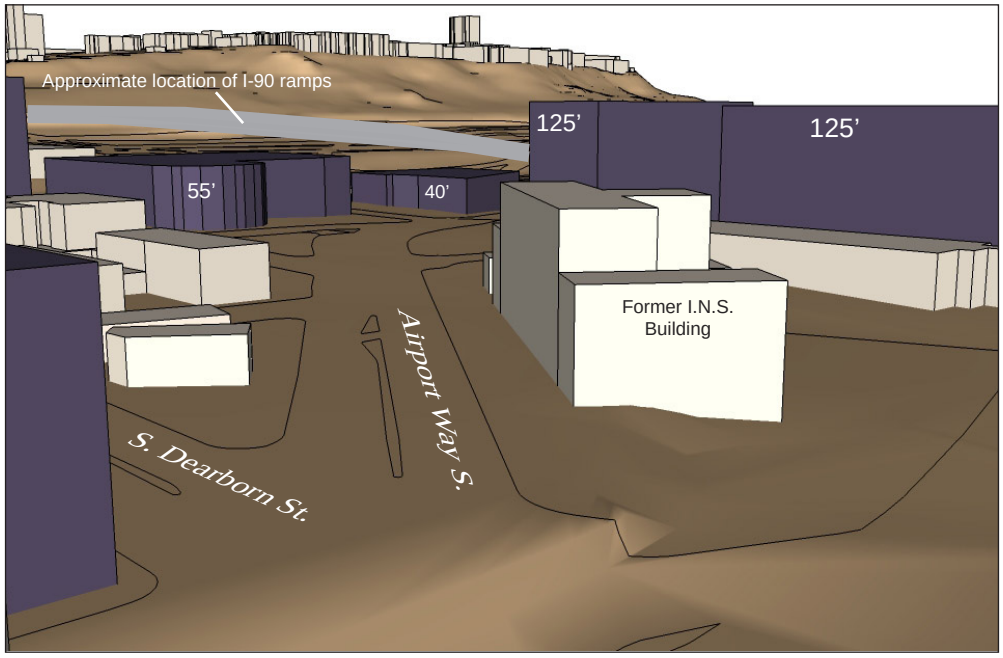


Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

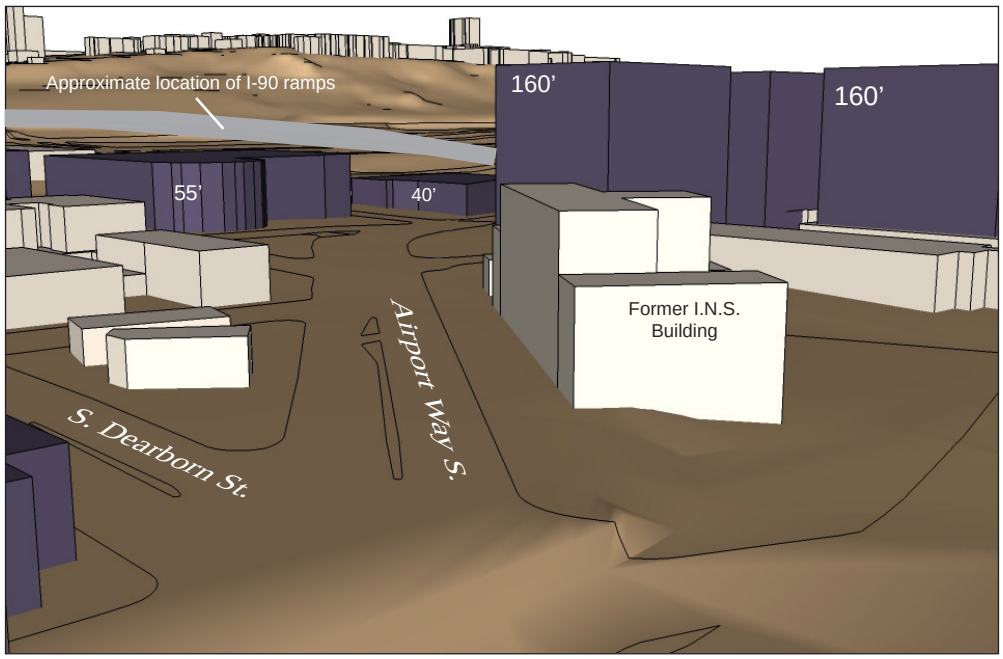
Figure 3-13

Hypothetical Height and Bulk of Future Development, Little Saigon, Alternatives 3 and 4

Alternative 1



Alternative 2

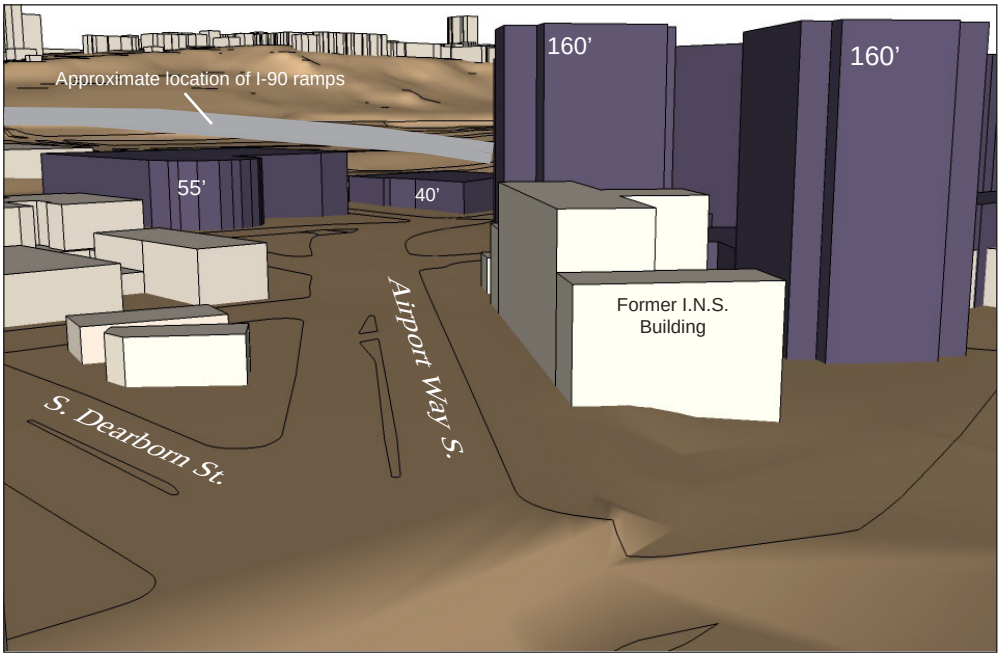


Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

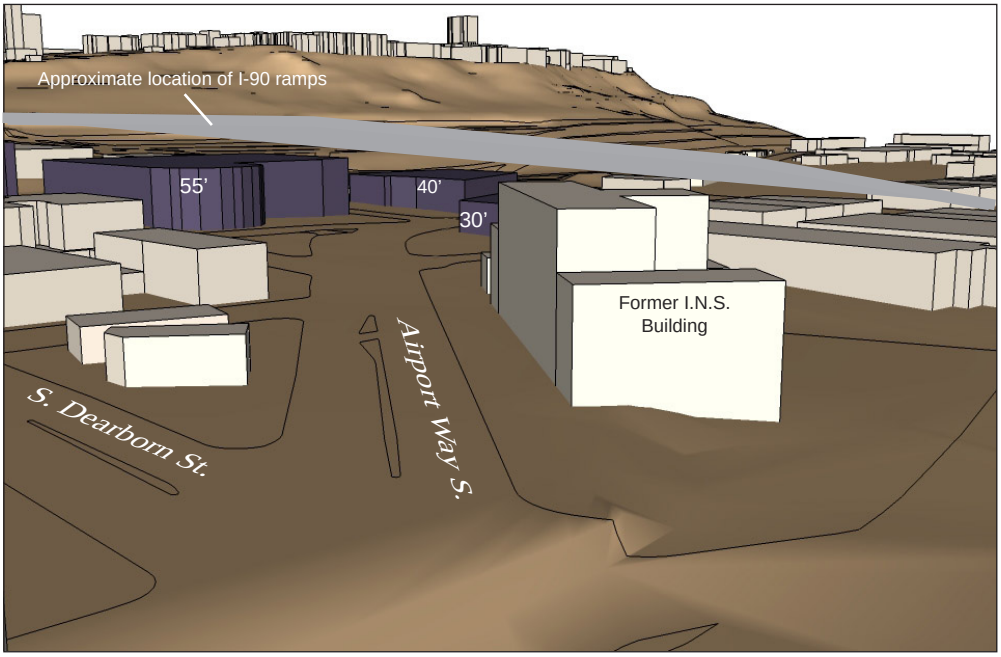
Figure 3-14

Hypothetical Height and Bulk of Future Development, South-of-Dearborn, Alternatives 1 and 2

Alternative 3



Alternative 4



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure 3-15

Hypothetical Height and Bulk of Future Development, South-of-Dearborn, Alternatives 3 and 4

address such impacts. However, under either Alternative 2 or 3, mitigation strategies to further influence the height, bulk and scale of future development should be implemented.

Alternative 4 – No Action

In this vicinity, no changes from existing zoning would mean no potential for significant adverse height/bulk/scale impacts.

Stadium Area

The Stadium Area as defined in this analysis includes the 1st Avenue S. and 4th Avenue S. corridors, the latter covering the area south of Pioneer Square zoned area. Along the 1st Avenue S. corridor, Alternative 1 includes height limits of 85-160 feet, Alternative 2 includes height limits of 65-100 feet, and Alternative 3 includes height limits of 85-120 feet. Along the 4th Avenue S. corridor north of S. Royal Brougham Way, the alternatives include height limits of 125 feet, 240 feet and 85 feet for Alternatives 1, 2 and 3, respectively.

The location, land uses, zoning and building patterns in the Stadium Area define its role as a transition between the Downtown Urban Center to the north and the Greater Duwamish Manufacturing and Industrial Center to the south. Building density and scale (except for the athletic stadia) gradually decreases from north to south, illustrating past development history and the greater development capacity afforded through Downtown zoning. Also, the SR99 Alaskan Way Viaduct is immediately adjacent to and west of this vicinity, forming a fence-like edge, while the large-scale athletic stadia are nearby to the east. Nearby to the west are the Port of Seattle terminal facilities. These physical patterns and features form the context for evaluation of height, bulk and scale impacts. This area's orientation along a corridor and the presence of a few large properties influences potential future development. The use of the western half of the WOSCA property by SR99 construction would further influence the location and design of buildings, limiting future development to an area roughly one-half block, around 120 feet in width, abutting the west side of 1st Avenue S.

Along the 1st Avenue S. corridor, if not positively influenced by regulatory or design review guidance, the shape of potential future buildings under Alternatives 1 and 3 could be long in the north-south dimension, potentially interrupted only by vehicle access drives. Similarly, worst-case architectural designs might consist of monotonous and minimally-shaped treatments of an entire street-facing façade. Resulting buildings could be long rectangular forms with minimal architectural treatments that would not respond well to neighborhood context, and would negatively affect the pedestrian environment along 1st Avenue S. Proposed density limits would play a role in constraining total building bulk, but would not by themselves ensure that optimal arrangements of building bulk would occur in future development. This type of development in the worst case scenario could result in significant adverse height, bulk and scale impacts under Alternatives 1 and 3. Under Alternative 2, the lower height limits ranging from 65 feet to 100 feet could result in "adverse" but likely not "significant adverse" height, bulk and scale impacts (see Figures 3-16 and 3-17).

Alternative 1 and 3 would avoid the worst case potential outcomes through the use of a special review process mandated by the proposed South Downtown Mixed (SDM) zoning, as well as a design review process. The expected result would be building design treatments that would include façade modulation, use of context-appropriate façade materials, shaping of building bulk, and pedestrian features along 1st Avenue S. These would improve overall design quality and help avoid potential significant adverse height/bulk/scale impacts on the immediate built environment. Under Alternative 2, the required design review process would be expected to help avoid worst case adverse design outcomes.

Alternative 1

Alternative 2

Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure 3-16

Hypothetical Height and Bulk of Future Development, 1st Avenue S., Alternatives 1 and 2

Along the 4th Avenue S. corridor north of S. Royal Brougham Way, Alternative 2 could result in significant adverse height/bulk/scale impacts with future development in a worst case scenario, due to the proposed height of 240 feet, increased density limits, and the resulting potential scale of development (see Figures 3-18 and 3-19). For other alternatives, no significant adverse height/bulk/scale impacts are identified along the west side of the 4th Avenue S. corridor.

Alternative 4 – No Action

Under the No Action Alternative, with no changes in the regulatory environment, there would be no potential for height, bulk and scale impacts. Future potential development in the affected area would be required to fit within the current requirements of IC 65' zoning, or IC 85' zoning south of S. Atlantic Street. Many but perhaps not all possible future developments would undergo design review processes.

COMPATIBILITY

Land Use Patterns and Height Transitions

The evaluations of land use and height, bulk and scale impacts in Chapter 3 and Appendices A and B thoroughly describe several aspects of potential land use and zoning impacts that relate to compatibility. Please review those analyses for further discussion of compatibility topics.

Light, Glare and Shadows

Pioneer Square

No significant adverse light, glare or shadow impacts are identified for this vicinity under any of the alternatives. This vicinity does not contain any of the locations where shadow impacts may be mitigated in Downtown.

Chinatown/Japantown

There is minor potential for adverse glare and shadow impacts with future development in a few locations in this vicinity. However, due to the expected effectiveness of the neighborhood's special review processes, these potential impacts would not likely rise to a level of significant adverse impacts. Under any of the alternatives, new buildings in proximity to Interstate 5 could potentially be designed with glass and reflective surfaces that would generate glare in passing motorists' eyes at certain times of day. The areas where this might occur include: properties in Chinatown, Little Saigon and south-of-Dearborn nearest Interstate 5 and I-90 ramps, and the 6th/Yesler Way vicinity that is visible to southbound I-5 traffic. Adverse shadowing impacts could potentially occur on a segment of Danny Woo Gardens under any alternative if future development occurs on a property west of 6th Avenue S. and south of S. Washington Street. Also, due to proposed adjustments in the IDR 150' zone development regulations, there is a minor possibility of additional shadowing on Danny Woo Gardens if development occurs along S. Main Street. However, because the garden is already protected from adverse shadow impacts by city policy and special review processes, the potential for additional significant shadow impacts would either be avoided altogether or minimized by these future development review processes. No significant adverse light impacts are identified anywhere in this vicinity under any of the alternatives.

Little Saigon

No significant adverse light, glare or shadow impacts are identified for this vicinity under any of the alternatives. There is minor potential for adverse glare impacts, as identified in the discussion above on Chinatown/Japantown glare impacts. This vicinity does not include any identified significant shadow impact issues, nor any of the locations where shadow impacts may be mitigated in Downtown.

Alternative 3

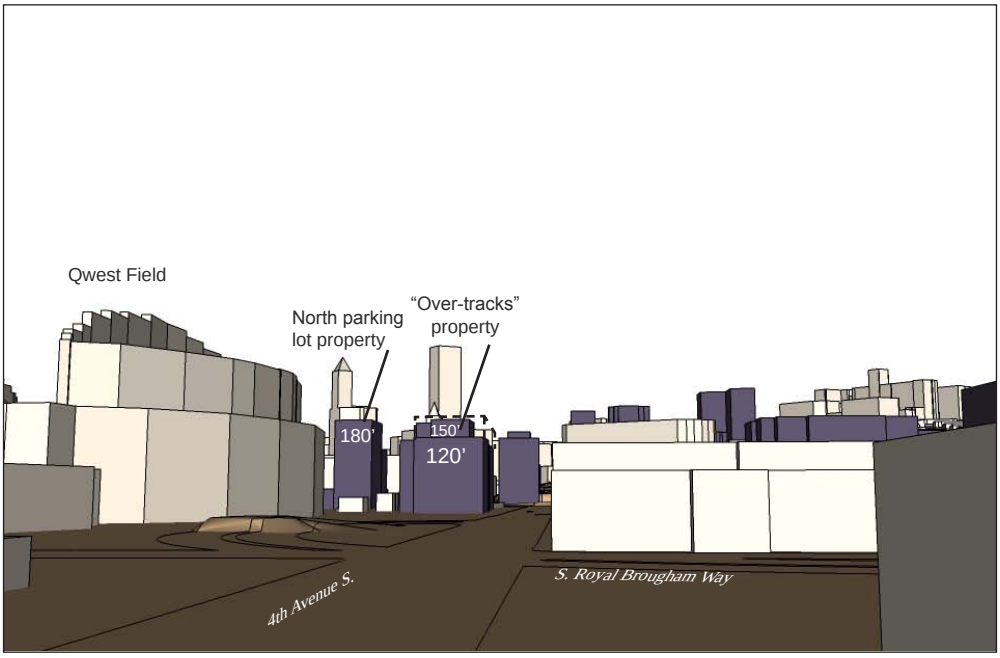
Alternative 4

Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

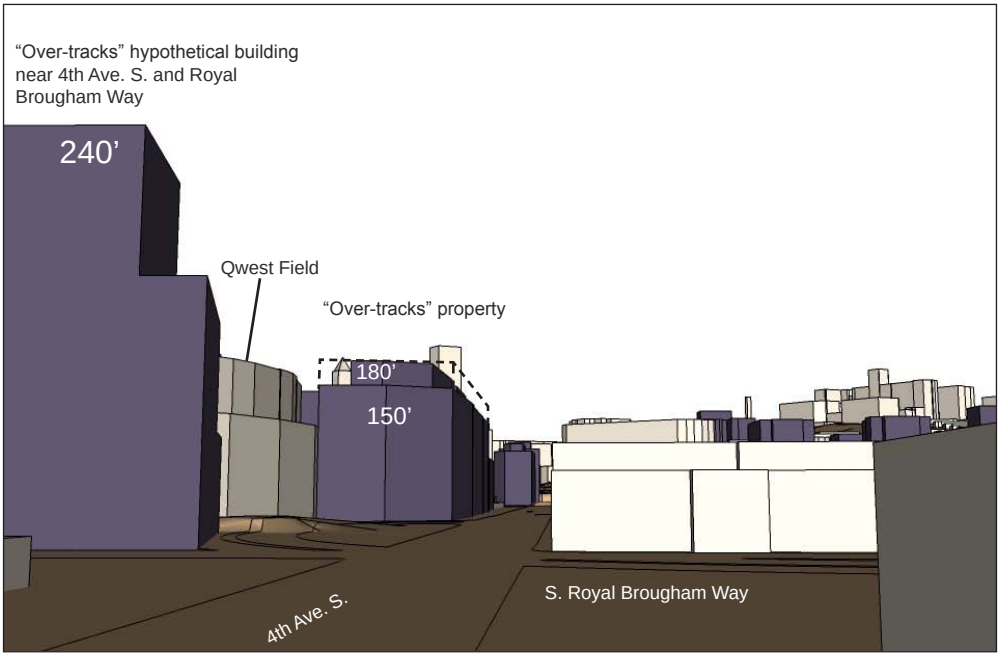
Figure 3-17

Hypothetical Height and Bulk of Future Development, 1st Avenue S., Alternatives 3 and 4

Alternative 1



Alternative 2

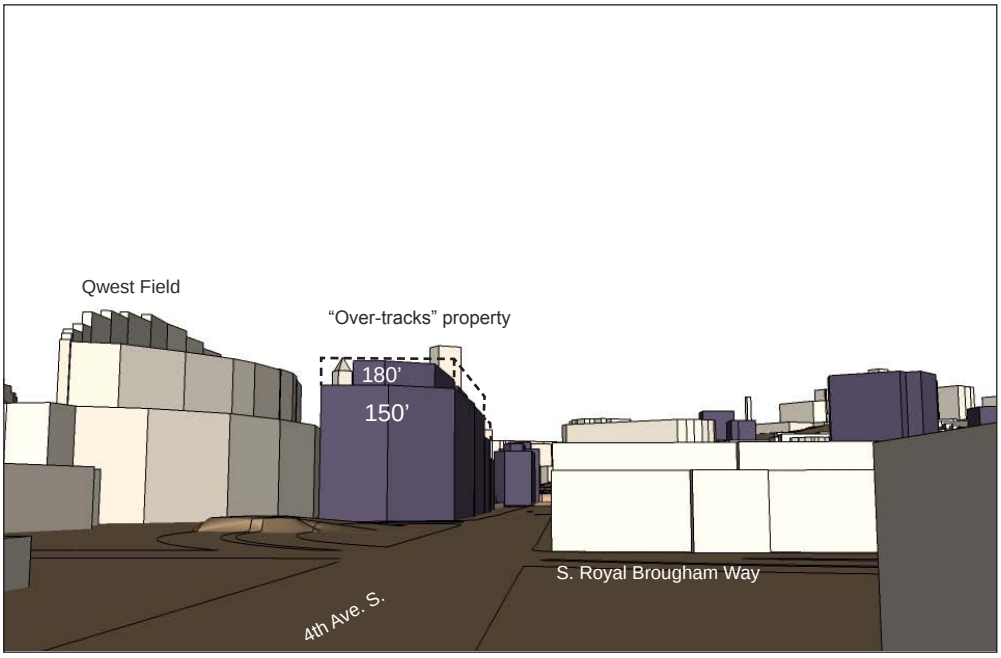


Note: Buildings shown represent hypothetical development. Dotted lines indicate a possible maximum "building envelope" defined by the height limit. Density limits and bulk controls would prevent filling the entire building envelope.

Figure 3-18

Hypothetical Height, Bulk at "Over-Tracks" Property, Looking North, Alternatives 1 and 2

Alternative 3



Note: Buildings shown represent hypothetical development. Dotted lines indicate a possible maximum "building envelope" defined by the height limit. Density limits and bulk controls would prevent filling the entire building envelope.

Alternative 4

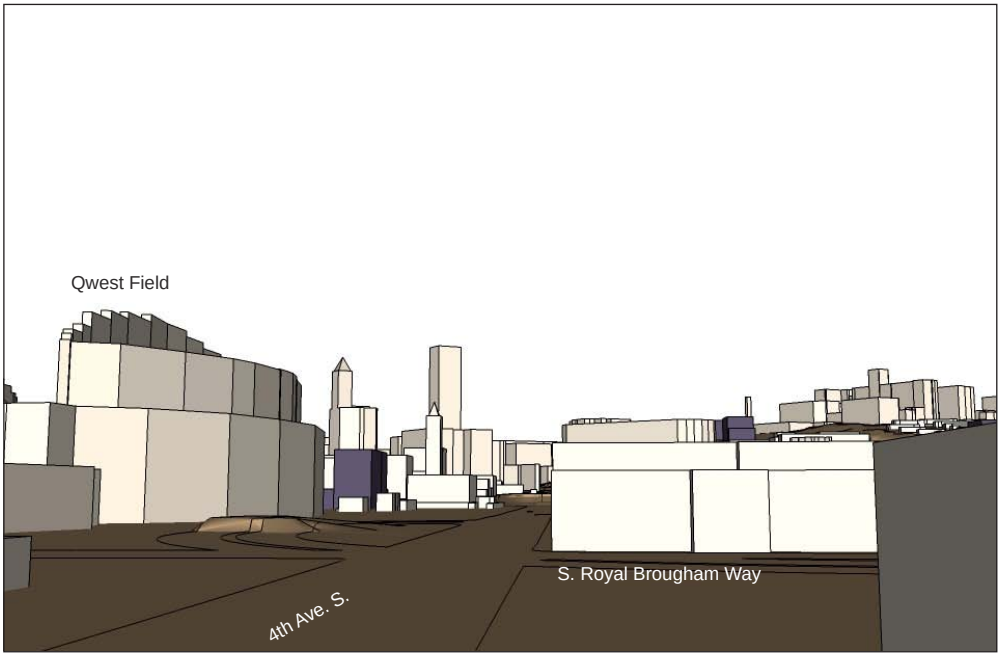


Figure 3-19

Hypothetical Height, Bulk at "Over-Tracks" Property, Looking North, Alternatives 3 and 4

South-of-Dearborn

No significant adverse light, glare or shadow impacts are identified for this vicinity under any of the alternatives. There is minor potential for adverse glare impacts, as identified in the discussion above on Chinatown/Japantown glare impacts. This could potentially occur, depending upon the design of future development on properties in general proximity to Interstate 5 or the Interstate 90 highway ramps. Future design review processes on project-specific development proposals could help avoid this potential glare impact. This vicinity, currently located outside the Downtown Urban Center, does not contain any identified significant shadow impact issues.

Stadium Area

Under Alternatives 1 and 3, the proposed zones would allow residential uses in the northern portion of the WOSCA property. Newly allowing such residential uses in an area subject to nearby port/industrial uses' light/glare could result in adverse compatibility impacts. Port facilities, located just to the west across SR 99 and Alaskan Way, include high-volume container transfer facilities that have the potential to contribute to adverse light/glare conditions if residential uses are present in this location. Night-time lighting and activities would be of most concern, as Port lighting would contribute to illumination levels that could affect residences facing toward the west. The severity of this impact would therefore depend on how residential uses would be situated on the affected property. If shielded by other buildings, the severity of the potential impact on residential uses would be lessened.

Other adverse glare impacts from passing vehicles on SR99 would be possible along this corridor, similar to those identified in the Chinatown/Japantown discussion above, under any alternative.

No significant adverse shadow impacts are identified for this vicinity under any of the alternatives.

MITIGATION STRATEGIES

Pioneer Square

Alternatives 1 and 2

- For the Qwest Field north parking lot and "over-tracks" properties, to avoid potential significant adverse height/bulk/scale impacts, define bulk controls in greater detail for future possible development. Also, future development proposals should be evaluated according to Pioneer Square Preservation District guidelines that address building bulk.

Alternative 1

- In Pioneer Square, to mitigate potential significant adverse impacts on nearby historic-contributing structures under Alternative 1, define bulk controls in greater detail for future possible development to 180 feet on the "railroad gap" properties on the west side of 4th Avenue S. north of S. Jackson Street.

Alternative 2

- In the vicinity between 3rd and 4th Avenues S., rezones to a 150-foot maximum height could be limited only to the "railroad gap" areas abutting the west side of 4th Avenue S., to avoid direct impacts to properties with historically-contributing structures.

Alternative 3

- For the "over-tracks" property within the proposed SDM zone, the public process and subsequent design review process associated with the SDM zone should incorporate strategies to influence the arrangement of building bulk to avoid significant adverse height/bulk/scale impacts from the worst-case scenario.

Chinatown/Japantown

Alternative 1

- In the hilly vicinity along 6th Avenue south of Yesler Way, to avoid potential significant adverse height/bulk/scale impacts, define bulk controls in greater detail for future possible development, or select a lower height limit than 240 feet.

Alternative 2

- In Chinatown, for an extension of a 125-foot height limit to the block bounded by 5th and 6th Avenues S. and S. King and S. Weller Streets, which is partly within the National Register Historic District, define bulk controls, relationships to the street-level environment and strategies to maintain compatibility with historic character in greater detail.
- In Chinatown, consider avoiding rezone of properties, such as the Publix Hotel, that are currently within the National Register Historic District.

South-of-Dearborn

Alternative 2

- In order to avoid significant adverse height/bulk/scale impacts, rezones to an IC 160' zone could be avoided, the bulk control requirements applicable to future development could be specified in greater detail, and/or design review processes could be better specified.

Alternative 3

- For the South-of-Dearborn vicinity within the proposed SDM zone, the public process and subsequent design review process associated with the SDM zone should incorporate strategies to influence the arrangement of building bulk to avoid significant adverse height/bulk/scale impacts from the worst-case scenario.

Stadium Area

Alternatives 1 and 3

- For the WOSCA property vicinity within the proposed SDM zone, the public process and subsequent design review process associated with the SDM zone should incorporate strategies to influence the arrangement of building bulk to avoid significant adverse height/bulk/scale impacts from the worst-case scenario.

Alternative 2

- In order to avoid significant adverse height/bulk/scale impacts, rezones to an IC 240' zone along the west side of 4th Avenue S. north of S. Royal Brougham Way could be avoided, the bulk control requirements applicable to future development could be specified in greater detail, and/or design review processes could be better specified.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

With implementation of mitigation strategies to address the identified significant adverse height/bulk/scale impacts of the alternatives, no significant unavoidable adverse impacts are expected to occur.

LAND USE—BUSINESS AND ECONOMIC IMPACTS

AFFECTED ENVIRONMENT

INTRODUCTION

A key issue identified during the South Downtown EIS scoping process involved the potential vulnerability of small businesses operating within the culturally-distinct neighborhoods of Chinatown/ I.D. and Little Saigon. Businesses throughout the Livable South Downtown study area (including in Pioneer Square and the Stadium Area) are important to the future vitality of South Downtown, and should be nurtured through private and public-sector efforts. However, small businesses in Chinatown/I.D. represent a unique economic and cultural resource that is potentially more susceptible to impacts related to Livable South Downtown zoning proposals and future development. Chinatown/I.D. business districts also face a number of challenges, such as language barriers, that are not present in other business areas of the city, as described below.

Project staff contracted with Strategic Economics and Trang D. Tu Consulting to examine potential business impacts associated with future zoning changes and impacts associated with development of the proposed Dearborn Street project (e.g., the proposed development on the Goodwill property). A copy of the consultant report can be found in Appendix C.

The consultants' business/economic study included three distinct business areas: the traditional Chinatown/I.D. core neighborhood area, Japantown businesses, and Little Saigon businesses located east of Interstate 5. Data were collected from public records, inventories and interviews in native languages. The study included the following evaluations:

- inventory of existing businesses
- impacts associated with alternative zoning proposals
- impacts relating to the prospective retail/mixed-use center on Dearborn Street
- case studies to learn from the experiences of comparable business districts in other cities, and
- identification of tools for strengthen the business districts

This section summarizes study findings and discusses mitigation strategies described by the consultants.

SUMMARIZED EVALUATION OF EXISTING CONDITIONS

Chinatown/International District, West of Interstate 5

The Chinatown/I.D. business district west of Interstate 5 is a diverse mix of over 300 business and 40 non-profit organizations in a ten-block area. The area features concentrations of Chinese and other Asian restaurants, alternative medicine shops, and key anchors such as Uwajimaya that create specialty niches with a regional draw.

- Approximately 79 restaurants, bakeries and cafés compose about 21% of the surveyed businesses.
- Approximately 15 or more Chinese medicine practitioners, acupuncturists, herbalist and herbal supplies stores comprise a second significant business cluster.

Decline of consumer-oriented businesses. Over the past ten years, inflation-adjusted revenues of consumer-oriented shopping district businesses have declined from $66 million to $41 million in 2006 dollars. Restaurant sales shrank by nearly a third of total revenues, while miscellaneous retail outlets lost

over $6 million in revenues.[1] The average tenure of existing restaurants and retailers is 12 years and 11 years respectively, which are lengthy life spans in these business sectors. While this testifies to the owners' tenacity, it also indicates that new Asian-American owned restaurants and retailers are not choosing to locate in Chinatown. While the 79 existing restaurants and 58 retailers are a regional attraction and major asset to the district, the ten-year declining revenue trend and the growth of other outlying Asian-American business districts poses a risk to the ongoing health of Chinatown's traditional businesses.

Growth in service sector businesses. Total inflation-adjusted business revenues in Chinatown grew from $202 million in 1997 to $358 million in 2006, with an average 8% annual growth rate. Service sector business revenues almost tripled between 1997 and 2006, growing from $88 million to $242 million. This growth was driven by business, legal and professional services' revenues, mainly reflecting office users near Union Station. The growing daytime office worker population provides the district's restaurants with lunch-time customers and could provide daily- or weekly-needs retailers with new local patrons, but also complicates the district's identity as a regional specialty shopping district. The health services sector also grew modestly but steadily. Eleven percent of surveyed commercial spaces were vacant.

Relatively low lease rates. Commercial lease rates vary widely, reflecting the diversity of age and condition of spaces in the Chinatown vicinity west of Interstate 5. Approximately one-quarter of surveyed businesses pay less than $1.00 per square foot per month, while one-third pay $1.00 - $1.50, one-quarter pay $1.50 - $2.00 and the remainder over $2.00. On average, retailers and consumer service providers currently pay lesser rent levels than it would take to occupy space in new storefronts created by new mixed-use development. Existing restaurants on average pay the minimum amenity rent ($1.50/SF/month). However, additional losses in restaurant revenues, if they occur over time, could undermine this.

Diverse customer base. Chinatown/I.D. businesses have diverse market orientations. Approximately two-thirds have a citywide, regional or extra-regional customer base. This includes restaurants that serve Downtown workers at lunch-time. The remaining one-third of businesses serve residents of the district and adjacent neighborhoods. The customer base also shifts from being more local-serving during the week to more regional-serving on the weekend. The majority of businesses serve customers of all ethnicities, with approximately 20% serving a pan-Asian customer base and another 20% serving specifically Chinese, Chinese-American, or Japanese-American clientele.

Examples of existing successful businesses. Businesses such as Uwajimaya and the Panama Hotel and Teahouse that have both specialty and mass appeal are well positioned to handle business trends over time, while maintaining neighborhood identity and regional appeal. Niche businesses that offer special goods or services unavailable elsewhere, such as the alternative health service practitioners and suppliers, and that excel at cultivating and serving their customer base should also continue to do well.

Little Saigon (East of Interstate 5)

Little Saigon is a specialty ethnic shopping district with approximately 175 businesses and 25 non-profit organizations, many clustered near S. Jackson Street and 12th Avenue S. The mainstays of the vicinity are its retail, restaurant, personal services and small office uses. Other businesses include industrial and wholesale businesses on S. King Street and S. Weller Street.

Business revenues increase. Total inflation-adjusted business revenues in Little Saigon increased from $76.5 million in 1997 to $96 million in 2006. The Little Saigon vicinity has a growing retail sector, with revenues growing modestly but steadily from $22 million in 1997 to $33 million in 2006. Retail growth was led by the expansion of groceries and specialty groceries in the area.

[1] Uwajimaya's revenues were likely not included in these sales data. While this negatively skews the retail trend, it also clarifies the trends in other area retailers' business.

By 2006 there were approximately 12 food stores in Little Saigon. The restaurant sub-sector, comprised of 35 restaurants, 24 of which are Vietnamese, has also grown steadily, doubling in revenues over the past ten years. Other sizable retail and personal service clusters, including jewelry (12 outlets) and hair and nail salons (19 outlets), grew steadily in total revenues from 1997 to the early 2000s, but then began to decline due to larger economic shifts, competition from other outlying districts, and possibly Little Saigon businesses undercutting each other due to increased competition.

Typical lease rates. Retail lease rates are at approximately $1.50 to $2.00 per square foot per month. This range of lease rates is both higher and more tightly defined than Chinatown, relating to greater similarity among spaces in type and age, largely within one and two-story strip commercial buildings. The business inventory identified that 19% of commercial spaces were vacant, but these were found mostly in the mixed industrial and residential blocks off of S. Jackson Street and do not necessarily reflect demand for retail and office space in the heart of the Little Saigon vicinity.

Diverse customer base. The customer base varies both ethnically and geographically by the type of business, a business' degree of mainstream exposure, and the proprietor's intentions regarding target market. Restaurants are split between those that have targeted a mass market audience versus older establishments that have continued to serve a largely Vietnamese-American clientele. Some business owners have observed that their customer base has become increasingly varied over time and that the regional Vietnamese-American clientele is now focused on weekends, similar to Chinatown's regional weekend draw.

Business decisions. Most businesses interviewed chose their Little Saigon location due to the low rents, proximity to other Vietnamese-American enterprises and a desire to serve a Vietnamese-American clientele. The majority of owners wish to expand their businesses and remain in Little Saigon, and several would prefer to own and develop property. Capacity for expansion varies depending on family and financial resources, level of business experience, strategic planning skills and training, and attitude toward risk.

In interviews with business proprietors, a majority of proprietors expressed concerns about several current issues they perceive as adversely affecting their customer base, including:

- Narrow profit margins, leading to an inability to raise prices due to neighborhood competition;
- Parking limitations and traffic volumes (regarding peak hours, stadium game days, lunchtime, ineffective management of private lots, public construction periods);
- Public safety and security (panhandling, employees' safety at night, break-ins, drug dealing);
- A need for physical improvements in the neighborhood (street and sidewalk repairs and improvements, sanitation, pedestrian amenities, more street lighting).

ENVIRONMENTAL IMPACTS

The consultants' study in Appendix C to this Draft EIS provides an assessment of business and economic-related impacts resulting from the Dearborn Street Project and from potential Livable South Downtown rezones. The study also addresses related mitigation strategies. The overall approach is meant to more broadly address community development concerns and needs, rather than being strictly confined to an EIS impact analysis methodology. This yields results that should be helpful to all parties seeking long-term enhancement of the business districts in the Little Saigon and Chinatown/I.D. neighborhoods.

The consultants divided potential impacts into three categories:

- High Probability Impacts
- Low Probability "Speculative" Impacts
- Issues of Note raised by DPD staff and/or community stakeholders.

The terminology suggests differing levels of certainty about impact conclusions and their relative level of significance. While an emphasis is placed on identifying adverse impacts in this discussion, the consultants also identified potentially positive impacts. Positive outcomes would be influenced by future decisions by businesses and public entities.

High Probability Impacts

Four high probability impacts are expected to affect local business. While the consultants determined that these future scenarios are probable, they may not immediately affect business operations. The consultant study organizes the potential business impacts into four categories:

- *Direct* – immediately intervening in the normal conduct of business;
- *Indirect* – impelling some further change that affects businesses;
- *Exacerbating* – contributing to a change that is already taking place.

Further, the consultant study acknowledges differing levels of magnitude for the potential changes. The consultants describe the impacts by levels of severity – "*low*", "*medium*" or "*high*" – to indicate intensity of impact on affected businesses.

1) <u>"High Probability" impacts on light industrial businesses in Little Saigon from the Dearborn Street project and proposed rezones</u>: Inconvenience to and eventual displacement of production, distribution and repair businesses along north side of S. Weller Street and on S. King Street between 12th Avenue S. and Rainier Avenue S.

Rezones to either NC3 85' or DMR 125', and the 550 dwelling units associated with the Dearborn Street project, would open the area to residential development and result in the likely displacement of existing light industrial businesses. This represents the most direct and severe impact likely to result from the Livable South Downtown and Dearborn Street proposals.

Proposed zoning would likely result in higher land values and encourage redevelopment of existing industrial parcels to residential or mixed use. Development of the proposed Dearborn Street project would hasten this change on S. Weller Street by introducing housing units and small-scale retailers that would begin to change the overall character of the street from industrial to a residential and retail shopping neighborhood. The new pedestrian and vehicular activity generated by the Dearborn Street project would likely impede truck traffic in and out of the industrial businesses, which is a critical aspect of distribution, and residents living in units facing S. Weller Street would likely express a desire to minimize or remove adverse industrial business externalities such as noise and diesel fumes.

Over time, the repair businesses on S. King Street would likely relocate out of the area, although this transition would be more gradual, given that the area is already mixed and these businesses are already accustomed to coexisting with residential and retail uses. The change in the land value and its development potential, however, is likely to result in the movement of these businesses over time.

The severity of the impact to existing businesses is designated as "high" due to the high cost of business relocation. For tenant businesses, relocation would depend on the availability of appropriate industrial space elsewhere and, for distribution businesses, the proximity to customers. For example, two of the active businesses on S. Weller Street appear to be Asian food suppliers that may supply local restaurants and benefit from this property's proximity in the neighborhood.

EIS Alternatives Comparison: Alternatives 1, 2 and 3 represent a similar type and severity of impacts. Under the No Action Alternative, if the Dearborn Street project site was rezoned to a non-industrial zone, the impacts also would be similar. Under the existing IC zone, trends away from the existing business patterns could still occur over time.

Table 3-1
Overview Summary of Impact #1

Direct Impact Pedestrian and vehicular traffic interference with conduct of production and distribution businesses; new residents would object to industrial business activity; major change in land value would encourage land sale for mixed use/residential development	Number of businesses: 7 to 8 Severity: High Displacement of industrial uses over time. Relocation would be expensive and inconvenient. For businesses that own property, the financial benefits of a significant increase in land value would mitigate the disturbance of moving; for tenants, the level of negative impact depends on availability of industrial land or space elsewhere.	Timeframe: 6 to 12 years Residential occupation of the Dearborn project is likely to take at least 2 to 3 years; development of other nearby rezoned properties is likely to wait for signs that the Dearborn Project is financially successful.

2) <u>"High Probability" impacts on businesses in Little Saigon from potential rezones</u>: Increased height limit from 65 feet to 85 feet or 125 feet would modestly increase the potential value of land. This could speed new development, resulting in displacement of existing businesses.

Due to existing zoned development capacity, businesses in other portions of Little Saigon (those not addressed by Impact #1 discussed above) already face potential displacement from future mixed-use development. The prospective increase in zoned development capacity would play only a modest role in spurring new development in the area. This is based on a comparison of the considerable amount of unused existing development potential under current zoning and the limited degree to which proposed zoning alternatives would improve development feasibility.

The emergent residential market in Chinatown, prospective Yesler Terrace redevelopment, streetcar expansion, and the proposed residential uses in the Dearborn Street project would begin to change a perception of Little Saigon as unable to support housing. As adjacent mixed-use and residential projects proceed and generate market momentum, Little Saigon's development potential and proximity to Downtown should increase its attractiveness to real estate equity investors and, over time, the area should see increased development interest. It is the confluence of these factors above and beyond the alternative zoning changes that would likely create a transformation of the area over time.

The current lease rates in Little Saigon are at a sufficient rent level to support the development cost of new ground-floor retail space in mixed-use buildings, particularly if the retail is regarded as an amenity to residential units in upper stories. New development may or may not seek to retain existing small businesses in new space. Regardless, displaced businesses would have to relocate during demolition and construction, a considerable business interruption that often leads small businesses to permanently relocate elsewhere. Because the majority of shopping district businesses do not own their properties, many businesses would likely relocate as the area redevelops unless retention strategies are pursued. While this overall redevelopment dynamic may have significant consequences for existing businesses, proposed rezones are likely to play only a small role in spurring this transition. Because the existing zoned development capacity and general market momentum are more important factors, the severity of the impact of the proposed alternative height changes is identified as "low."

EIS Alternatives Comparison: The role of the proposed zoning changes in attracting development is likely to be modest, "contributing" to development momentum rather than "spurring" it. Under Alternative 1 and 3 height increases to 85 feet, there could be increases in development feasibility of about 1% to 7% in returns on cost, resulting in returns of 15% and 38% for apartments and condominium projects, respectively. Under Alternative 2, a concrete-and-steel development to 125 feet would result in a lesser return on cost (29-30%) than what is possible with current zoning. The additional height provided in Alternative 2 therefore might not act as a sufficient incentive for the additional investment that would be required for taller development. The zoning changes for Alternatives 1, 2 and 3 thus would, at most, modestly increase the profitability of potential development. Given that market momentum is the more critical factor for spurring development, this is designated as an "exacerbating" impact.

Table 3-2
Overview Summary of Impact #2

Exacerbating Impact	Number of businesses impacted: 65 to 130, depending on alternative Severity: Low	Time frame: 6 to 12 years; 13+ years
Existing businesses in Little Saigon would likely be displaced by multi-story mixed-use development over time. Residential and office uses are currently allowed in existing C1 and NC3 zones. All areas of Little Saigon proposed for rezone already have significant additional development potential under current zoning and will develop in the future based more on market momentum than allowance of modest additional development envelope.	The role of the proposed rezone, in and of itself, in spurring new development would be modest.	

3) <u>"High Probability" impact of ethnic niche retailers and restaurants in Little Saigon exposed to mass market customer base</u>.

The Dearborn Street project would bring an expanded volume and diversity of central city mass market customers into the area. The proposed project includes an approximately 650,000 square foot daily/weekly needs shopping center, which would bring a new mass-market central city shopper demographic into the vicinity. Little Saigon businesses that currently cater to a largely Vietnamese-American and Asian-American sub-market would be exposed to both vehicular and pedestrian traffic generated by the project, and would have an increased potential for a mass market customer base. This offers businesses an opportunity for expansion but could also dilute the district's existing niche orientation and displace specialty businesses that do not adapt.

As an indirect effect, the Dearborn Street project would bring many new shoppers into the Little Saigon vicinity, with potential "spillover" effects, positive or adverse, influenced by the following factors.

A. *Consumer behavior of existing customers.* Little Saigon currently has limited parking capacity particularly during weekends that probably affects total customer volumes. Perceived or actual increases in traffic congestion and parking constraints could further affect customer choices, including regional shoppers. Given competition from outlying business districts, these sensitivities to parking availability mean Little Saigon is vulnerable to customer loss with added parking pressures.

B. *Consumer behavior of potential new customers.* If potential new customers travel from the Dearborn Street project to Little Saigon, this could create a positive impact on area businesses. However, this would depend on whether customer preferences and needs are aligned with Little Saigon offerings, as

well as walkable, pleasant streetscapes and pedestrian connections. The garage availability and the range of likely consumer purchases at the Dearborn Street shopping center reduce the likelihood of parking on-street in Little Saigon.[2] More likely, Dearborn center shoppers would need to walk to Little Saigon while leaving cars parked at the Dearborn shopping center, or park a second time in Little Saigon. Both of these patterns are considered to be a challenge by the retail industry.

C. *Capacity and interest of individual businesses.* Whether Little Saigon businesses would benefit from increased mass market customers depends on both the capacity and interest of individual businesses. The consultants' business survey of Little Saigon businesses provides some insight. Three of 14 interviewees currently serve a highly diverse customer base, and the majority (10) expressed a strong desire to expand. However, based on the interviews, nearly all businesses lacked sufficient "capacity" (defined by a business possessing the financial resources, human resources, and technical abilities) to align their business model to serve a mass market clientele. Additionally, for some businesses, it may not be possible to both serve existing ethnic markets and a broader audience. See Appendix C for further discussion of this topic.

Based on the foregoing analysis, the impact is considered to be "indirect" and the overall impact of increased mass market customers on Little Saigon businesses is likely to be "low to moderate." If a reduction in the availability of the limited parking capacity in Little Saigon occurred, it would be a probable significant driver of decline in patronage by existing customers. However, it is unlikely that Dearborn Street project shoppers would park in Little Saigon, so the potential overall impact on current customer traffic is identified as a "low negative effect." At the same time, the overall new customers generated by the Dearborn Street project are likely to provide "low to moderate positive effects" on Little Saigon businesses—limited by current barriers to pedestrian travel between the project and the core of the Little Saigon business district, and a mis-alignment between current Little Saigon businesses' offerings and probable preferences of the new shopping center's customers. Finally, Little Saigon businesses currently have low capacity overall to effectively cater to a broader market.

EIS Alternatives Comparison: This impact would occur at similar levels for Alternatives 1, 2 and 3. For the No Action Alternative, a shopping center is not assumed to be built. Therefore, the variety of impacts identified in this discussion would not likely occur.

Table 3-3
Overview Summary of Impact #3

Indirect Impact	Number of Businesses: Uncertain Severity: Low to moderate severity with a potential for adverse or positive impact	Time frame: 1 to 5 years
The Dearborn Street project would create a greater mass market opportunity for local businesses. Businesses may change to cater to an expanded local market or remain focused on a regional niche. The impact could be positive or negative depending on the individual business.	The number of businesses affected and severity of impact would depend on behavior of existing and potential customers, and capacity and interest of individual businesses. Businesses would have to actively pursue and target mass market in order to yield positive impacts.	

[2] The retail component of the Dearborn Street project is a daily/weekly needs shopping center anchored by a mass merchandiser, hardware chain, and supermarket. Shopping trips to the center would most typically involve purchase of items transported in a shopping cart, or even dolly, and customers would shop elsewhere rather than park multiple blocks away and carry multiple heavy or awkward items back up-hill to their vehicles on a regular basis.

4) "High Probability" impact of increased property values in Japantown area as a result of potential rezones: An increase in the potential value for new residential development with additional allowable height in Japantown (S. Jackson St. to Yesler Way, and near 4th Ave. S. and 5th Ave. S.).

Existing businesses in older buildings not within the National Register Historic District, in the three-block area between S. Jackson Street and Yesler Way, and between 4th and 5th Avenues S. would likely be displaced by redevelopment, spurred by the proposed increase in allowable heights from 120 feet to 180 or 240 feet (varies by alternative). These include a few small-scale lounges, food stores, and restaurants. Alternative zoning changes would improve development feasibility sufficiently to spur new development.

Increased height limits would improve returns on cost for a prototypical condominium development, from 30% up to 35% or 43% for 180-foot and 240-foot development, respectively. Given existing market momentum in the vicinity, additional development could occur. The single-story concrete buildings at 4th Avenue S. and S. Main Street are likely to redevelop under proposed zoning alternatives. These businesses would likely be permanently displaced given the inconvenience of relocation. The degree of impact on the businesses depends on the availability of other viable space nearby.

EIS Alternatives Comparison: Alternative 1 includes increases to a maximum of 240 feet in height; Alternatives 2 and 3 include increases to a maximum of 180 feet in height. Impacts would be similar, with a higher height limit potentially providing a greater incentive for redevelopment.

Table 3-4
Overview Summary of Impact #4

Direct Impact A height change to 240 feet increases development's return on cost by approximately 13%; a change to 180 feet increases return by 5.4%. This would be enough of an increase to spur new development given current favorable market conditions.	Number of Businesses: 4 to 8 Severity: Medium Businesses in existing buildings that are redeveloped would likely be displaced permanently. Impact on business depends on availability of space elsewhere in Chinatown.	Timeframe: 6 to 12 years Current issues with condominium liability may delay residential development activity.

Low Probability "Speculative" Impacts

Additional potential impacts cannot be predicted with certainty, or the outcome is difficult to predict. These are identified as "speculative" impacts with a lower probability of occurring than other identified impacts.

1) Greater amount of non-ethnic retail Chinatown/I.D./Little Saigon as a result of rezones and general market expansion: Proposed land use changes and an increase in allowed height attract new development, leading to new residents and workers that create demand for non-ethnic local-serving retailers. Non-ethnic retailers either dilute or revitalize existing businesses.

Depending on the subarea, the alternative zoning changes would have either a modest or a more significant role in attracting residential development to the study area. Over time, new residential projects in both parts of the Chinatown/I.D. neighborhood are likely to result in sufficient local population to support non-specialty neighborhood-serving retailers. Demand for space from neighborhood-serving retailers could result in either increased lease rates or development of new retail space. The presence of new neighborhood-serving retailers could invigorate the districts, expanding the customer base and creating additional opportunity for existing retailers, or it could dilute their uniqueness and ability to draw

customers shopping for specialty goods from across the region. The speculative impact is somewhat different for Chinatown/Japantown and Little Saigon due to the differences in business conditions.

Chinatown/Japantown: Ten-year downward revenue trends in food stores, restaurants and miscellaneous retail (except for Uwajimaya) pre-date recent residential development. This suggests that existing ethnic niche stores may be struggling. The most important likely cause is other Asian specialty districts outside of central Seattle that have newer space, cheaper rent and easier access. Given the changing role of the Chinatown/I.D. shopping district in the region, an increased neighborhood resident population and associated customer base may be an opportunity that would help existing businesses. Serving local resident needs would probably require adjustments in Chinatown/Japantown businesses' strategies.

Little Saigon: In contrast to Chinatown/Japantown, Little Saigon's retail sector has expanded since 1997, in particular, food stores and restaurants. While the area also faces competition from outlying Asian business districts, the district as a whole seems to be succeeding as a regional destination. A local, diverse customer base, and its potential for supporting non-specialty stores, may therefore have more potential for negative business effects in Little Saigon than in Chinatown/Japantown.

2) More regional retailers on Rainier Avenue S. as a result of the Dearborn Street Project: Success of the proposed Dearborn Street project could attract additional major retailers to undeveloped properties on Rainier Avenue S. Additional mass market retailers adjacent to Little Saigon could increase retail rent and/or the rate of property development in the area.

Currently industrially zoned parcels between the Dearborn Street Project and Little Saigon could potentially attract medium- or large-format mass-market retail uses. If this occurred, it could place additional rent and development pressure on properties near Rainier Avenue S. and S. Jackson Street in the immediate vicinity. Access and visibility factors for major retailers may mean that such retailers would be attracted to sites on Rainier Avenue S., given its daily traffic and accessibility to I-90, or on S. Dearborn Street, given its accessibility to I-5 (although viable sites on this street may be limited). Slopes on Rainier Avenue S. properties might detract from their development prospects, however.

3) Modest increase in property values in the S. Jackson Street business area as a result of rezones: Proposed rezoning could increase property values modestly, making it slightly more difficult for existing business owners to purchase properties as desired.

Proposed changes in height limits, to 85 feet along S. Jackson Street and/or to 125 feet south of S. Jackson Street (in Alternative 2), would have a modestly positive effect on the feasibility of development in that area. This slight increase in profitability may also translate into higher property owner expectations regarding land value. Currently, interviews suggest the asking price for properties may be too high for most business owners to purchase.

Issues of Note

Input from community stakeholders and DPD staff suggested review of two "issues of note." The consultants evaluated these potential impacts and determined that, in and of themselves, they are not likely to adversely affect existing businesses.

1) Impact of up-zones in the Chinatown core vicinity

The area south of S. Weller Street in the core of Chinatown west of I-5 is currently zoned IDM 75'/85', with alternative proposals for increases in height up to 125 feet. A number of properties are underutilized

in this vicinity under current zoning, and some mixed use developments to approximately 85 feet in height have occurred in the recent past.

According to the financial analysis performed by Property Counselors and BHC Consultants, a project developed under existing zoning would provide a higher percent return on costs than would a building built to 125 feet. This is due to more expensive building materials and construction methods, and projected sales prices. While a 125-foot development project would be financially feasible, according to the projections provided in this analysis, the return on costs would not likely justify the increased investment required to build the taller building. This would mean the zoning alternatives to 125 feet would be relatively unlikely to result in a future development condition that is maximized to 125 feet. Accordingly, there is only a low potential for significant secondary adverse impacts on existing local businesses per the consultants' analysis.

2) Impact of the Dearborn Street project on Chinatown businesses west of I-5, in light of Chinatown business revenue trends

Potential impacts of the Dearborn Street project on Chinatown businesses were cited as a concern by stakeholders, given a ten-year downward retail revenue trend. However, the product offerings and the market orientation of existing Chinatown businesses are markedly different than those of the Dearborn Street project. The Chinatown shopping district is dominated by Asian restaurants, with significant clusters in grocery, specialty gifts and alternative medicine. Additionally, two-thirds of all business owners surveyed described their market orientation as citywide, regional or supra-regional. In contrast, the retail component of the Dearborn Street project is intended to be a central city-serving mass market daily and weekly needs shopping center anchored by a general merchandiser, hardware and building material supplier, and major mid-market supermarket. This means there is little competitive overlap between the Chinatown district and the proposed shopping center. It is therefore unlikely that the center would negatively affect existing retailers' business in Chinatown.

3) Competitive overlap between Little Saigon and the Dearborn Street Project

The consultant team assessed the likely overlaps and distinctions between the types of goods and services in the proposed Dearborn Street project and existing businesses in Little Saigon. Overall, the range of retailers at the proposed Dearborn Street project would be complementary to Little Saigon, with few that would directly compete with offerings in the Little Saigon business district. The Dearborn Street project's shopping center would draw upon a broader market than Little Saigon due to its retail mix of large anchor stores with national reputations and diverse mix of goods and services. In a few product areas there would be some overlap: jewelry, general merchandise, grocery, electronics and clothing. However, the product lines and brands offered would be quite different. Store format and customer service provided by Little Saigon businesses target an Asian American and Pacific Islander clientele, particularly Vietnamese-Americans. The majority of businesses at the Dearborn Street project would serve a different target market. See Appendix C for additional details of the competitive overlap.

MITIGATION STRATEGIES

The analysis describes a variety of adverse impacts with differing levels of significance, as well as some potentially positive implications of growth and change over time. Some of the potential adverse impacts are more likely to be attributable to broad changes in development trends over time, with only indirect or speculative relationships to the alternative zoning proposals. This programmatic EIS notes the relative lack of firmly-concluded significant adverse impacts that would require implementation of mitigation strategies. At the same time, the relative sensitivity to change of the business communities in this neighborhood is noted, as well as their value in establishing a foundation for community life.

The consultants identified mitigation strategies that can be pursued by both public and private entities. The following discussion summarizes a mix of such strategies tailored to the needs and opportunities within the Chinatown/I.D. and Little Saigon vicinities. Strategies are organized according to their effect on the entire neighborhood, areas west of Interstate 5, and areas east of Interstate 5. A more complete discussion of the strategies can be found in the consultant report in Appendix C to this DEIS.

POSSIBLE MITIGATION STRATEGIES

Strategies for the Entire Neighborhood

1) Asian-Pacific Islander Small Business Technical Assistance Initiative

Existing ethnic businesses in Chinatown/I.D. and Little Saigon could benefit from assistance to adapt to the challenge of competition from outlying Asian-Pacific Islander business districts. Assistance could help businesses to either take advantage of prospective new customer base in the area, or sharpen existing regional niches. Business technical assistance takes many forms, such as: business planning, procuring financing, tax and labor laws advice, book-keeping skills, merchandising, and marketing and window display design.

2) Regulatory Mechanisms

Three categories of regulatory mechanisms could support community-oriented objectives:

A. *Zoning and land use regulatory protections.*

Development standards could contribute to business district character, walkability and pedestrian appeal in the following ways:

- Tailor the physical dimensions relating to street frontages, ground-floor retail requirements, minimum ground-floor ceiling heights, maximum size of individual retail uses, and location and size of vehicle accesses, in targeted areas such as near 12th and Jackson.
- Create or refine signage districts
- Restrictions on businesses with multiple outlets or formula business plans

B. *Code enforcement*

These areas are often subject to code violations related to garbage disposal, dumpster location, cleanliness of sidewalks, inappropriate uses, and sidewalk vending that is not fully City-authorized and without uniform guidelines. These may weaken attractiveness to customers and neighborhood vitality.

- A combined approach with creative, targeted outreach for stakeholder education and buy-in to code intent, and increased code enforcement
- Address inappropriate uses on vacant and underutilized properties (e.g. storing old cars)
- Develop guidelines to provide uniformity and organization to vending activity in street rights-of-way.

C. *Public safety*

- Increased policing to improve public safety and security
- Unification of Little Saigon and Chinatown/I.D. areas under one police precinct

3) Community Development Financing Tools

Community development financing tools could be applied to Chinatown/I.D. and Little Saigon such as local improvement assessment districts (LIDs), impact fees, tax increment financing, community renewal designations, Preservation and Development Authorities (PDAs), and Business Improvement Areas (BIAs). See Appendix C (Phase III) for additional discussion of these tools.

4) Philanthropic Resources

Explore philanthropic resources for their potential support. These might, for example, provide seed funds for organization-building purposes.

Strategies for Chinatown/I.D.

1) Retail Tenant Strategy

New retail tenants could be recruited for future mixed-use development to help maintain the cultural integrity and independent business character of Chinatown/I.D.

2) Community Identity and Promotions

Efforts to promote the district could be honed and expanded to better target and reach broader audiences. Support could be provided to the CIDBIA to carry out a program of community branding.

3) Historic TDRs

Proceeds from TDR programs could support historic buildings within the International Special Review District (see the Housing section in this chapter for further discussion).

Strategies for Little Saigon

1) Inter-agency Initiative

The Little Saigon business district would benefit from collaboration among various agencies to conduct economic planning in Little Saigon. Further discussion on this topic can be found in the appendices to this report.

2) Targeted Outreach and Vision Building

In concert with Little Saigon Strategy 1, a targeted outreach and vision building effort is recommended for Little Saigon, seeking to build organizational capacity and support for economic planning initiatives.

3) Business Ownership Initiative

Exploration of a "commercial-condominium" form of business development could facilitate property ownership opportunities for local businesses.

4) Community Financing Tools

Business Improvement Associations (BIAs) and Public Development Authorities (PDAs) are among the financing tools that could apply to Little Saigon.

5) Business Incentives

The impact analysis notes the potential for existing businesses in Little Saigon to experience adverse impacts from various sources of future change. Adverse impacts could include temporary or permanent increases in rent, and possibly displacement by future development. Programs to support businesses in the

face of potential challenges could include waiving business and occupancy taxes during critical periods of adverse impacts on businesses, and renewing the City's façade improvement program.

6) Physical Improvements

Improvements to the physical environment of Little Saigon would significantly contribute to the customer appeal of the business district, and enhance the livability and workability of the area. Among a wide-ranging set of possibilities, two specific strategies are described as:

- Follow through with Sound Transit trolley plans on S. Jackson Street, connecting to Broadway.[3]
- Explore urban design concepts, perhaps informed by San Francisco's "Living Streets" streetscape improvements, including significant sidewalk widening; adding pocket parks, plaza spaces, decorative paving, lighting, seating, and trees; and exploring urban design options for breaking up large block sizes.

7) Leverage Private Investment

- Several potential private and public developments in and near Little Saigon provide leveraging opportunities for community-oriented development, including the proposed Dearborn Street Project and the redevelopment of Yesler Terrace.

8) Asian-Pacific Islander-Oriented Senior Housing

The development of senior housing could provide a social, cultural, and economic foundation for the neighborhood. Within ethnic communities, elders often have the strongest affinities for proximity to ethnically-based stores, services, and community social and cultural activities. These affinities arise from attachments to cultural traditions, language barriers and mobility limitations. Community elders also provide connections to authentic culture and traditions.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Inconvenience to and eventual displacement of production, distribution and repair businesses along the north side of S. Weller Street and on S. King Street between 12th Avenue S. and Rainier Avenue S. is the most probable and severe impact to existing businesses in the Little Saigon neighborhood.

[3] Sound Transit. "First Hill Transit Connector Alternatives Summary Report." Seattle: April 17, 2007.

RELATIONSHIP TO PLANS AND POLICIES

OVERVIEW OF KEY PLANS, POLICIES AND CODES

Seattle's **Comprehensive Plan**, *"Toward a Sustainable Seattle,"* was initially adopted in July 1994 and updated in 2004. It is a 20-year policy plan that articulates a flexible framework for adapting to real conditions over time, and includes 20-year growth targets for urban centers and villages. The Comprehensive Plan satisfies requirements of the State's Growth Management Act and fits within King County's framework of Countywide Planning Policies. The Urban Center designation for Downtown, which includes the Pioneer Square and Chinatown/I.D. Urban Center Villages in South Downtown, is part of the regional growth strategy outlined in the Countywide Planning Policies calling for the concentration of a significant share of the region's employment and housing growth within a limited number of urban centers linked together by high capacity transit service. Some areas on the southern periphery of the South Downtown study area are within the Greater Duwamish Manufacturing and Industrial Center (MIC), another Comprehensive Plan designation intended to promote the economic viability of Seattle's industrial areas. The City's Comprehensive Plan also includes numerous land use policies that help define the basis for the City's zoning and Land Use Code regulations.

Following adoption of the City's Comprehensive Plan, approximately 37 **neighborhood plans** were prepared in the late 1990s to address future conditions in and around urban centers and villages. Neighborhood plans were prepared for two areas within South Downtown: Pioneer Square and Chinatown/International District. Portions of the South Downtown study area are also addressed in the Greater Duwamish Manufacturing and Industrial Center Plan, and the Central Area's neighborhood plan (east of Rainier Avenue S.). For each neighborhood, recommendations were formulated into land use policies that are expressed in the City's Comprehensive Plan.

The **Land Use Code** contains land use regulations organized through zone designations. Requirements for future development are associated with each zone. These include types of uses allowed or prohibited, setbacks, allowable heights and densities, and parking requirements among others. In some cases, overlay areas are established to modify the standards of the base zoning to better address development objectives in a specific area. Applications for development are reviewed through the City's Master Use Permit (MUP) process, and often go through a design review process that provides for public input on project design. In South Downtown, two special review districts—the Pioneer Square Preservation District and the International Special Review District—provide additional requirements and require additional project review by a volunteer review board. The intention of these additional requirements is to protect and promote the special historic, architectural and cultural qualities of these areas.

SEATTLE'S COMPREHENSIVE PLAN

Core values upheld by the Comprehensive Plan are: community, environmental stewardship, economic opportunity and security, and social equity. The unifying goal of the Comprehensive Plan is: "to preserve the best qualities of Seattle's distinct neighborhoods while responding positively and creatively to the pressures of change and growth."

The Plan's overarching growth theme is the Urban Village strategy that directs most new development to several defined growth centers of various sizes. The Urban Village growth strategy indicates four categories of growth centers:

- ***Urban Centers***—regional centers that are the densest neighborhoods, with diverse mixes of uses
- ***Manufacturing/Industrial Centers***—regional centers of industry

- ***Hub Urban Villages***—neighborhoods with balanced housing and employment, less dense than and located away from urban centers
- ***Residential Urban Villages***—neighborhood growth areas that are a focus of goods and services for residents and local vicinities, but may not provide employment concentrations

RELATIONSHIP OF LIVABLE SOUTH DOWNTOWN PLANNING

Comprehensive planning requires a big-picture perspective, examining how actions relate to a citywide growth strategy, how the functionality of many city systems can be assured, and how the citizens' needs will be served as growth occurs. The relationship of Livable South Downtown planning to the Comprehensive Plan can be examined from a big-picture perspective. For example: how does it relate to the City's overall growth strategy, the economy, infrastructure needs, citizen needs, and environment?

Growth Strategies and Definition of Growth Centers

Observations:

- Livable South Downtown recommendations are supportive of the city's Urban Village growth strategy:
  - Greater land use efficiency within the Downtown Urban Center through infill growth
  - More efficient use of utility and transportation systems, which can accommodate projected growth
  - Fewer overall impacts of growth on the natural environment than growth distributed in the broader suburban region

- Land use planning and zoning recommendations would be consistent with the broad housing, growth and community development objectives of the Pioneer Square and Chinatown/I.D. neighborhood plans (see the Housing section in this chapter for further discussion).
  - Provides additional development capacity through rezones, with height and density limits scaled to maintain development's compatibility with uses in surrounding vicinities
  - Provides additional strategies to encourage housing growth, and generates additional affordable housing and/or resources for affordable housing
  - Contributes to strengthened residential and economic base of neighborhoods
  - Risks of adverse impacts on housing can be mitigated through actions recommended as part of this EIS and the planning process.

- Zoning changes in Industrial zones west of I-5 would be inconsistent with the industrial-preservation themes of the Greater Duwamish Manufacturing & Industrial Center (MIC) Plan. However, analyses for Livable South Downtown planning support a conclusion that a limited area at the northern margins of the MIC can be re-designated from Industrial to Commercial or Mixed Use and into the Downtown Urban Center without significant harm to the preservation of Industrial use patterns in the balance of the MIC.
- Recommended changes can be accomplished while maintaining compatibility with the land use, activity patterns and economic functions of the Port of Seattle operations west of the study area
- The recommended changes are relatively limited in the Stadium Area to avoid potential growth-related congestion conflicts with Port activities and freight traffic.

Economy

- Recommended changes can be accomplished without significantly impairing the important economic functions provided by Port of Seattle operations.
- With implementation of mitigation strategies, the recommended zoning changes can occur without probable significant effects on the economic and business character of the Chinatown and Little Saigon vicinities.
- Future development, investment and additional resident populations in the study area would provide economic benefits within the affected neighborhoods.

Infrastructure

- Technical review of the zoning alternatives indicates that future expected growth to 2030 can be served by infrastructure systems, although localized improvements might be needed.
- This EIS discusses a range of possible mitigation strategies that can be pursued to address potential significant adverse impacts on transportation systems.

Citizen Needs

- The recommendations of Livable South Downtown planning are consistent with neighborhood plans' representations of citizen needs, addressing topics including affordable housing, open space/streetscape improvements, economic and residential vitality.
- Historic and cultural character of the Pioneer Square and Chinatown/I.D. neighborhoods would be maintained even as additional growth would occur in the coming decades.

Environment

- More efficient growth within the Downtown Urban Center would contribute to an enhanced quality of the built environment in affected neighborhoods, and would result in fewer adverse natural environmental impacts than would occur with the same amount of growth if it occurred elsewhere in the region.
- Livable South Downtown planning incorporates recommendations that would aid in environmental sustainability and climate protection efforts.
- Attention should be given to strategies that would reduce the potential for economic and physical damage from major seismic events in this area that has documented seismic hazards.

PIONEER SQUARE NEIGHBORHOOD PLAN

The 1998 Pioneer Square Neighborhood Plan promotes coordinated and collaborative "*action planning*" efforts that will "*embrace change while maintaining historic character and diverse identities*." Action planning "*focuses on implementation of key projects facilitating the physical and economic development of the Pioneer Square Historic District*." The top seven topics of action for plan implementation are defined as:

- *Catalyzing housing development*
- *Developing the North Lot of the football stadium property*
- *Improving public safety, cleanliness and behavior standards*
- *Strengthening the economic base*
- *Building pedestrian linkages*
- *Improving access during stadium events and securing a community parking facility*
- *Developing the parking lots on the east side of Occidental Park.*

The plan also notes five "critical areas" that need additional investment to improve public spaces:

- Occidental Corridor
- Second Avenue and Yesler Way (Fortson Square)
- Fourth Avenue S. and S. Jackson Street
- Central Waterfront
- Pioneer Square Park (at First Avenue and Yesler Way).

The neighborhood plan encourages growth of affordable and market rate housing to broaden the availability and range of housing in the neighborhood. Incentives, promotion of the area, and partnerships for development of targeted properties are encouraged, as are strategies to preserve and expand artist live/work housing. Protecting the historic character and encouraging new resident-serving business types (grocery, pharmacy, hardware and other services) are high priorities. Maintaining cleanliness of public areas, as well as public safety and civil behavior, are also recognized as important components for success. The plan describes strategies for addressing several dimensions of economic vitality, including the neighborhood's image, accessibility and opportunities for synergies. By recognizing and addressing the many interwoven issues and opportunities, the Pioneer Square Neighborhood Plan is a good example of an integrated approach to planning for the neighborhood's future.

Relationship to Livable South Downtown Planning

Livable South Downtown planning addresses several high priorities of the Pioneer Square neighborhood plan, including actions that address housing, development of Qwest Field's north parking lot, development near Occidental Park, strengthening the economic base and building pedestrian linkages. Livable South Downtown planning shares the neighborhood plan's primary interest in actions that will encourage additional housing for households of all income levels. Actions supported by both planning efforts include zoning amendments to the Land Use Code, tools to encourage renovations of existing buildings for residential use, strategies to encourage new infill development, and zoning that will accommodate residential/mixed-use development in a portion of Qwest Field's north parking lot.

Recommended land use actions that serve City and neighborhood goals will ensure reasonable compatibility of height, bulk and scale, and sensitivity to historic character (see other sections of this

chapter for further discussion). Directions pursued by Livable South Downtown planning are consistent with the themes and recommendations of the Pioneer Square Neighborhood Plan. Other neighborhood plan recommendations are not directly related to land use and zoning, but are important factors in the planning area. These include parking, accessibility, public safety, cleanliness and behavior standards.

Urban design proposals include elements consistent with special area recommendations of the neighborhood plan, and some elements that are complementary and additive. The Livable South Downtown urban design recommendations apply to Occidental Avenue S. south of S. King Street as mentioned in the neighborhood plan. They also include recommendations for Second Avenue S. and S. Washington Street that are complementary to the neighborhood plan's intentions for Fortson Square. Livable South Downtown recommendations include attention to the 4th Avenue S./S. Jackson Street vicinity, recognizing its key location as a link between the neighborhoods and as a transit hub. Current recommendations support design themes expressed in the neighborhood plan.

Table 3-5 summarizes the relationship of alternatives to the neighborhood plan.

Table 3-5
Relationship of Alternatives' Zoning Proposals to Pioneer Square Neighborhood Plan

LAND USE AND ZONING CONCEPT IN ALTERNATIVES	CONSISTENT	NOT CONSISTENT	NOT ENOUGH PLAN INFO TO JUDGE
Alternative 1			
▪ ***Target increased height limit of 130 feet to non-historic-contributing properties in PSM 100'***	√		
▪ ***Changes to or elimination of the variable height limit***	√		
▪ ***Height increases to 180 feet for housing on the North Lot***	√		
▪ ***Height increases to 180 feet in the 4th Avenue S. vicinity***			√
▪ ***TDR strategy supporting renovation***	√		
Alternative 2			
▪ ***Target increased height limit of 130 feet to non-historic contributing properties in PSM 100'***	√		
▪ ***Subarea-specific height limit adjustments to fine-tune the current PSM 100'***	√		
▪ ***Changes to or elimination of the variable height limit***	√		
▪ ***Height increases to 240 feet for housing on the North Lot***			√
▪ ***Height increases to 150 feet in the 4th Avenue S. vicinity***	√		
▪ ***TDR strategy supporting renovation***	√		

LAND USE AND ZONING CONCEPT IN ALTERNATIVES	CONSISTENT	NOT CONSISTENT	NOT ENOUGH PLAN INFO TO JUDGE
Alternative 3 ▪ ***No maximum height change above 100 feet in the PSM 100', with a TDR strategy supporting housing renovation*** ▪ ***Changes to or elimination of the variable height limit*** ▪ ***Height increases to 150 feet for housing on the North Lot*** ▪ ***No height changes in the 4th Avenue S. vicinity***	√ √ √ √		
Alternative 4/No Action ▪ ***No Changes***		√	

The finding of the "no action alternative" being inconsistent with the neighborhood plan reflects that plan's emphasis on taking actions to encourage positive changes in the neighborhood.

CHINATOWN/I.D. NEIGHBORHOOD PLAN

This 1998 neighborhood plan builds upon past planning work by the neighborhood. It encourages taking action to make positive, tangible improvements in the neighborhood. Its primary planning themes are:

- Cultural and economic vitality
- Housing that is affordable and diverse
- Public spaces that are safe, dynamic and pedestrian-friendly
- Accessibility both within and to the neighborhood for all modes

The plan describes the interwoven nature of issues related to growth, safety, public amenities, and the social and economic vitality of the neighborhood. The plan acknowledges the social fabric of the neighborhood, its cultural resources and its demographic mix, which includes elderly residents, low-income and immigrant households. It identifies many desirable community improvements, such as lighting, park and sidewalk improvements. It recognizes the potential negative impacts of external forces on the neighborhood, including those related to population growth, real estate market influences on land value and rents, and the potential for displacement of residents and businesses.

The plan includes numerous action strategies addressing each planning theme, with supporting details for each topic. Strategies on economic vitality address the following topics:

- Neighborhood marketing and promotional activities
- Developing new business markets, such as night-time activities
- Business improvement strategies, resources and assistance
- Community recreation center
- Ensuring utility infrastructure is sufficient to support community needs

Strategies on accessibility and safe, dynamic public spaces address the following topics:

- New open space

- Improved maintenance and activation of park spaces
- Public safety, crime prevention and police presence
- Control of stadium event crowds and parking
- Parking—expand off-street and maximize on-street parking opportunities to address needs
- Lighting improvements for safety
- Pedestrian safety and amenities

Strategies addressing housing and rehabilitation of existing buildings include the following concepts:

- Transfer of development rights (TDR) and bonus programs;
- Inclusionary zoning for affordable housing;
- Leveraging of funds for rehabilitation of vacant or substandard buildings;
- permit streamlining; and
- property tax exemption for low-income residential projects

Relationship to Livable South Downtown Planning

Livable South Downtown planning recommends changes to encourage growth consistent with this neighborhood plan in ways that will stimulate greater economic vitality, diversify housing opportunities, and improve public safety and accessibility. Recommended actions and strategies would update land use, urban design and zoning regulations to promote consistency of future development with the neighborhood plan and consistent with today's community expectations, including:

- recommending actions and mitigation strategies meant to retain and enhance existing affordable housing resources, and encouraging infill development of a mixture of affordable and market-rate housing (see the Housing section in this chapter for further evaluation);
- encouraging growth in locations that will complement the neighborhood with additional residents and customers while sustaining existing business and residential communities;
- maintaining appropriate relationships of building bulk and scale;
- respecting and protecting the area's cultural, historic and architectural character;
- encouraging the achievement of improved public open spaces, recreation opportunities and pedestrian connections within and between neighborhoods.

Livable South Downtown planning recommends several adjustments to zoning, height limits and other standards that govern the size and shape of future buildings. These would encourage additional residential and business growth within the central Chinatown and Little Saigon vicinities and the neighborhood's periphery. Rezoning in Little Saigon east of 12th Avenue S. would change that area's intended future development pattern from an industrial and commercial mix of uses to a likely mix of commercial and residential uses.

None of the Livable South Downtown zoning proposals are directly related to specific neighborhood plan recommendations because that plan did not identify specific rezone requests. The neighborhood plan does support inclusionary zoning, density bonus and TDR programs. Livable South Downtown proposals will be consistent with the Chinatown/I.D. neighborhood plan if they provide for affordable housing retention and growth in supply, and retain good scale and height relationships with the existing neighborhood building character. See the Housing section in this chapter for further evaluation.

Table 3-6 summarizes the relationship of alternatives to the neighborhood plan.

Table 3-6
Relationship of Alternatives' Zoning Proposals to Chinatown/I.D. Neighborhood Plan

LAND USE AND ZONING CONCEPT IN ALTERNATIVES	CONSISTENT	NOT CONSISTENT	NOT ENOUGH PLAN INFO TO JUDGE
Alternative 1			
▪ ***Extension of IDM zoning one block south of S. Dearborn, and between I-5 and 12th Ave. S.***	√		
▪ ***More intensive development, up to 240-foot height limits north of S. Jackson St. near 4th, 5th Aves. S.***			√
▪ ***40-foot increase in height limit in Chinatown core, south of S. Weller Street***	√		
▪ ***20-foot increase in height limit in Little Saigon, including NC3-85' zoning east of 12th Ave. S.***	√		
Alternative 2			
▪ ***Downtown Mixed Commercial and Mixed Residential zoning east of I-5, and one block south of S. Dearborn St.***	√		
▪ ***Height limits as high as 125 feet in Little Saigon***			√
▪ ***More intensive development, up to 180 foot height limits north of S. Jackson St. near 4th, 5th Aves. S.***	√		
▪ ***40-foot increase in height limit in Chinatown core, south of S. Weller St.***	√		
Alternative 3			
▪ ***More intensive development, up to 180-foot height limits north of S. Jackson St. near 4th, 5th Aves.***	√		
▪ ***No height increase in Chinatown core***	√		
▪ ***NC3-85' zoning throughout Little Saigon***	√		
▪ ***South Downtown Mixed zone south of S. Dearborn St***			√
Alternative 4/No Action			
▪ ***No Changes***		√	

The finding of the "no action alternative" being inconsistent with the neighborhood plan reflects that plan's emphasis on taking actions to encourage positive change in the neighborhood.

GREATER DUWAMISH MANUFACTURING AND INDUSTRIAL CENTER PLAN

The MIC Plan urges long-term support for and protection of industrial uses and family wage jobs in the Greater Duwamish area via land use and zoning regulations and policies, transportation investments and economic development strategies. The Plan indicates the following objectives:

- Restrict incompatible or competing land uses within the MIC;
- Encourage manufacturing and industrial job retention and growth;
- Establish a growth target of 10,860 new family wage industrial jobs [current 20-year growth target is for 9,750 new jobs by 2024];
- Retain and improve access to industrial areas and transportation routes within the MIC;
- Retain existing businesses and encourage new manufacturing and industrial development within the MIC.

The MIC Plan prefers protection of industrial uses to encourage retention of quality jobs and economic growth in industrial and manufacturing sectors, and preservation of industrially suited land for those uses rather than competing or incompatible uses. According to the Plan, non-industrial uses tend to be accompanied by pedestrian and automobile traffic that compete for street capacity and create accessibility conflicts that can impair industrial operations. Non-industrial uses can also lead to higher lease rates and land values that can negatively affect the financial viability of industrial uses.

Zoning amendments with the MIC Plan's adoption in 2000 strengthened the industrial emphasis of land use regulations in the Industrial zones while specifying standards applicable to non-industrial uses. The Plan's zoning changes also included establishment of an Industrial Commercial (IC) zone and Stadium Transition Area Overlay zone that provided more flexibility for a mixture of commercial and industrial uses north of S. Holgate Street primarily along the 1st Avenue S. corridor. This stadium transition area represents the northern edge of the MIC and the southern edge of the Livable South Downtown study area.

Relationship to Livable South Downtown Planning

Livable South Downtown planning recognizes the MIC Plan's emphasis on retaining and protecting industrial areas, industrial jobs and their economic benefits, maintaining and improving accessibility for commerce and industry, minimizing conflicts between industrial and non-industrial uses, and avoiding land value pressures that can discourage industrial users. The current planning effort also recognizes the conjunction of these influences in the stadium area vicinity, and this area's proximity to the Downtown Urban Center. In terms of geography, land use patterns, and daily functions, the Stadium Area vicinity serves as a transition area between Downtown and the MIC, and a conduit for port-related traffic, commuting traffic, entertainment event traffic, local commerce and other neighborhood traffic.

A range of land use and zoning options are considered that recognize the possibility of intensifying development potential and possibly introducing residential uses in portions of this area north of S. Royal Brougham Way. Along the west side of 1st Avenue S. north of S. Royal Brougham Way, and the "south-of-Dearborn" vicinity north of the I-90 ramps, a potential transitional area is identified that could include commercial uses (such as offices) and potentially residential uses as well. Proximity of these areas to the Pioneer Square and Chinatown/I.D. neighborhoods means they could accommodate additional growth that would activate them with more intensive uses and support the adjacent neighborhoods' vitality. This proposal is not consistent with the industrial-use-preservation intent of the MIC Plan, and would represent a change in the basic land use intent for these locations in immediate proximity to the Downtown Urban Center, especially for residential uses included in portions of Alternatives 1 and 3. In order to proceed

with changes away from Industrial land use designations, these locations should be moved out of the MIC and into the Downtown Urban Center.

For the portion of the study area south of S. Royal Brougham Way, introducing residential uses into the range of permitted uses is not recommended, due to the current industrial and commercial land use patterns, the potential for incompatibilities among land uses, the convergence of transportation facilities and the magnitude of traffic volumes (of all modes) that influence this area. Therefore, the zoning recommendations retain Industrial Commercial zoning, with few if any other changes to land use regulations south of S. Royal Brougham Way. In these areas, retaining Industrial Commercial zoning with a Stadium Transition Area Overlay would continue to accommodate a range of future development and uses likely to remain compatible with current industry and port-related activities in this vicinity. These elements of the proposal are consistent with the intent of the MIC Plan.

Table 3-7 summarizes the relationship of alternatives to the neighborhood plan.

Table 3-7
Relationship of Alternatives' Zoning Proposals to Greater Duwamish Manufacturing and Industrial Center Plan

LAND USE AND ZONING CONCEPT IN ALTERNATIVES	CONSISTENT	NOT CONSISTENT	NOT ENOUGH PLAN INFO TO JUDGE
Alternative 1			
▪ ***S. Downtown Mixed zone of 100-160 feet west of 1st Ave. S.***		√	
▪ ***Height limit in IC zone increased to 85 feet on Pyramid Block***	√		
▪ ***New IC zone and height limit increased to 125 feet in Qwest Field vicinity and in south-of-Dearborn vicinity***	√		
Alternative 2			
▪ ***IC zones west of 1st Ave. S. ranging from 65 to 100 feet***	√		
▪ ***IC zone east of Qwest Field to 240 feet, density to 5 FAR***			√
▪ ***IC zone south of S. Charles St. to 160 feet, density to 3 FAR***			√
Alternative 3			
▪ ***S. Downtown Mixed zone south of S. Dearborn St. to 160 ft.***		√	
▪ ***S. Downtown Mixed zone ranging from 100 to 120 feet west of 1st Ave. S.***		√	
▪ ***S. Downtown Mixed zone over the railroad tracks west of 4th Ave. S. to 180 feet***		√	
▪ ***Height limit increased to 85 feet on Pyramid Block***	√		
Alternative 4/No Action			
▪ ***No Changes***	√		

RELATIONSHIP TO CENTRAL AREA NEIGHBORHOOD PLAN

The Central Area's neighborhood plan encompasses a large area extending as far north as Madison Street and as far south as Interstate 90. Included are several neighborhood business districts, most notably including the 23rd/Union and 23rd/Jackson and 12th Avenue S. corridor (north of Yesler Way) vicinities. Much of the Central Area plan's content is directed to these areas, but a few elements address areas in proximity to the Little Saigon neighborhood. These include the vicinity east of Rainier Avenue S. and south of S. Dearborn Street (described as "Hiawatha") and the vicinity near the Rainier Avenue S./S. Jackson Street intersection.

The plan promotes the revitalization of Central Area neighborhood business districts in a manner that will reflect the area's heritage and values. It advocates for quality open space and streetscapes, including various urban design elements such as landscaping, public art, gateway elements, banners and signage, and land use principles such as street-level uses oriented to the sidewalk rather than parking lots separating buildings from the sidewalks. Gateway elements recommended by the plan would use the urban design elements listed above to define entries into the neighborhood that celebrate its heritage, its identity and related themes, linking the neighborhoods and also contributing to an enhanced visual environment and streetscape. Gateway locations are defined at the Rainier Avenue S./S. Jackson Street intersection vicinity, and at the Rainier Avenue S./S. Dearborn Street intersection.

In the Hiawatha area, the plan recommended several rezones to encourage future residential development and a more walkable district near Rainier Avenue S. These efforts have been relatively successful, as new multifamily residential development has occurred in this vicinity, although few changes have occurred on properties abutting Rainier Avenue S.

Relationship to Livable South Downtown Planning

The Central Area Neighborhood Plan supports mixed-use development and improved pedestrian-oriented streetscapes throughout the neighborhood in a manner that is generally supported by Neighborhood Commercial zoning. These themes are consistent with the goals of the Livable South Downtown zoning recommendations for the vicinity east of Rainier Avenue S. that is in the Central Area's Jackson Place vicinity. Also, by recognizing the "gateway" functions of the Jackson and Dearborn Street intersections with Rainier Avenue S. and advocating for aesthetic improvements, the neighborhood plan is in accord with Livable South Downtown urban design objectives.

RELATIONSHIP TO PIONEER SQUARE PRESERVATION BOARD DESIGN GUIDELINES FOR NEW CONSTRUCTION ON THE "NORTH LOT"

The City's Department of Neighborhoods (DON) approved design guidelines in May 2007 to express preferences for the qualities of future development at the Qwest Field north parking lot. The introduction to the guidelines identifies that the north parking lot is a "*transition area*" and "*as such, creative interpretation of materials and architectural elements can be used for new construction…when it is visually compatible with, and does not detract from or overwhelm, the character of the District*."

The goals of the guidelines include articulating how new development can be compatible, and encouraging the design of new development that:

- adds vitality to the District;
- fits in the context of its site;
- contributes to the quality building stock of Pioneer Square;
- provides comfort and safety;

- is welcoming to pedestrians;
- reinforces the neighborhood's unique character;
- provides design variety within the site;
- provides connectivity to its surroundings; and
- incorporates crime preventive features.

The guidelines for the design of new construction address numerous features such as: massing, building heights, setbacks, scale, street walls, non-street wall elevations, building articulation and definition, floor-to-floor height, entrance orientation, display windows and storefronts, upper floor windows, balconies, pedestrian friendly design, environmentally responsible design, craftsmanship, materials, color, signs, awnings/canopies, building lighting, rooftop/mechanical elements, uses, parking, streets and sidewalk treatments, street lighting and public art.

Relationship to Livable South Downtown Planning

The draft guidelines are a detailed expression of how new building design, particularly as expressed in exterior elements, can maintain compatibility with Pioneer Square's neighborhood character. Full conformance with design guidelines would be expected to effectively extend the character of Pioneer Square into the area south of S. King Street. Partial conformance in proposed building designs would tend to introduce a different character that would be negatively influenced by the omission of particular architectural details. In newer development, architectural designs risk being oversimplified or having incompatible detailing in window dimensions and building materials. Also, street-level use patterns may not correspond to historical use patterns in adjacent areas. These potential flaws can be avoided when sufficient attention is paid to the design guidelines during the design process.

Guidelines addressing massing, building height, street level uses, upper level uses, and location of parking uses are most relevant to Livable South Downtown planning. These elements are most directly affected by zoning. Livable South Downtown's zoning alternatives study the continuation of Pioneer Square Mixed zoning, but with three different possible variations in the maximum height limits: 150, 180 and 240 feet. Accompanying these limits would be density limits and other probable requirements to define how building bulk may occur.

The impact analyses in other sections of this chapter—most notably addressing height, bulk and scale—suggest that a height limit of 150 feet at the north parking lot would be able to maintain compatible height/bulk/scale relationships within the Pioneer Square context, while height limits of 180 and 240 feet could result in significant adverse impacts unless the particulars of height, bulk and scale controls are specified in more detail. Such strategies might relate to the massing of buildings on the site, transitions from lower height buildings to higher height buildings, the use of setbacks, and how the buildings are articulated both vertically and horizontally.

Livable South Downtown zoning recommendations could either incorporate a number of the recommended prescriptions from the guidelines, or rely on the implementation of the guidelines through future Pioneer Square Preservation Board review.

OTHER LAND USE AND TRANSPORTATION PLANNING PROCESSES

ALASKAN WAY VIADUCT PLANNING

The Seattle Department of Transportation (SDOT) and Washington State Department of Transportation (WSDOT) are engaged in evaluating options for future street and highway improvements associated with SR 99. This includes a "surface and transit" option that would not include either a tunnel or a viaduct in the immediate vicinity of the study area. This option has several implications for future street networks and traffic patterns that are being evaluated by SDOT. Safety, mobility and infrastructure improvements are planned for 2007. The Washington State Department of Transportation anticipates that viaduct removal will begin in 2012.

See Appendix G and the Transportation and Parking sections in this chapter for evaluation of transportation impacts.

SR 519 PHASE 2 PLANNING

SR 519 planning proposes street and highway improvements meant to provide additional connections to and from Interstate 5, Interstate 90 and the Stadium Area vicinity. This includes an additional bridge connection from the interstates, a bridge at railroad tracks near S. Royal Brougham Way with a connection down to 3rd Avenue S., and improvements to the 1st Avenue S./S. Atlantic Street intersection. As of summer 2007, an Environmental Impact Statement was being prepared on this project, to facilitate construction in a 2009-2012 timeframe. See Appendix G and the Transportation section in this chapter for evaluation of transportation impacts.

INDUSTRIAL LANDS STUDY

In 2006 and 2007, DPD planning staff engaged in a review of current industrial area land use policies, including documentation of existing conditions and issues. This study was spurred by development trends in the Manufacturing and Industrial Centers, the relationship to continued support for manufacturing and industrial economic sectors, and how these areas' plans and policies will be implemented. In conjunction, the Planning Commission hosted a series of public forums with presentations and discussion by speakers and interested citizens.

The Industrial Lands Study and Mayor's Recommendations were completed in summer 2007. The recommendations articulate that industrial zones are most appropriately located in the City's Manufacturing and Industrial Centers (MICs), and not within urban centers and villages or near dense residential uses. The recommendations propose stricter controls on non-industrial activities in industrial zones in order to control conversion of industrial land and "[send] a clear message to industrial businesses about the City's continued support for their activities." The recommendations also suggest allowing expansion of the Starbucks headquarters within the Greater Duwamish MIC, and offer language to clarify research and development laboratory uses, in order to discourage standard office uses within industrial areas.

Land Use Code amendments that address the above issues are anticipated in late 2007. Formal review of industrially-zoned lands outside the MICs and at the edge of the Duwamish MIC is planned in 2008, including land located within South Downtown in the south-of-Dearborn area. Mayor recommendations also address programmatic actions, such as job training, City staffing, and industry marketing.

HOUSING

AFFECTED ENVIRONMENT

INTRODUCTION

South Downtown's residential population has long been an important part of Seattle's urban center. Pioneer Square and Chinatown/International District feature many of Seattle's oldest apartment buildings and a large number of affordable housing units. South Downtown is expected to grow in the coming years under all land use scenarios, adding both jobs and residents.

A key objective of Livable South Downtown planning is to evaluate and protect existing housing resources, particularly those that serve households with below-median incomes. Analysis of housing issues should involve understanding how complex land use, zoning and housing policies and regulations can be guided to successfully maintain affordable housing supplies and historic preservation objectives while accommodating well-situated new developments with housing for a range of incomes. Other important factors include urban design, architectural quality, cultural preservation, public amenities and services and environmental challenges such as noise and air pollution.

HOUSING UNIT COUNTS AND GROWTH TRENDS

South Downtown contains 3,677 dwelling units, and comprises approximately 16% of Downtown's overall housing inventory. Approximately 1,151 (31%) of these units are located in Pioneer Square and approximately 2,526 (69%) are located in the Chinatown/I.D. neighborhood. Only about 25 dwelling units are currently located east of I-5 in the Little Saigon vicinity of Chinatown/I.D.

Prior to 1990, South Downtown had a low housing growth rate, with many units located in older historic buildings, and infrequent development of new buildings. However, between 1990 and 2005, housing growth occurred at a faster pace, leading to a 51% gain in housing unit totals throughout South Downtown. Table 3-8 summarizes the growth since 1990 for Pioneer Square and Chinatown/I.D. and compares it to the amount of growth in the Downtown Urban Center as a whole. These neighborhoods' housing growth only represented 1/8th of Downtown's overall housing growth, as illustrated in Tables 3-9 and 3-10.

Table 3-8
Total Housing Unit Count Per 2000 U.S. Census and DPD Permit Data

	1990	2000	2006	Total Growth, 1990-2006	Percent Increase, 1990-2006
Pioneer Square	635	797	1,022	387	61%
Chinatown/I.D.	996	1,641	2,230	1,234	24%
TOTAL, Downtown Seattle Urban Center*	7,432	12,852	17,819	10,387	140%

*The totals shown for the Downtown Urban Center include housing within Pioneer Square and Chinatown/I.D.

Many reasons underlie South Downtown's relatively slow pace of residential development. Limits on development capacity related to historic districts and low zoned height and density limits play a role, and industrial zoning in part of the study area prohibits nearly all forms of housing. Aside from regulatory limitations, demand for housing in South Downtown has been weak relative to other parts of Downtown,

as indicated by current market-rate sales prices that remain low. For example, rental rates in newer units in South Downtown are approximately $1.65 per square foot per month compared to $2.00 per square foot or more in Belltown (Easton, 2007). Interviews with developers indicate that some are reluctant to invest in South Downtown due to concerns about public safety and the condition of the physical environment. Further, while land costs have been historically lower in South Downtown, development costs in some areas may be higher due to high water tables and soil conditions associated with former tidelands.

Table 3-9
Housing Unit Growth in Downtown Urban Center Neighborhoods Per Half-Decade, 1991-2005

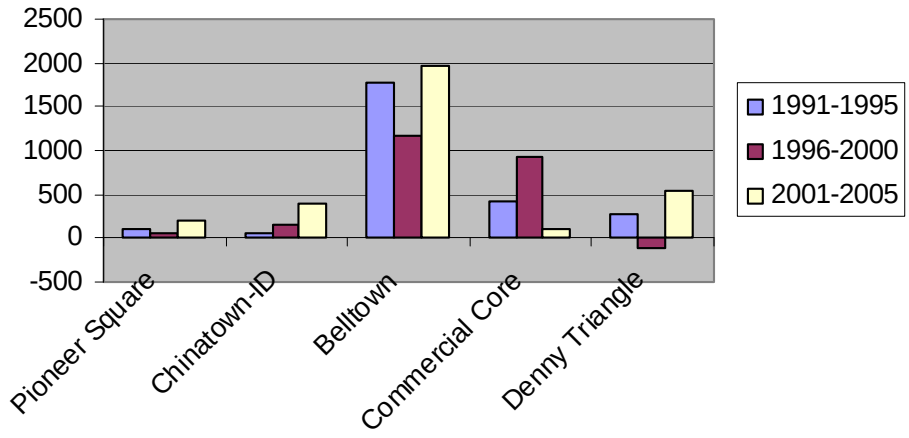


Table 3-10
Net Units Built and Permitted 1991-2005
Seattle Downtown Urban Center

Neighborhood	Percent of Downtown Growth
Pioneer Square	4.5%
Chinatown/I.D.	7.6%
Belltown	61%
Commercial Core	18%
Denny Triangle	9%
Downtown Urban Center (Total)	100%

Source: DPD, 2007

Interviews with developers also suggest that the area is potentially attractive for future residential and commercial growth, due to its proximity to Downtown amenities, regional transit services, and its historic and cultural neighborhood character. Recent trends in actual and possible development projects indicate an increased level of interest. These include a few conversions of apartments to condominiums, rehabilitation of existing buildings, and construction of new apartment buildings in different parts of Pioneer Square and Chinatown/I.D. west of I-5. No such trend is observed in Little Saigon, where industrial zoning east of 12th Avenue S. is one factor that has limited housing development.

COMPOSITION OF HOUSING IN SOUTH DOWNTOWN

Housing Unit Occupancy

Housing unit occupancy is often divided into three categories: owner-occupied units, market-rate rental apartments, and subsidized apartments. In the South Downtown study area:

- 13% are owner-occupied units
- 20% are market rate rental apartments
- 67% are subsidized rental apartments

As compared to Downtown overall, South Downtown neighborhoods have a higher percentage of subsidized rental units (67%) than other Downtown neighborhoods (38%). Also, condominiums account for just 13% of all South Downtown residential units, as compared to 23% of all units in other Downtown neighborhoods. Table 3-11 summarizes the amount and tenure of housing in South Downtown neighborhoods as compared to the other three Downtown neighborhoods.

Table 3-11
Downtown Housing Units by Tenure

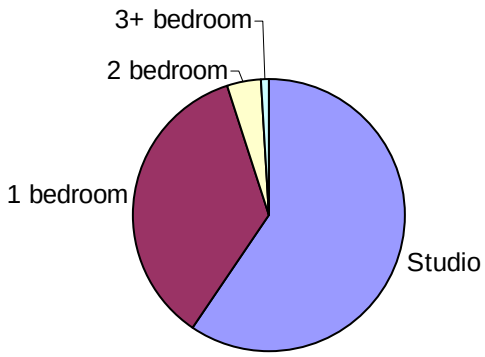
	Pioneer Square* 2006	Chinatown/I.D.* 2006	Other Downtown Neighborhoods (Belltown, Commercial Core, Denny Triangle) 2000**
Homeowner Units	244 (21%)	247 (10%)	2,366 (23%)
Market-Rate Rentals	136 (12%)	584 (23%)	4,069 (39%)
Subsidized Rentals	771 (67%)	1,695 (67%)	3,979 (38%)
Total Units	1,151 (100%)	2,526 (100%)	10,414 (100%)

*South Downtown Housing Inventory, Office of Housing, December 2006
**Downtown Height and Density Changes Draft EIS, November 2004, p.3-14

Size of Units

Like much of Downtown, the majority of dwelling units in South Downtown are studio and one-bedroom units, tending to be occupied by single or two-person households rather than larger families (see Table 3-12). The low presence of three-bedroom or larger dwelling units in this study area (only 23 such units counted in the 2000 U.S. Census) reinforces the typical small household sizes.

Table 3-12
Housing Unit Size in South Downtown
2000 U.S. Census



Vacant Residential Buildings in the Chinatown/I.D. Neighborhood

Five historic buildings in the Chinatown/I.D. neighborhood have upper residential floors that remain vacant despite the presence of ground-floor retail uses. Many of these buildings contain single-room occupancy (SRO) units that previously housed working men in past decades. The 1998 *Chinatown/ International District Strategic Plan* (the neighborhood plan) identified rehabilitation of historic buildings in this neighborhood as a priority, including the buildings listed in Table 3-13.

Table 3-13
Partially Vacant Buildings in Chinatown/International District

Building	Number of Vacant Residential Units
Eclipse	80
Hip Sing	40
Louisa	149
Kong Yick	28
Milwaukee Hotel	150

Another 245 SRO dwelling units are present in four historic buildings that are in need of significant repairs: the Publix (75 dwelling units, not in use), the Republic Hotel (70 dwelling units), the New American Hotel (54 dwelling units) and the Atlas Apartments (46 dwelling units).

In 2002, staff from Seattle's Department of Planning and Development, Office of Housing and Office of Economic Development worked together to identify twelve residential buildings in Chinatown/I.D. that are in need of significant repair. Staff met with several property owners to address life safety issues and encourage investment and rehabilitation to active use. Staff had mixed results in working with property owners. Several buildings have family and multi-party ownership structures that complicate decision-making. Also, rehabilitation is costly due to seismic and other existing requirements.

Today, several buildings are now being redeveloped. The Freeman Hotel/Gong Dip Building is being transformed into the new Wing Luke Museum. This historic building contained 60 vacant SRO units. The Hong Kong Building and the Alps Hotel contained 72 and 110 SRO units, respectively, and are being rehabilitated to accommodate a total of 137 units of various sizes. Fifty percent of these units will be affordable to households earning 70% of median income or less for a period of ten years.

Several historic buildings in Pioneer Square also include upper floors that appear to be under-used. However, a survey by City staff and community members in 2006 indicated that, while rehabilitation of some historic buildings is needed, there are few vacant or uninhabitable spaces in Pioneer Square.

This range of existing housing conditions suggests that a Transfer of Development Rights (TDR) program for historic buildings could be a viable strategy. This would allow owners to sell unused development rights from historic buildings and gain resources to support significant rehabilitation. The TDR program could apply to historic areas within the Chinatown/I.D. and Pioneer Square neighborhoods. This topic is discussed further later in this section and in Appendix E to this DEIS.

AFFORDABILITY

Despite its location adjacent to the Downtown office core, South Downtown remains an area where housing is still affordable across a broad range of income levels. A relatively higher number of units are affordable to people at lower income levels in South Downtown than for the Downtown Urban Center overall.

"Affordable housing" simply means housing that people can afford. That typically means a household's housing costs are no more than 30% of their monthly income if they rent, and no more than 40% of their monthly income if they own. Within South Downtown, approximately thirty-two percent of all units are affordable to people with incomes below 30% of median income. Forty-two percent of units within South Downtown are affordable to people earning between 50% and 80% of median income. Twenty-six percent of all units are affordable to people earning greater than 80% of median income. The U.S. Department of Housing and Urban Development (HUD) defines all housing that is affordable to people earning less than 80% of median income as "low-income," regardless of whether it is publicly subsidized or market-rate.

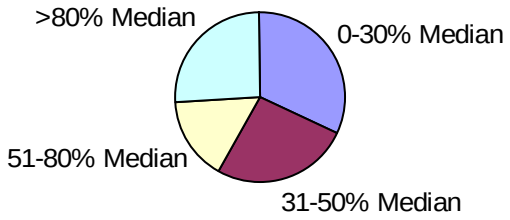
Many people have difficulty finding housing they can afford in areas near where they work. A few examples are retail salespersons, teachers, cashiers, loan officers, janitors, and administrative specialists. Others include retirees and those on fixed incomes or otherwise constrained in ability to earn income. Such individuals and households are common in these neighborhoods (see the Population and Employment section in this chapter for more discussion), which means that retention and rehabilitation of South Downtown's existing affordable housing stock and construction of additional affordable units is important. The following Table 3-14 and accompanying pie chart show the affordability breakdown of South Downtown's housing stock.

Table 3-14
Existing Affordable Units in South Downtown

Neighborhood	Number of Dwelling Units Serving Households at Income Level (% of Median Income)				
	0-30%	31-50%	51-80%	> 80%	Totals
Pioneer Square	425	201	180	345	1,151
Chinatown/International District	735	764	414	613	2,526
Total in study area	1,160	965	594	958	3,677
Percent of study area	(32%)	(26%)	(16%)	(26%)	(100%)

Median income = as defined by the Seattle-Bellevue HUD Metro Fair Market Rent Area (HMFA)
Source: South Downtown Housing Inventory, Office of Housing, December 2006

South Downtown Housing Affordability 2006



COMPREHENSIVE PLAN AND NEIGHBORHOOD PLAN HOUSING GUIDANCE

Seattle's Comprehensive Plan

The Comprehensive Plan's projections for Pioneer Square and Chinatown/I.D. are for approximately 1,000 new households in each neighborhood by 2024 (see the Population and Employment section in this chapter for further discussion).

Comprehensive Plan housing-related goals and policies promote:

- a mix of housing that appeals to a range of ages, incomes, household types and sizes, and cultural backgrounds;
- housing for children and seniors;
- home-ownership opportunities;
- public and private investment in housing resources;
- retention of existing housing units; quality design;
- safe and habitable housing conditions; and
- affordability for a diversity of households.

The Comprehensive Plan specifically states that future growth should accommodate the following affordability levels:

- At least 20% of expected residential growth should be affordable to households earning up to 50% median income.
- At least 17% of expected residential growth should be affordable to households earning between 51% and 80% median income.

Other goals and policies indicate:

- the City's commitment to "take a leadership role in regional efforts to increase affordable housing preservation and production in order to ensure a balanced regional commitment to affordable housing, while also maintaining the City's commitment to affordable housing." (Policy H3).
- the goal to "achieve a mix of housing types that are attractive and affordable to a diversity of ages, incomes, household types, household sizes, and cultural backgrounds." (Goal HG4).
- a policy of "encourag[ing] greater ethnic and economic integration of neighborhoods [without] displacement of existing low-income residents from their communities [and] allocat[ing] housing subsidy resources in a manner that increases opportunities for low-income households, including ethnic minorities, to choose among neighborhoods throughout the city." (Policy H16).

These policies articulate the City's commitment to preservation and production of affordable housing serving diverse populations, including existing low-income and ethnic minority households. The presence of numerous low-income and minority households in Pioneer Square and Chinatown/I.D. underscores the importance of making choices in Livable South Downtown planning that will preserve affordable housing, provide for future affordable housing production in the study area, and define how future development of all kinds will contribute effectively to affordable housing objectives.

It should be noted that land in Chinatown/I.D. and Pioneer Square is relatively affordable compared to other Downtown Urban Center areas. Chinatown/I.D. in particular has several properties that could be candidates for future affordable housing development. Future development could benefit by receiving funds available from City programs to support affordable housing. At the same time, property values would be influenced to some degree by zoning, which may be changed through Livable South Downtown recommendations. The dynamics of real estate markets, zoning and available funding could influence future housing types.

Neighborhood Plans

The Pioneer Square and Chinatown/I.D. neighborhood plans emphasize increased residential development within the neighborhoods. Both plans include goals relating to housing diversity, design and development opportunities.

- The Pioneer Square neighborhood plan promotes residential growth as a key theme for Pioneer Square, encouraging housing opportunities for all incomes while maintaining the area's historic character.
- The Chinatown/I.D. neighborhood plan supports the diversification of the area's housing stock with more moderate income and family house and the preservation of existing affordable housing resources.

ENVIRONMENTAL IMPACTS

The evaluation of housing impacts for this programmatic EIS addresses the following topics:

- Relationships between projected residential growth and development capacity for housing
- Housing supply and demand characteristics relating to future growth in the study area
- Potential impacts relating to affordable housing
- Existing programs and trends that will continue to support affordable housing development
- Housing-supportive and protective strategies of the proposed alternatives

Following the Impacts discussion is a listing of possible impact mitigation strategies that could be included to address adverse housing impacts of the alternatives.

RELATIONSHIPS OF PROJECTED HOUSING GROWTH AND ZONED CAPACITY

Alternatives 1, 2 and 3 assume that the amount of residential growth to year 2030 would be approximately 6,000 dwelling units in the study area. This would be a faster growth rate than has occurred in recent decades in this area, but is a plausible growth rate according to DPD's analysis of Downtown growth trends. In fact, it is consistent with other 2030 growth forecasts recently identified by DPD for this vicinity, derived from regional growth forecasts.

DPD's analysis of the capacity within the alternatives' zoning indicates the following total capacity for additional residential growth would result:

- Alternative 1: 7,142 dwelling units
- Alternative 2: 8,319 dwelling units
- Alternative 3: 6,640 dwelling units
- Alternative 4: 4,414 dwelling units

This analysis suggests that zoning under Alternatives 1, 2 and 3 would provide a sufficient amount of additional capacity for future housing development to meet projected residential growth through 2030, and would also have enough capacity for additional residential growth after 2030. It also suggests that retaining the existing zoning pattern, under Alternative 4—No Action, would not provide enough capacity to be able to meet the projected growth of 6,000 additional dwelling units by 2030. These conclusions are not identified as impacts, but are provided to describe planning assumptions and their relationship to development capacity that would be present in the alternative zoning options. Additional details on zoned capacity are provided in the Population and Employment section of this chapter.

CHARACTERISTICS OF FUTURE HOUSING SUPPLY AND DEMAND

Influences on Future Housing Development

Future housing production in the study area neighborhoods will depend on how market forces interact with zoning limits and the economic feasibility of developing new structures. Several observations can be made about these elements that will affect future outcomes.

- **Future housing likely will continue to favor small dwelling sizes.** The expected range will be from studios up to two-bedroom units. This may make it difficult for larger family households to obtain suitable housing in South Downtown.
- **Condominium housing would likely be more feasible than rental housing in new construction.** Recent pro-forma economic study of development conditions in South Downtown

suggests greater profitability for condominium development rather than apartments. Recent conversions of a few buildings to condominiums in Chinatown/I.D., as an indication of the current status of the market, support this finding.

- **Zoned height limits to 125 feet may create uncertainties about building size and construction type.** The pro-forma economic study of development conditions suggests development is economically feasible and profitable for condominiums at 125 feet, and is less feasible for apartment construction. Building to 125 feet would require steel frame construction. However, when compared to a smaller and less costly wood frame building to 85 feet, the 85-foot development scenario is concluded to generate higher rates of investment return.

  The actual outcomes of future development will depend on the strength of market demand for new housing in the study area and the equation of costs, risks and returns. If housing prices for new dwelling units are higher than indicated by the pro-forma analysis, building to the maximum of 125 feet would become more feasible and profitable. The pro-forma analysis results might also indicate that additional higher height limits should be considered if the intent is to encourage the achievement of development to the maximum zoned heights.

- **Zone changes would likely increase property values, affecting the ability to realize new affordable housing construction by non-profit developers.** Non-profit developers that have constructed much new housing in the study area in recent years could be negatively affected by zoning with higher height limits. The increased development capacity on affected properties would increase the assumed property value. Due to this property value increase and higher development costs of taller steel-frame buildings, the increase in zoned development capacity could negatively impact feasibility of new development by non-profit developers in portions of the study area.

- **Planned development on the Qwest Field north parking lot would provide at least 400 units of new housing.** The proposed development at this location will include approximately 400 units of new housing, of which 100 are required by purchase and sale agreement to be affordable to households earning 100% of median income for owner-occupied units or 60% of median income for rental units. This amount of new housing in Pioneer Square would help satisfy a portion of the demand for housing in the study area.

- **In zones with higher height limits, hotel/condominium forms of development may be possible.** Areas zoned for allowable buildings heights of 180-240 feet might support a mixed use hotel/condominium form of development, in which residents would enjoy services and amenities available to hotel guests. These developments would be more likely to include higher-cost dwelling units.

Housing Demand Generated by New South Downtown Employment

Total Housing Demand from New Employment

Additional employment growth in South Downtown would generate new demand for housing. Past Downtown zoning analyses inform estimates of this added housing demand. For example, analysis of Downtown housing supply and demand determined an employment factor of approximately 1.65 workers per household (Keyser Marston Associates, 2001). A 1983 survey of Downtown employees indicated that 29% would choose to live Downtown if a dwelling unit was available at an acceptable price and size (Gruen & Gruen, 1983). Using these assumptions, an estimate of total housing demand and Downtown housing demand that could be generated by additional South Downtown employment is calculated for the alternatives, as shown in Table 3-15.

Table 3-15
Estimated Total Housing Demand Generated by New South Downtown Employment to 2030

Alternative	Projected Job Growth per EIS Alternative	Estimated Total New Demand for Housing Units in All Locales	Estimated Demand for Housing Units in the Downtown Area
1, 2 & 3	24,600	14,910	4,320
4 (No Action)	16,600	10,060	2,920

Source: DPD, 2007

Table 3-15 illustrates the relatively similar impacts on total housing demand of Alternatives 1, 2 and 3, and the lesser impacts under the No Action Alternative (Alt. 4) that would be approximately one-third lower.

New Demand for Affordable Housing

A housing analysis for Downtown zoning concluded that approximately 16% of all office worker households would earn less than 80% of the area's median income (Keyser Marston Associates, 2001). Applying this factor, an estimate of total demand for housing serving households earning 80% or less of median income is calculated for the alternatives, as shown in Table 3-16. These households would be among those that may need some subsidy to afford housing in South Downtown. The table also shows the estimated demand that could be generated for such units in Downtown using the 29% factor explained above.

Table 3-16
Projected Total New Demand for Housing Units
Affordable to Households Earning Less Than 80% Median Income

Alternative	Projected New Total Demand For Affordable Dwelling Units	Downtown's Portion of the New Demand for Affordable Dwelling Units
1, 2 & 3	2,386	692
4 (No Action)	1,610	467

Source: DPD, 2007

Table 3-16 illustrates the relatively similar impacts on total housing demand of Alternatives 1, 2 and 3, and the lesser impacts under the No Action Alternative (Alt. 4) that would be approximately one-third less.

AFFORDABLE HOUSING IMPACTS

Potential Loss of Existing Affordable Housing in South Downtown

With or without zoning changes, South Downtown is likely to become a more active housing market in the future. This is due to the area's close proximity to the Downtown office core and transit hub and the resulting probable effects on real estate values. An active market for housing in South Downtown—characterized in part by low vacancies and rising property values—could increase the potential for rent levels to increase and become less affordable. Rent levels that are not guaranteed by regulatory agreement or loan conditions may increase over time. The Seattle Office of Housing considers affordable housing to be at "medium" or "high" risk of rent level changes if:

- A regulatory agreement that guarantees affordability associated with government subsidy will expire within the coming twenty years
- The unit is not subsidized by government funding and is therefore not regulated for affordability.

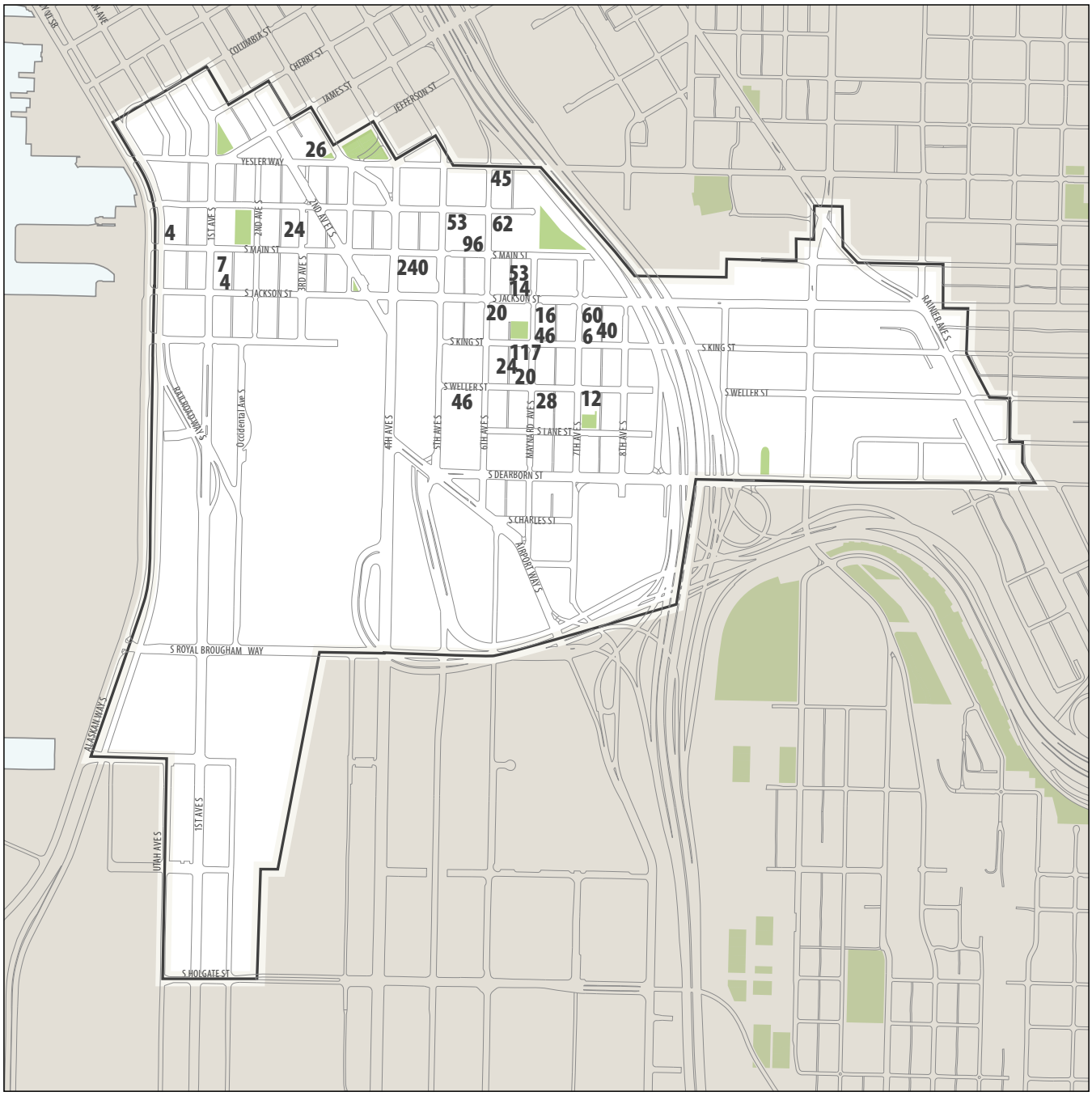
Using these criteria, approximately 1,102 currently affordable dwelling units in Chinatown/I.D. and 178 currently affordable dwelling units in Pioneer Square are at medium risk or high risk of potential rent increases within the next twenty years (DPD, 2007). Tables 3-17 and 3-18 categorize these units according to their affordability to households at different income levels. Figure 3-20 illustrates the location of the at-risk housing resources.

According to data from the Seattle Office of Housing, approximately 819 dwelling units in Chinatown/ I.D. and 630 dwelling units in Pioneer Square are classified as "low" risk for rent changes because they have regulatory agreements to provide affordable housing for more than 20 years, or are in the SHA portfolio. The majority of these low-risk units in each neighborhood serve households earning 50% of area median income or less.

Table 3-17
Chinatown/I.D. Housing Units at Medium or High Risk of Future Rent Level Changes

	Number of Dwelling Units Serving Households at Income Level (% of Median Income)				
Risk of Rent Level Change	**0-30%**	**31-50%**	**51-65%**	**66-80%**	**Total**
Medium Risk (regulatory agreement or loan expiration under 20 years)	23	50	0	5	78
High Risk (MFTE agreement needed or long-term funding needed)	0	364	26	104	494
Unsubsidized Rentals	237	176	55	62	530
Totals	**260**	**590**	**81**	**171**	**1,102**

SHA = Seattle Housing Authority. MFTE = Multifamily Tax Exemption
Source: DPD, OH, 2007



0 2 4 6 8 10
Scale in 100 Feet

N

Figure 3-20

Affordable Housing Units at Medium or High Risk for Rent Increase by 2030

Livable South Downtown

Table 3-18
Pioneer Square Housing Units at Medium or High Risk of Future Rent Level Changes[9]

Risk of Rent Level Change	Number of Dwelling Units Serving Households at Income Level (% of Median Income)				
	0-30%	31-50%	51-65%	66-80%	Total
Medium Risk (regulatory agreement or loan expiration under 20 years)	0	26	113	0	139
Unsubsidized Rentals	0	2	30	7	39
Totals	**0**	**28**	**143**	**7**	**178**

Source: DPD, 2007

The majority of affordable units at medium or high risk for rent changes are located within Chinatown/I.D. Many of these units are located within buildings where demolition and redevelopment is unlikely due to their contributions to Chinatown's National Register Historic District. Similarly, in Pioneer Square, the buildings identified as having medium or high risk are located within historic-contributing buildings that are unlikely to face a greater probability of demolition and redevelopment due to the alternative zoning proposals. Due to the alternatives' lack of direct effect on the zoning of these properties, no direct adverse housing impacts are identified at these locations. A potential indirect adverse impact of increases in rent levels could be anticipated in some cases.

However, some properties with affordable units would more directly experience increases in zoned development capacity, which could contribute to loss of affordable housing units. This would affect approximately five buildings in the Japantown vicinity, as well as two buildings in the Chinatown core. These units could be subject to rent increases, conversion to other more expensive housing types, or future redevelopment. These are the most identifiable adverse housing impacts potentially generated by zoning changes under Alternatives 1, 2 and 3. The buildings and their current number of dwelling units are listed in Table 3-19.

Table 3-19
Affordable Housing That is Directly Impacted by Alternative Zoning Changes

Japantown	Chinatown core	Pioneer Square
Downtowner Apts.: 240 units (High risk)*	Uwajimaya Village: 46 units (High risk)*	None (historically-contributing buildings not impacted)
Imperial House: 96 units (High risk)*	Weller Apts.: 12 units (High risk)*	
Ascona Apts.: 53 units (no risk rating)		
Metropolitan Park: 62 units (no risk rating)		
Ticino Apts.: 45 units (no risk rating)		
TOTAL: 496 units	**TOTAL: 58 units**	**TOTAL: 0 units**

Source: DPD, 2007. * "High risk" refers to the rating assigned by the City's Office of Housing, briefly described in the written discussion above.

Alternative 1 zoning changes, with increased maximum height limits to 240 feet, would represent the largest potential zoning change in Japantown, with lesser increases to 180 feet under Alternative 2. It should be noted that the Metropolitan Park and Ticino Apartments (and the Imperial House under Alternative 3) would experience a somewhat lower potential for such impacts because the proposed zoning changes at these locations would only modestly adjust the existing IDR 150' zone's development capabilities. Also, the two locations listed in the Chinatown core have a somewhat lower potential for zoning-related impacts because they are buildings not likely to be redeveloped in the future.

EXISTING PROGRAMS AND TRENDS THAT WILL CONTINUE TO SUPPORT AFFORDABLE HOUSING DEVELOPMENT

The following programs will be available over the long term to continue to support the future development of affordable housing resources in the study area.

Direct funding for affordable housing construction and rehabilitation

Traditional government sources of low-income housing funds should be available to support the construction of units serving households earning up to 80% of area median income. The City awards capital subsidies for the construction and rehabilitation of affordable housing in Seattle twice a year. In the past decade, the City has helped fund rehabilitation of 9 buildings with 821 affordable housing units and new construction of 5 buildings with 311 units of affordable housing in South Downtown. If that trend continues, it is reasonable to assume that 2,800 units of affordable South Downtown housing could be funded over the coming 25 years through leveraging traditional housing funding sources. Approximately two-thirds of these projects are expected to involve substantial rehabilitation of existing housing and vacant residential buildings, and will serve "extremely" and "very low" income households, which are those earning up to 30% and 30-50% of area median income, respectively.

Seattle Homes Within Reach Program (Multifamily Housing Tax Exemption)

Seattle Homes Within Reach, formerly known as the Multifamily Housing Tax Exemption (MFTE) Program was initiated in 1998 to stimulate construction of multifamily housing in weak market areas and, in strong market areas, to encourage some new construction units to be affordable to moderate-wage workers. Developers who take advantage of the program receive a 10-year property tax exemption on the improvements. For rental housing, this means the developer pays no taxes on the residential portion of the building. For homeowner housing, owners of affordable condominium units pay no property taxes. Pioneer Square and Chinatown/I.D. are "target areas" for this program. Four of the 17 rental developments that have taken advantage of the tax exemption are located in South Downtown, including the Tashiro Kaplan and Quintessa Apartments in Pioneer Square and the Uwajimaya Village and Weller Apartments in Chinatown/I.D.

Existing Downtown Incentive Programs

A number of incentive programs are currently part of Downtown zoning. Programs targeted to commercial developers are focused primarily in DOC1, DOC2, and DMC zones in the Downtown core and Denny Triangle. Resources generated by transfer of development rights (TDR) purchases and bonus contributions by office and hotel developments in those areas may be used in South Downtown. Three South Downtown residential projects (I.D. Village Square II, Legacy House and the Morrison Hotel rehabilitation) have been funded in part through sale of TDR or through the Commercial Bonus Program, using approximately $3.8 million in funds.

Contributions made by Downtown residential developers through the Residential Bonus Program adopted for portions of Downtown in 2006 may also be awarded to new construction projects in South Downtown. This has not yet resulted in new affordable housing construction in the study area.

Some of the existing housing supply may become more affordable over time

Local real estate research indicates that rental rates tend to become more affordable after five to ten years, due to wear and tear, and the presence of fewer amenities as compared to those provided in newer buildings. For example, a case study in the Seattle Office of Housing's *Seattle Housing Inventory* (2007)[1] showed that the rents of 506 Belltown units became more affordable over time. Although rents increased 2% per year on average, all units became affordable to households in lower income categories within a five to ten year period. Rising housing prices through Downtown could reduce the assurance that this trend would definitely occur in South Downtown. However, it is reasonable to anticipate that some residential units not under affordable rent agreements will become more affordable over time, due to location, condition of the building, small unit size, and a variety of other factors. The total pool of such "unregulated" units currently in the study area includes approximately 580 dwelling units in Chinatown/I.D. and approximately 136 dwelling units in Pioneer Square.

[1] http://www.seattle.gov/housing/

HOUSING-SUPPORTIVE AND PROTECTIVE STRATEGIES OF THE ALTERNATIVES

Livable South Downtown planning proposes a number of strategies relating to development bonus and TDR programs. These programs are intended to mitigate impacts of increased development potential on housing affordability. They include commercial and residential bonus programs and a TDR program that would encourage rehabilitation for housing within existing buildings in Pioneer Square and Chinatown/I.D. The approach is similar to strategies employed in other portions of Downtown. It is meant to respond to the City's housing and comprehensive plan policies that support the preservation and production of affordable housing serving diverse populations. The complexity of the housing-supportive strategies means there are many specific details that affect how the programs would work, how individual development projects could be affected, and how much affordable housing is ultimately achieved. Such details will be discussed in greater detail during later decision-making processes. The following discussion represents draft conclusions based on the information available at the time of this Draft EIS analysis.

All new construction projects in South Downtown that exceed base development rights would be required to take part in housing bonus programs. For residential development, the incentive program would allow developers to achieve development capacity above base development rights by constructing affordable housing units on-site or by contributing a fee-in-lieu to support construction of affordable units off-site by purchasing TDR and/or by providing public amenities that mitigate non-housing development impacts. For commercial development, the incentive program would be similar to the one already in place in other parts of Downtown, whereby approximately 75% of development above the base FAR is achieved through housing TDR and/or commercial bonus for housing and child-care, and the other 25% is achieved through other public amenity bonus or TDR.

Impacts of the South Downtown Commercial Incentive Program

Table 3-20 illustrates the amount of TDR that could be generated by the commercial development incentive program.

Table 3-20
Livable South Downtown EIS Alternatives,
Estimated Commercial Bonus Program Workforce Housing Production

Alternative	Total Bonus Floor Area in New Construction Projects Through 2030 (square feet)	75% of the Total Bonus Floor Area Gained Through Housing Bonus and/or TDR (square feet)	Estimated Dollars Generated at a Sales Price of $18.75/sq.ft.	Equivalent Number of Dwelling Units at $130,000 per Unit
1	820,703	615,527	$11,541,131	89 units
2	1,052,685	789,514	$14,803,387	114 units
3	1,015,033	761,275	$14,273,906	110 units
4 (no change)	0	0	0	0 units

Source: DPD, 2007

Impacts of the South Downtown Residential Density Bonus Program

New State law (RCW 36.70A.540) allows the City to include affordable housing incentive programs that are directed at new residential development. It is likely that the program, as applied to South Downtown, would allow a base development right without an affordable housing requirement. Any density above the base development right would need to be achieved through participation in the South Downtown Residential Density Bonus Program. The program would require construction of affordable units on-site or participation in a payment-in-lieu fee structure.

Depending upon final bonus program design, approximately 10-15% of the gross square feet of bonus area within a residential project would need to be devoted to affordable workforce housing under the new residential density bonus program. This percentage could yield the following amount of affordable workforce housing, per growth under the EIS Alternatives to 2030, assuming that 75% of all new projects would take advantage of the potential bonus development capacity. Table 3-21 identifies total residential bonus floor area estimated under each Alternative, and the potential number of units that could be generated.

Table 3-21
Livable South Downtown EIS Alternatives,
Estimated Residential Bonus Program Workforce Housing Production

Alternative	Residential Bonus Floor Area (square feet)	Estimated Affordable Housing Production (square feet)	Number of Dwelling Units That Could be Generated (700 sq.ft. per unit)
1	1,147,611	94,677	135 units
2	1,015,033	83,741	120 units
3	907,739	74,888	107 units
4 (No Action)	0	0	0

Source: DPD, 2007

Impacts of the South Downtown Transfer of Development Rights (TDR) Program

Future commercial development in South Downtown could take advantage of the South Downtown TDR programs that would support the development of affordable housing resources. Two specific TDR programs could be available to developers in South Downtown that would result in dollars for: 1) retaining existing affordable housing resources and 2) renovating historic buildings, many of which contain existing affordable housing resources.

Several TDR programs are available to property owners in Downtown, as discussed previously in this section. However, only one of these programs—affordable housing TDR—is available for use by property owners in the South Downtown area. Since the inception of the affordable housing TDR program in 1985, only two affordable housing projects in South Downtown have used the program to sell development rights (Morrison Hotel, and I.D. Village Square I "Legacy House"). It is expected that new South Downtown bonus programs would increase the demand for TDR throughout South Downtown, stimulating the market for both sales and purchases of TDR.

South Downtown historic housing TDR is a proposed program that would allow TDR from historic-contributing buildings in Chinatown/I.D. and Pioneer Square. Dollars generated from the program could be used to contribute to the stock of affordable workforce housing in South Downtown and provide much-needed resources for rehabilitation of historic buildings.

Zoning Strategies Tailored to Support New Housing and Protect Existing Housing

In addition to programs described above, several aspects of the Livable South Downtown zoning strategies would help avoid potential housing impacts. These are briefly described below.

- Retain existing zoning and development capacity or recommend only modest regulatory changes affecting properties where sensitive historic resources and affordable housing resources exist, such as in the historic districts of Pioneer Square and Chinatown/I.D.

- Zone for taller and higher-density residential towers in areas where market forces may support and encourage the development of expensive new residential construction (areas where views are present, for example) near the edges of the core neighborhood areas. With this development, require participation in housing bonus programs to provide resources toward the construction of new affordable housing elsewhere in South Downtown.

- Zone for larger-scale future commercial development outside the core of South Downtown neighborhood areas, in order to avoid displacing affordable housing. With such development, require participation in the commercial bonus program in order to provide funding resources toward the construction of new affordable housing elsewhere in South Downtown.

- Provide targeted resources to support new and existing affordable housing in South Downtown by allowing affordable housing TDR to be sent to receiving sites outside of South Downtown. Require receiving sites in South Downtown to purchase South Downtown TDR from buildings that are historic-contributing and/or that contain existing affordable housing whenever possible.

MITIGATION STRATEGIES

Future development within the study area would be influenced by zoning choices that are represented by the EIS alternatives. With future development there is a potential for adverse impacts on certain housing that is currently affordable, either through rent increases, conversion to condominiums, or redevelopment of buildings. The possible mitigation strategies are provided to suggest actions that could be taken if decisionmakers identify this adverse impact as something that should be addressed when zoning choices are made.

POSSIBLE MITIGATION STRATEGIES

All Alternatives

Japantown vicinity

- In order to avoid potential adverse housing impacts related to rent increases, conversion or redevelopment of buildings with currently affordable housing units, the City could identify public or private sector actions that would encourage or achieve the long-term retention in affordable status of buildings most at risk for such impacts.
- Affordable housing impacts could be considered as a factor in making specific zoning choices for different portions of Japantown.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

No significant unavoidable adverse housing impacts of the EIS alternatives are identified.

POPULATION AND EMPLOYMENT

AFFECTED ENVIRONMENT

SUMMARY OF GROWTH DATA AND TARGETS

Population and employment growth data and the City's growth targets are summarized in Table 3-22, followed by additional discussion. Demographic data results from analysis of the 2000 Census data. Growth targets, observed trends in growth, and estimated development capacity are provided by DPD staff analysis.

Resident Households

Demographics

As of 2005, approximately 1,000 households resided in Pioneer Square and approximately 2,000 households resided in Chinatown/I.D. Census data from 2000 further indicate:

- many single-person or two-person households
- a large segment of the Chinatown/I.D. population is older and born outside the United States
- average household incomes in both neighborhoods are considerably lower than the citywide household average income
- a majority of residents in both neighborhoods live in income-restricted subsidized housing
- a population segment that is either homeless or accommodated within group quarters such as shelters and transitional housing.

Within the past few years, building renovations and new construction are bringing additional residents that influence the demographics of these neighborhoods. The Tashiro Kaplan Building artist housing near Yesler Way and Prefontaine Place, the renovated Lowman Building apartments near First Avenue and Cherry Street, the new Quintessa apartments at Second Avenue and Yesler Way, and other new residential construction are increasing the overall residential presence in these neighborhoods, as well as broadening the age and income diversity. Apartment conversions to condominiums have also occurred, increasing the presence of homeowner households. At the same time, other new buildings such as the Nihonmachi Terrace and Washington Terrace continue to add to the population of senior citizens and families in the northern portion of Chinatown/I.D.

There is no known residential population in the industrially-zoned portion of the study area. Potential residents may include building caretakers or artists in live-work spaces. Just south of S. Dearborn Street at S. Maynard Street, the William Booth Center includes 48 units of transitional housing that is adjacent to the industrial area at S. Charles Street. Just outside the study area near S. Atlantic Street and Utah Avenue S., the Bemis Building provides live/work space for more than 30 tenants within a general industrial zone, although not all of the spaces may be residentially occupied.

Table 3-22
Summary of Residential and Employment Growth Data and Targets

Pioneer Square		
Demographics (2000 Census)	Approximately 755 households Average household size: 1.26 persons Relatively low population of children and seniors Average income (1999): $11,130	
Growth Targets (Comprehensive Plan)	For 2004 to 2024: Residential: 1,000 households Employment: 3,500 jobs	Prior target for 1994 to 2014: Residential: 2,100 households Employment: 4,800 jobs
Net Growth	For 1994 to 2005: Residential: Net gain of approx. 256 dwelling units Employment: Net loss of approx 1,040 jobs. Total emp. = 9,850 in 2004	
Current Development Capacity	Approx. 1,000 dwelling units*; and Approx. 1.1 million square feet of non-residential uses*	
Chinatown/International District		
Demographics (2000 Census)	Approximately 1,514 households Average household size: 1.54 persons Relatively large population over age 70 Average income (1999): $11,200	
Growth Targets (Comprehensive Plan)	For 2004 to 2024: Residential: 1,000 households Employment: 2,000 jobs	Prior target for 1994 to 2014: Residential: 1,300 households Employment: 2,800 jobs
Net Growth	For 1994 to 2005: Residential: Net gain of approx. 513 dwelling units Employment: Net gain of approx 2,500 jobs. Total emp. = 6,600 in 2004	
Current Development Capacity	Approx. 3,750 dwelling units; and Approx. 2.2 million square feet of non-residential uses	
Greater Duwamish Manufacturing & Industrial Center (whole center)**		
Demographics (2000 Census)	Not applicable to this study area	
Growth Targets (Comprehensive Plan)	For 2004 to 2024: Employment: 9,750 jobs Residential: None	Prior target for 1994 to 2014: Employment: 10,860 jobs Residential: None
Net Growth	For 1994 to 2005: Residential: Not applicable to this study area Employment: Net gain of approx 3,900 jobs. Total emp = 61,550 in 2004	
Current Development Capacity	Approx. 42 million square feet of employment uses, equivalent to approx. 28,500 jobs	

* Pioneer Square capacity levels assume that the Qwest Field north parking lot and vacant floor area in existing structures are available to accommodate a share of household and employment growth.

** Greater Duwamish data reflect the entire industrial center, not just the Livable South Downtown study area.

Residential Growth Trends

Over the past 15 years, the Chinatown/I.D. neighborhood has grown faster than Pioneer Square, adding about 1,000 new households since 1990, while Pioneer Square has added about 400 additional households (see Table 3-23). For both neighborhoods, half or more of the new residential influx since 1990 has occurred in the last five years. However, Pioneer Square has grown more slowly than the other Downtown neighborhoods—only half as fast as Downtown overall. This may reflect the limited availability of development sites in Pioneer Square. In contrast, Chinatown/I.D. grew in an amount and pace that was relatively steady and comparable to, though somewhat slower than the Downtown Urban Center as a whole.

Similar to other Downtown neighborhoods, the amount of residential growth appears related to economic cycles, with a peak approximately five years ago and a recent upsurge in residential construction activity. Newer residential growth is occurring where parcels are available, such as the Japantown hill vicinity east of 5th Avenue S. and Chinatown between S. Weller Street and S. Dearborn Street.

Table 3-23
Residential Growth Trends in South Downtown Neighborhoods, 1990-2005

Downtown Urban Center Villages	1990 HHs*	2000 HHs*	2005 HHs*	Percent Change 1990 to 2000	Percent Change 2000 to 2005	Percent Change 1990 to 2005
Pioneer Square	603	755	940	25%	25%	56%
Chinatown/I.D.	941	1,514	1,880	61%	24%	100%
Downtown Urban Center	6,661	11,361	15,406	71%	36%	131%

*HHs = Households. Source: Downtown Height & Density Draft EIS (Nov. 2003) and U.S. Census data (2000), Comp. Plan Urban Village Element Appendix, Net Housing Unit Growth spreadsheet, 2006. Dwelling unit to household conversion assumes an 8% vacancy rate based on PSRC data.

Employment

Current Employment

Employment data from 2004 indicate approximately 9,850 jobs in Pioneer Square and 6,600 jobs in Chinatown/I.D. These neighborhoods have the lowest employment totals of any neighborhood in the Downtown Urban Center. Total employment in the industrial zoned Stadium Area is estimated at roughly 1,000 jobs, including warehouse, office and a lesser amount of retail jobs (this does not include stadium-related jobs). Jobs in the Stadium Area appear oriented toward wholesale and retail trade, manufacturing, business services, and entertainment sectors. Immediately adjacent to and west of the stadium area, the Port's freight terminal complex is a major employment center and driver of regional economic activity.

Employment Growth Trends

Employment data from 1995 to 2004 illustrate a spike in employment in 2000 influenced by the "dot-com boom" economic cycle, and later a decline in employment levels with an economic slowdown. During the 1995-2000 period, total employment in the Downtown Urban Center expanded by 25%, while employment in Pioneer Square grew by about 29%, and employment in Chinatown/I.D. grew by 13%. However, from 2000-2004, overall Downtown employment declined by 16%, Pioneer Square declined by 30%, and Chinatown/I.D. in contrast rose by 42% (see Table 3-24). Pioneer Square employment was likely affected by the downturn in Internet-related business, not only through loss of office jobs but also

loss of other service, retail and tourism-related jobs. Job growth in Chinatown/I.D. over the past decade is likely attributable to growth in office employment at the Union Station complex as well as other economic activity in Little Saigon and Chinatown. The Stadium Area during this period maintained a diversity of industrial and commercial businesses (and construction employment as the stadiums were built), but trend data on the employment levels for this particular area are not available.

Table 3-24
Employment Growth Trends in South Downtown Neighborhoods, 1995-2004

Location	1995 Emp	2000 Emp	2004 Emp	% Change 1995 to 2000	% Change 2000 to 2004	% Change 1995 to 2004
Pioneer Square	10,887	13,995	9,848	29%	-30%	-10%
Chinatown/I.D.	4,099	4,646	6,588	13%	42%	61%
Downtown Urban Center	138,151	172,932	145,310	25%	-16%	5%

Source: City of Seattle comprehensive planning, 2006.

Residential and Employment Growth Targets

Seattle's Comprehensive Plan sets 20-year growth targets for Urban Centers and Urban Villages. These are planning estimates that describe how projected long-term growth should be accommodated in the city, within the framework of the urban village strategy. Individual growth targets are set for the neighborhoods within the Downtown Urban Center. These are currently set for the period of 2004 to 2024, during which the growth targets for the neighborhoods are as follows:

	Employment Growth Target	Residential Growth Target
▪ Pioneer Square:	1,000 additional households;	3,500 additional jobs
▪ Chinatown/I.D.:	1,000 additional households;	2,000 additional jobs
▪ Duwa. M&I Center:	No additional households;	9,750 additional jobs

The 75-acre portion of the Greater Duwamish MIC within the study area represents approximately 1.5% of the land area in the MIC. The building area that could be built on properties likely to be redevelopable in this area is similarly limited—accounting for only about 2.2% of the possible growth in the MIC. By this measure, the industrial-zoned portion of the study area could be seen as proportionately responsible for accommodating 215 additional jobs to meet its share of the MIC growth target.

Development Capacity Estimates

The City's Comprehensive Plan is based on analyses of available capacity for additional development in neighborhoods around the city. For all properties, the City's method compares the relative value of a building (or other improvements) to the assessed value of the land. If a site is vacant or the building's assessed value is very low compared to the land, it is rated as more likely to be redeveloped in the future. A site's capacity for future growth is calculated, allocating proportional amounts to residential and non-residential uses depending on the site zoning. This tool is best used for capacity of large areas, but does suggest which properties may be more likely to redevelop over the long-term. Capacity for non-residential uses is shown in terms of additional jobs that could be accommodated, using standard

assumptions about floor area per employee. See Table 3-27 later in this section for a comparison of existing capacity and capacity under the alternatives.

One unusual situation is Pioneer Square's shortfall in calculated development capacity compared to its 20-year growth target. In other urban villages, sufficient capacity to meet the 20-year growth target is identified using standardized assumptions about availability of property for future development. For Pioneer Square, the growth target does not rely on the standard assumptions about property availability. Rather, it anticipates that renovation of existing structures and the availability of the Qwest Field north parking lot for development can account for some of the capacity needed to meet the 20-year growth target.

ENVIRONMENTAL IMPACTS

POPULATION AND EMPLOYMENT

25-Year Growth Projections Assumed for this EIS

Livable South Downtown planning recommends actions that encourage improved livability and infill growth. Changes to zoning may stimulate more residential and employment growth than might otherwise occur if the existing zoning pattern is retained. This analysis assumes an amount of additional development will occur over a 20-25 year period, which allows for an impact analysis of future growth. Assumptions about growth align with growth projections of the Puget Sound Regional Council (PSRC) for 2030. The predicted geographic distributions of growth in the alternatives studied in this EIS represent a few hypothetical scenarios for how this amount of growth would or could be distributed throughout the study area.

The total amount of growth to be studied in Alternatives 1, 2 and 3 includes: approximately 6,000 dwelling units and nearly 24,600 additional jobs. Of these amounts, the EIS analysis projects that most of the residential growth and approximately 15,000 jobs would occur within new structures. Other projected employment growth is assumed to be accommodated within existing structures, some located within Downtown near Pioneer Square.

For the No Action Alternative (Alt. 4), the same amount of employment growth within existing structures is assumed as in the other alternatives. However, a lesser amount of employment and residential growth is assumed to occur within new structures than under the other alternatives. This describes a hypothetical growth scenario if zoning is not changed and lesser amounts of new development are stimulated. With these assumptions, the total amount of growth to be studied in the No Action Alternative is approximately 3,400 dwelling units and 16,600 jobs by the year 2030.

Population and Employment Impacts on Neighborhood Subareas

Tables 3-25 and 3-26 illustrate the distribution of projected population and employment growth that would occur in newly developed structures through 2030. This illustrates the portions of the projected growth that would most directly affect these neighborhoods.

Commentary on All Alternatives

Review of the assumed growth amounts shows they are generally consistent with the overall themes defined for the alternatives, e.g.:

- Alternative 1 would concentrate more residential and employment growth toward 1st Avenue S. and Pioneer Square

Table 3-25
Projected Residential Growth Distribution Through 2030 (Dwelling Units)

Study Subarea	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Pioneer Square north of S. Jackson St.	637	637	637	544
1st Ave. S. & Occidental Ave. corridor, north of Royal Brougham	286	69	633	69
1st Ave. S. corridor, south of Royal Brougham	0	0	0	0
Stadium North Lot and "Over-Tracks" property	956	956	956	956
Japantown: 4th, 5th Ave, Main St. vicinity (I.D.)	867	1,092	1,069	683
Central Chinatown (I.D.)	1,379	1,562	909	788
Little Saigon west of 12th Ave. S. (I.D.)	682	796	517	295
Little Saigon east of 12th Ave. S. (I.D.)	677	677	677	60
South-of-Dearborn St. vicinity	242	225	665	0
TOTALS	5,726	6,014	6,063	3,395

Notes: Distribution based on hypothetical growth scenarios within the study area, varying by zoning alternatives.

Table 3-26
Projected Employment Growth Distribution Through 2030, in Newly Developed Structures (Number of Employees)

Study Subarea	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Pioneer Square north of S. Jackson St.	0	0	0	0
1st Ave. S. & Occidental Ave. corridor, north of Royal Brougham	5,239	3,279	3,461	1,989
1st Ave. S. corridor, south of Royal Brougham	1,661	1,366	1,273	1,366
Stadium North Lot and "Over-Tracks" property	1,382	4,902	3,600	746
Japantown, 4th& 5th Ave. S. vicinity (I.D)	322	176	322	176
Central Chinatown (I.D.)	853	216	216	514
Little Saigon west of 12th Ave. S. (I.D.)	808	1,347	582	485
Little Saigon east of 12th Ave. S. (I.D.)	2,861	1,433	2,387	1,429
South-of-Dearborn St. vicinity	1,621	2,954	3,438	858
TOTALS	14,747	15,673	15,279	7,563

Notes: Distribution based on hypothetical growth scenarios within the study area, varying by zoning alternatives.

- Alternative 2 would concentrate more residential and employment growth toward 4th Avenue S. and Chinatown/I.D.
- Alternative 3 would concentrate more residential and employment growth toward 4th Avenue S. and south of Dearborn Street, as well as residential growth concentrated in Chinatown/I.D.
- Alternative 4 would result in broader distribution of residential and employment growth around these areas

These differing growth alternatives would contribute to varied amounts of increased activity, increased traffic generation, and increased density of residential and employment density in the study area. It is worth noting that a significant proportion of the anticipated growth is expected to occur in or near the Chinatown/I.D. neighborhood under any of the alternatives, likely due to the greater availability of redevelopable properties when compared with Pioneer Square.

Demographic Trends in Future Growth

Residential Populations

Patterns of future development would probably result in a wider representation of households with different income levels in the study area, due to growth in housing resources affordable to more median-income and above-median-income households over time. The Pioneer Square neighborhood plan expressed a preference for this kind of residential growth trend, which the plan theorized would bring improved stability to the neighborhood. The Chinatown/I.D. neighborhood plan does not explicitly express such a preference.

Livable South Downtown planning has identified probable benefits of increased residential development such as providing more people on the street and an increase in customers for local businesses. There is some evidence that housing growth trends are already underway, with recent new family housing, senior housing and workforce housing in Chinatown/I.D. and Pioneer Square, and a conversion of apartments to condominiums at two Chinatown buildings. See the Housing and Historic and Cultural Preservation sections in this chapter for additional discussion of potential impacts related to this trend, such as the potential for displacement of affordable housing.

Employment Populations

Future employment growth would likely consist of primarily office workers with some complementary retail and service employment growth. Future mixed-use development in the neighborhoods would also be likely to generate additional retail and service employment growth. The Dearborn Street proposal would represent the largest such concentration of retail employment growth, centered near Rainier Avenue S. and S. Dearborn Street in Little Saigon. The net effects of areawide employment growth would be a more diverse range of employees in the neighborhood than are currently present, but with increasing numbers of office workers. This would provide additional daytime populations that would patronize restaurants and small retail shops. See the Land Use—Economic and Business Impacts for further discussion of potential impacts, such as the potential for displacement of businesses.

DEVELOPMENT CAPACITY

Table 3-27 summarizes the alternatives' differing implications for overall estimated development capacity within the study area.

Table 3-27
Summary of Development Capacity Changes Under Each Alternative

Alternative & Subarea	Residential Capacity (Dwelling Units)	Commercial Capacity (Number of jobs)
Pioneer Square		
Alternative 1 – Emphasis to west	1,029	3,465
Alternative 2 – Emphasis to east	1,152	3,451
Alternative 3 – Balanced	1,031	3,461
Alternative 4 – Existing Zoning	842	3,856
Stadium Area: 1st Ave. S. corridor (not including PSM zone)		
Alternative 1 – Emphasis to west	339	9,977
Alternative 2 – Emphasis to east	0	10,105
Alternative 3 – Balanced	296	9,977
Alternative 4 – Existing Zoning	0	10,409
"Over-tracks" property: 4th Ave. S.		
Alternative 1 – Emphasis to west	318	2,396
Alternative 2 – Emphasis to east	382	3,542
Alternative 3 – Balanced	409	2,926
Alternative 4 – Existing Zoning	229	2,187
Chinatown/I.D west of I-5		
Alternative 1 – Emphasis to west	3,374	3,240
Alternative 2 – Emphasis to east	3,242	3,146
Alternative 3 – Balanced	3,068	3,481
Alternative 4 – Existing Zoning	2,922	3,637
Little Saigon		
Alternative 1 – Emphasis to west	1,947	11,359
Alternative 2 – Emphasis to east	3,492	8,826
Alternative 3 – Balanced	1,264	13,360
Alternative 4 – Existing Zoning	389	7,540
South-of-Dearborn, east of 4th Ave. S.		
Alternative 1 – Emphasis to west	135	2,360
Alternative 2 – Emphasis to east	122	2,714
Alternative 3 – Balanced	550	1,838
Alternative 4 – Existing Zoning	32	648
TOTAL		
Alternative 1 – Emphasis to west	7,142	32,797
Alternative 2 – Emphasis to east	8,319	31,784
Alternative 3 – Balanced	6,640	35,043
Alternative 4 – Existing Zoning	4,414	28,277

MITIGATION STRATEGIES

No mitigation measures are proposed in this section. Differences in distributions of population and employment growth among the alternatives would generate varying levels of impacts within other environmental categories. Please see the analyses and mitigation strategies recommended for the other sections in this chapter.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

None are identified.

HISTORIC AND CULTURAL PRESERVATION

AFFECTED ENVIRONMENT

HISTORIC PRESERVATION

Overview

The Livable South Downtown study area includes two designated historic districts in the Chinatown/ International District and Pioneer Square neighborhoods (see Figure 3-21). These neighborhoods are important areas for Seattle's early history, providing distinctive settings for working, living, recreation and other community activities. Further descriptions of the neighborhoods' physical qualities are provided in the Land Use sections earlier in this chapter.

City policies protect the two historic neighborhoods through several means. Special Review Districts were established to provide oversight of physical development with the intention of preserving historic, social, cultural and economic features. National Register Historic District designations in both neighborhoods further underscore their historic and cultural importance and provide guidelines for development. In areas outside the Special Review Districts, regulatory processes such as designation of new landmarks, use of SEPA authority and the design review process are available to protect landmarks and address aesthetic character of new development.

See Appendix H for further discussion of the districts, their history, and new inventory of existing buildings in parts of the study area. See Appendix I for a list and map of Pioneer Square properties that contribute to the historic district.

Rationales for Preservation

The City's Land Use Code includes distinct justifications for the preservation of the Pioneer Square and Chinatown/I.D. in the description of the Special Review Districts for these neighborhoods (see SMC sections 23.66.100 and 23.66.302).

Pioneer Square

Pioneer Square's "Reasons for designating the Pioneer Square Preservation District" listed in section 23.66.100 include the following:

1. *Historic Significance. The Pioneer Square Preservation District is unique because it is the site of the beginning of the City of Seattle. The area also retains much of the original architecture and artifacts of its early history. The District has played a significant role in the development of Seattle, the Puget Sound region and the State of Washington. It was the first location of industry, business and homes in early Seattle and the focus of commerce and transportation for more than a half century.*
2. *Architectural Significance. As a collection of late nineteenth and early twentieth-century buildings of similar materials, construction techniques and architectural style, the District is unique, not only to the City but to the country as well. Most of the buildings within the District embody the distinctive characteristics of the Late Victorian style. Many buildings are the work of one architect, Elmer H. Fisher. For these and other reasons, the buildings combine to create an outstanding example of an area that is distinguishable in style, form, character and construction representative of its era.*

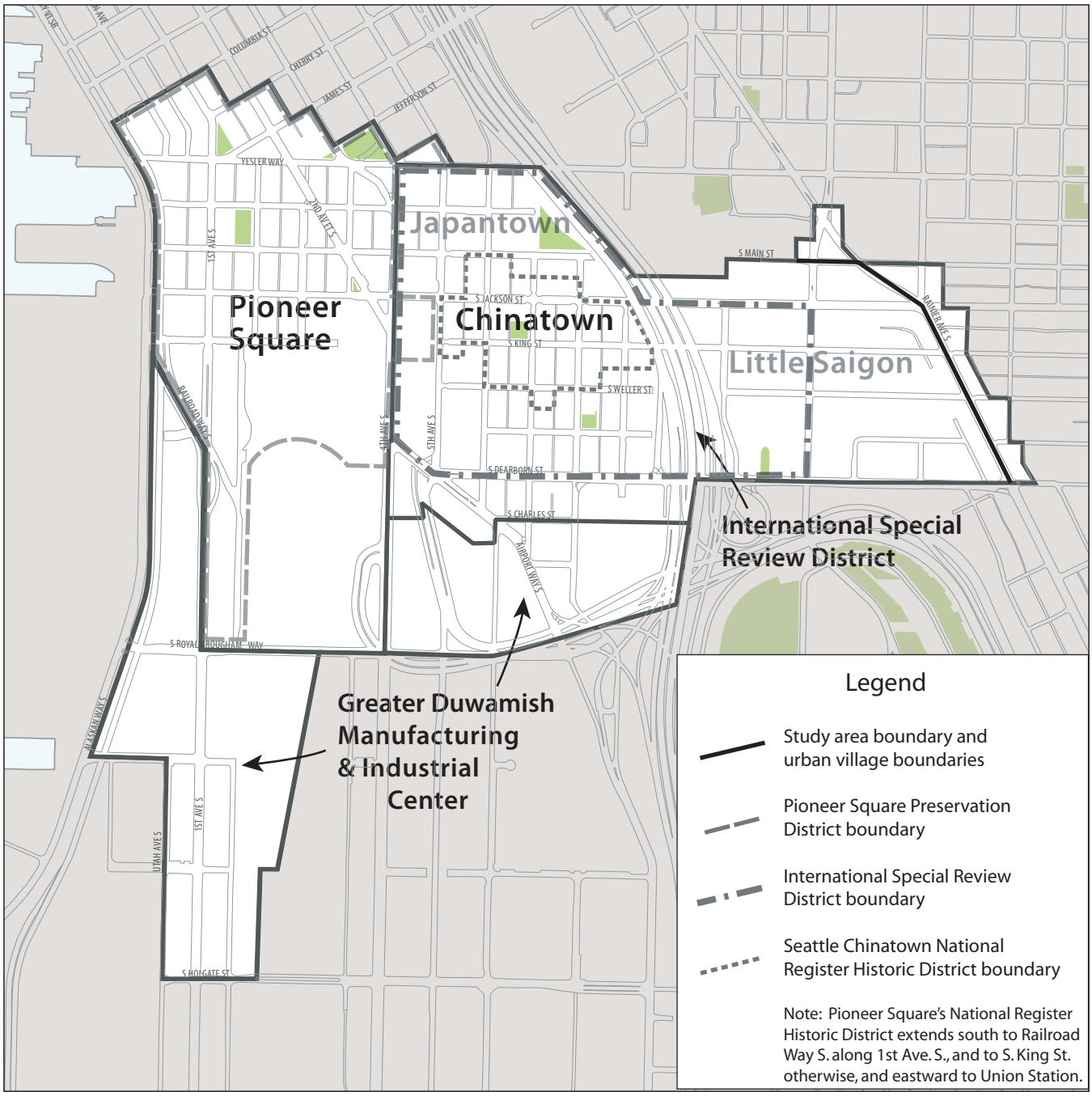


Figure 3-21

Preservation District & National Register Historic District Boundaries

Earlier in section 23.66.100, key purposes for the Preservation District include the following:

- "*preserve, protect and enhance the historic character of the Pioneer Square area and the buildings therein;*
- *Return unproductive structures to useful purposes;*
- *Encourage a variety of new and rehabilitated housing types for all income groups;*
- *Improve visual and urban relationships between existing and future buildings and structures, parking spaces and public improvements within the area; and*
- *Encourage pedestrian uses.*

Additional reasons for the Preservation District relate to social diversity, enhancing its business and economic environment, its geographic location, and the educational significance and value ascribed to preserving the unique environment of Pioneer Square.

International District

Several goals and objectives are listed for the International Special Review District. Description in SMC 23.66.302 of the Land Use Code indicates that the International Special Review District is established "*to promote, preserve and perpetuate the cultural, economic, historic and otherwise beneficial qualities of the area, particularly the features derived from its Asian heritage, by:*

A. Re-establishing the District as a stable residential neighborhood with a mixture of housing types;
B. Encouraging the use of street-level spaces for pedestrian-oriented retail specialty shops with colorful and interesting displays;
C. Protecting the area and its periphery from the proliferation of parking lots and other automobile-oriented uses;
D. Encouraging the rehabilitation of existing structures;
E. Improving the visual and urban design relationships between existing and future buildings, parking garages, open spaces and public improvements within the International District;
F. Exercising a reasonable degree of control over site development and the location of off-street parking and other automobile-oriented uses; and
G. Discouraging traffic and parking resulting from Kingdome [now Qwest and Safeco Fields'] *events and commuters working outside the District.*

In addition, the goals and objectives of the vicinity's primary zone, International District Mixed (IDM), indicate this zone shall "*recognize and promote the area's unique social mix and urban design character. This area is the core of the International District which exemplifies Asian culture. A wide range of uses, including street-level retail, housing development above street level, and the rehabilitation of existing buildings, shall be encouraged to provide a diversity of residential opportunities. Specific objectives include the following:*

A. To maintain and protect the International District core as an Asian cultural, retail and residential center;
B. To allow flexibility and discretion in land use controls, regulations and guidelines to address present conditions and those which may develop in the future;
C. To protect, preserve and promote small retail and commercial businesses;
D. To encourage development of housing above street level;
E. To encourage the rehabilitation of existing buildings; and
F. To assure new development compatible in scale and character with existing buildings.

Special Review Districts and Boards

The responsible agencies for these districts are the Special Review Boards for each neighborhood: the Pioneer Square Preservation Board and the International District Special Review Board. Board members review changes to the use and exterior appearance of buildings, streets, sidewalks and other public spaces in the district. When the Board has completed its review it makes recommendations to the Director of the Department of Neighborhoods, who is responsible for issuing Certificates of Approval. Neighborhood-specific zoning and Land Use Code regulations for these districts have been in place since at least 1985.

The Pioneer Square Preservation District encompasses all of the area zoned in Pioneer Square Mixed plus the Union Station property east of 4th Avenue S. The International Special Review District encompasses the area within the International District Mixed and International District Residential zones and also extends east of I-5 and south of S. Jackson Street to 12th Avenue S. (refer to Figure 3-21).

National Register Historic Districts

The National Park Service has designated much of Pioneer Square and part of the Chinatown/I.D. neighborhood as National Register Historic Districts, signifying their historic importance and educational value. The S. King Street and S. Jackson Street corridors west of I-5 are the center of the Chinatown/I.D. National Register Historic District, which also includes the area between S. Main Street and S. Weller Street and one property south of S. Weller Street (refer to Figure 3-21). This recognizes the largest cluster of buildings with significant historic and architectural value.

New Analysis of Potential Landmark Resources in Portion of Study Area

A consultant was engaged to conduct a survey and evaluation of those areas not previously surveyed for possible historic landmark structures (see Appendix H). This included portions of the Chinatown/I.D. neighborhood, south-of-Dearborn vicinity and part of the Stadium Area vicinity. The survey identified the following locations as those that "may" meet the landmark status, shown in Table 3-28 and Figure 3-22.

Table 3-28
Locations that "May Meet Seattle Landmark Designation Criteria"
in the Livable South Downtown Study Area

Little Saigon and vicinity	South-of-Dearborn	Stadium Area
A. Residential duplex, 500 12th Avenue S.	E. NePage McKenney Co./ Pacific Fish Co./Wan Hua Foods, 804 6th Avenue S.	I. WOSCA freight house, 801 1st Avenue S.
B. Canton Noodle House, 504 12th Avenue S.	F. Federal Immigration Services (former INS Bldg.), 815 Airport Way S.	J. National Grocery Co. Warehouse (Salvation Army Thrift Store), 1000 4th Ave. S.
C. West Coast Printing, 622 Rainier Avenue S.	G. Romaine Electric Building/ Washington Iron Works, 1101 Airport Way S.	K. McKinnon Furniture Bldg., 1518 1st Avenue S.
D. Nissei Veterans Committee Hall, 1212 S. King Street	H. Crescent Manuf. Co./RDA Bldg., 800 Maynard Avenue S.	L. Kellogg's Warehouse/Wine Outlet Shop, 1701 1st Ave. S.
		M. Industrial Rebuild Inc., 1712-1714 1st Avenue S.
		N. Buckner-Weatherby Machinery Bldg., Guardian Security, 1743 1st Avenue S.

Source: Beth Dodrill Consulting, 2007

Figure 3-22

Locations outside of National Register Historic Districts that "May Meet Landmark Designation Criteria"

The former INS building is already on the National Register of Historic Places, but has not been designated as a Seattle landmark. Similarly, the Japanese language school building at 1414 S. Weller Street, the Victorian Row Apartments at 1234 S. King Street, and the 12th Avenue S. bridge are also listed in the National Register.

The survey also examined structures in a few areas adjacent to and outside of the Livable South Downtown study area. Within these nearby areas, other surveyed buildings "may meet Seattle landmark designation criteria." These include: the Seattle Buddhist Church school building at 1416 S. Jackson Street; Antioch Baptist Church at 1445 S. Main Street; the Bemis Building at 55 S. Atlantic Street; and the Budd & Co. Automotive building at 800 Rainier Avenue S.

See Appendix H for discussion of the historic context of the neighborhoods across the study area.

CULTURAL PRESERVATION

The Pioneer Square and Chinatown/I.D. neighborhoods each contribute a distinctive character to Downtown Seattle. They are enjoyed by many Seattle residents, visitors, employees and businesspeople. But their value also has social and cultural dimensions. For some persons, these neighborhoods contain affordable housing, social networks, and supportive services like food banks and health care providers. The Chinatown/I.D. neighborhood in particular also is an environment that reflects and supports the cultural heritage and lifestyles for many members of the community. Public comments have articulated the importance of these neighborhoods as places to gather, socialize and conduct business, which helps many individuals get a foothold in the business world. These factors tend to provide a sense of belonging and a "place to call one's own."

ENVIRONMENTAL IMPACTS

HISTORIC PRESERVATION

Relationship to Livable South Downtown Planning

Livable South Downtown planning has considered historic preservation in the neighborhoods within the study area. It has considered the extent to which specific types of actions might result in adverse impacts, directly or indirectly, on designated historic resources. This has influenced the development of zoning alternatives, the pursuit of strategies such as those relating to bonuses and transfer of development rights, and further research to assess whether as-yet undesignated landmark resources are present in the study area. The potential for impacts relates not only to the magnitude of change in zoned development capacity, but also to the geographic distribution of the historic resources. These are different for each of the neighborhoods studied, and vary by zoning alternative as well. Further, the rationales and objectives for the Special Review Districts for Pioneer Square and Chinatown/I.D. neighborhoods have a bearing on the interpretation of impacts.

Impacts to Historic Resources

Pioneer Square

The City's policies emphasize the neighborhood's historic and architectural significance—including its well-preserved neighborhood setting comprised of numerous buildings with high-quality and intact architectural detailing. The Land Use Code and Preservation Board review processes anticipate that new uses and changes in use of existing structures will occur over time, but require such uses to maintain a high degree of compatibility with the character of the neighborhood. Review processes over the years

have proven to be rigorous in maintaining standards of architectural and visual consistency. Similarly, land use rules have maintained the neighborhood's character and mix of uses.

Future development would likely continue to be held to a high standard of architectural quality and compatibility with neighborhood character in order to receive approvals. Given the Preservation Boards' track record and the limited extent of proposed changes, the probability is low for significant adverse impacts related to architectural, visual and urban design compatibility. At the same time, infill development would contribute to increasing continuity of street-level uses and the overall vitality and attractive aesthetic values of Pioneer Square.

Relationship to height and scale impacts

The alternatives generate the potential for impacts to the historic character of the districts by encouraging future development that could vary from the height and scale of historic structures in the Pioneer Square and Chinatown/I.D. historic districts. In the Pioneer Square core, the alternatives include options that could: raise height limits as high as 130 feet for non-historically-contributing properties (Alternative 1); could allow 130-foot infill development on non-historically-contributing properties but also define a mix of other subarea-specific height limits in the 85-120 foot range (Alternative 2); or could set a consistent height limit at 100 feet (Alternative 3). Of these, the increase to 130 feet for non-historically contributing properties in the Pioneer Square core would have the greatest potential for adverse impacts to historic resources, while lower height options would have lesser potential for adverse impacts related to building height.

At the west edge of 4th Avenue S., height limits of 180 feet at the "railroad gap" properties under Alternative 1 would generate probable significant adverse height-related impacts by introducing a scale of development that could be incompatible with adjacent historic structures. Under Alternative 2, height limits to 150 feet in that same vicinity would encourage a somewhat lower scale of development than Alternative 1, with a somewhat lesser potential for adverse impacts. See the Land Use—Height, Bulk, Scale and Compatibility section in this chapter and Appendix B.

Conclusions about historic preservation impacts are related to the identified potential for significant adverse height-related impacts at the "railroad gap" properties, because juxtapositions of new buildings at significantly taller heights could adversely affect the perception of the historic district's ensemble of historic buildings. The Land Use—Height, Bulk, Scale and Compatibility section in this chapter proposes mitigation strategies to address these significant height-related impacts under Alternatives 1 and 2, which would also help mitigate historic preservation impacts as well.

Potential effects on developability of historically-contributing properties

Increases to height limits for historically-contributing properties in Pioneer Square, if they occurred, would increase the development potential of those properties because there is no density limit. Whether that potential could be realized depends on the effectiveness of regulations pertaining to development and demolition of Pioneer Square historic-contributing buildings. Land Use Code provisions and Historic District guidelines encourage preservation of existing historic buildings in Pioneer Square while discouraging demolition of those buildings. However, one concern is that intentional disinvestment in historic buildings could occur, to the point that buildings would deteriorate and demolition approval would finally be granted. Another concern is that property owners could sue, seeking a judgment that confirms an economic-hardship justification for demolition.

In both cases, increasing the development potential on historic-contributing properties can be interpreted as increasing the risks of these actions occurring. This could result in significant adverse impacts on the Pioneer Square historic district, if significant height increases affecting historically-contributing

properties are pursued. Alternative 2 includes increases to height limits on a small number of historic-contributing properties near 3rd Avenue S. However, due to the probable significance of this impact, this type of zoning change is not likely to be recommended for those properties. Rather, the recommended mitigation strategy in the Land Use—Height, Bulk, Scale and Compatibility section is to confine this potential Alternative 2 rezone only to the "railroad gap" properties abutting the west edge of 4th Avenue S.

Chinatown/Japantown

The goals and objectives listed for this neighborhood's Special Review District recognize that the neighborhood's value lies not merely in its historic architectural and visual qualities but also in its value as a residential, social, cultural and economic activity center of Asian culture and heritage. This outlook influences the nature of regulations for the neighborhood. The well-defined boundaries of the National Register Historic District and an "Asian design character district" reflect the land use patterns of a concentrated historic core area that is adjacent to lower-density buildings with non-historic architectural design and parking lots. Accordingly, rules for development outside the "Asian design character district" are somewhat more flexible regarding compatibility with historic architecture than those within the character district (see SMC 23.66.336). These differences in relative sensitivity to historic character have a bearing on the interpretation of historic preservation impacts of the alternatives.

Relationship to height and scale impacts

The Livable South Downtown planning process includes a strategy to avoid rezones within the National Register Historic District except one overlap with the Publix Hotel property as part of Alternative 2. This strategy limits the potential for adverse impacts to historic resources in the Chinatown/Japantown vicinity by avoiding zoning changes that would result in potentially higher property valuations and increased development capacity that could adversely affect existing historic buildings' long-term use and existence.

Alternative 2 presents the greatest potential to directly alter the National Register Historic District. Alternative 2 would establish a 125-foot height limit in an IDM zone within the block bounded by 5th and 6th Avenues S., S. Weller Street to the south and S. King Street to the north. The Publix Hotel property on this block is part of the National Register Historic District, but other parts of the block are not. The block is located at the western end of the S. King Street corridor. This zone change would likely result in significant adverse impacts related to land use and height/bulk/scale elements of the environment, due in part to the sensitivity to historic character within and immediately adjacent to the National Register Historic District. Similarly, a conclusion is reached that significant adverse impacts on historic preservation could occur. This does not mean that height limits to 125 feet cannot be adopted for this block, but if so, mitigation strategies to further influence consistency of future development with historic character should be implemented.

Other potential adverse impacts to historic character could occur in other locations where proposed zoning changes are adjacent to but not within the existing National Register Historic District: near 5th Avenue S./S. Jackson Street, and along S. Weller Street, under Alternatives 1 and 2.

- Near 5th Avenue S./S. Jackson Street, the height/bulk/scale analysis suggests that an increase in allowable height to 240 feet (Alternative 1) would avoid significant adverse height, bulk and scale impacts on the adjacent Chinatown and Japantown vicinities, due to the positive influence of recommended bulk controls such as upper level setbacks and floor size limits. Increased allowable heights to 180 feet (for Alternatives 2 and 3) would have less potential to generate height, bulk and scale impacts than Alternative 1, also due in part to bulk controls included in these alternatives. Under these alternatives, the future development's bulk and proximity to

adjacent historic-contributing structures is interpreted to represent an adverse historic preservation impact but not a significant adverse impact.

- Along S. Weller Street, the height/bulk/scale analysis suggests that only two or three quarter-block properties abutting the south side of S. Weller Street are likely to experience future development under the 125-foot zoning (Alternatives 1 and 2). This would limit the total exposure of the National Register Historic District north of S. Weller Street to the potential adverse impacts of taller building height, bulk and scale (see Figure 3-23). For all except one historic property that is south of S. Weller Street, the physical separation provided by the S. Weller Street right-of-way would represent a buffer to the historic district. Recommended bulk controls would also help moderate potential adverse impacts. Therefore, under Alternatives 1 and 2, proposed zones south of S. Weller Street are not expected to result in significant adverse impacts on historic resources. Alternative 3 does not include the 125-foot height limit proposal south of S. Weller Street, and so has no potential for adverse impacts.

Alteration of IDR-150' bulk limits would affect certain historically-contributing Japantown properties

Currently, restrictive bulk limits in the 150-foot zone discourage a full-height building. As a result, recent development in this zone has been to heights up to 75 feet. Proposed changes to the IDR 150' zone's bulk limits would enable somewhat more flexible building forms that could increase the financial feasibility for buildings to be built to the maximum 150-foot height. The proposed changes would affect zoning on some National Register Historic District properties in the Japantown vicinity near 6th Avenue S. and S. Main Street, including the Panama Hotel, Northern Pacific (N-P) Hotel, Main Street School Annex and Russell Building.

In a worst case scenario, the changes to the IDR 150' zone could increase pressure for redevelopment of structures that comprise the core of the historic Japantown neighborhood. The Department of Neighborhoods and the International Special Review District Board would continue to ensure that these historic structures are protected. However, similar to Pioneer Square, intentional disinvestment or litigation could potentially lead to the eventual granting of demolition and/or development permits. Given the sensitivity of historic-contributing buildings within the National Register Historic District, this change has the potential to result in significant adverse impacts to historic resources.

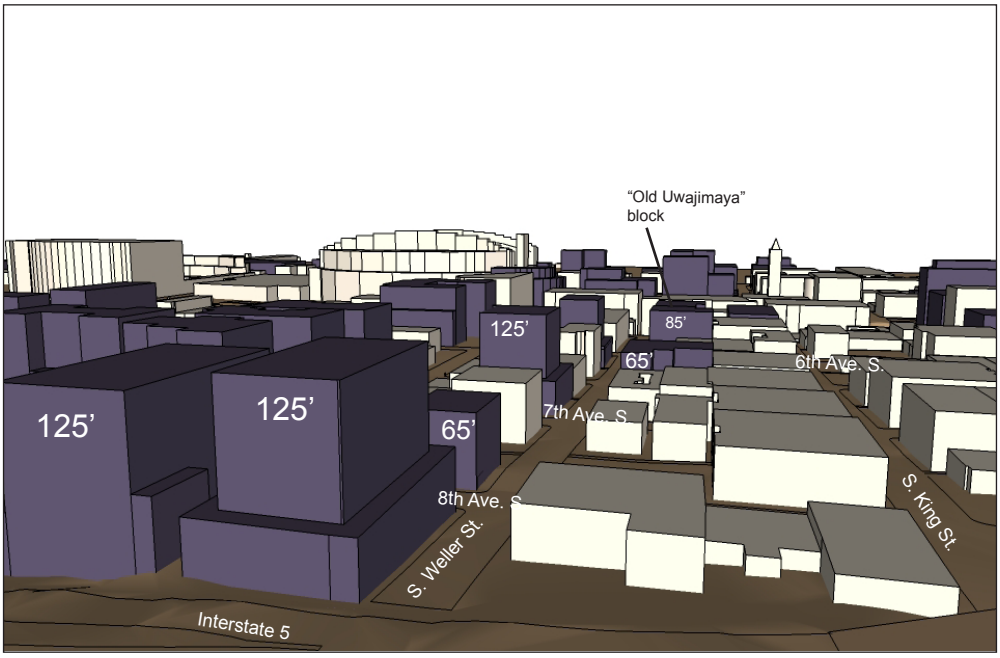
Proposed bonus and transfer of development rights (TDR) mechanisms are not likely to result in significant adverse impacts related to developability of historic structures (see the Housing section in this chapter for further discussion). Proposed bonus and TDR programs are likely to have positive long-term effects in securing the retention of structures in the National Register Historic District so long as they are oriented to maintaining and rehabilitating existing historic-contributing structures.

Little Saigon (Chinatown/I.D.)

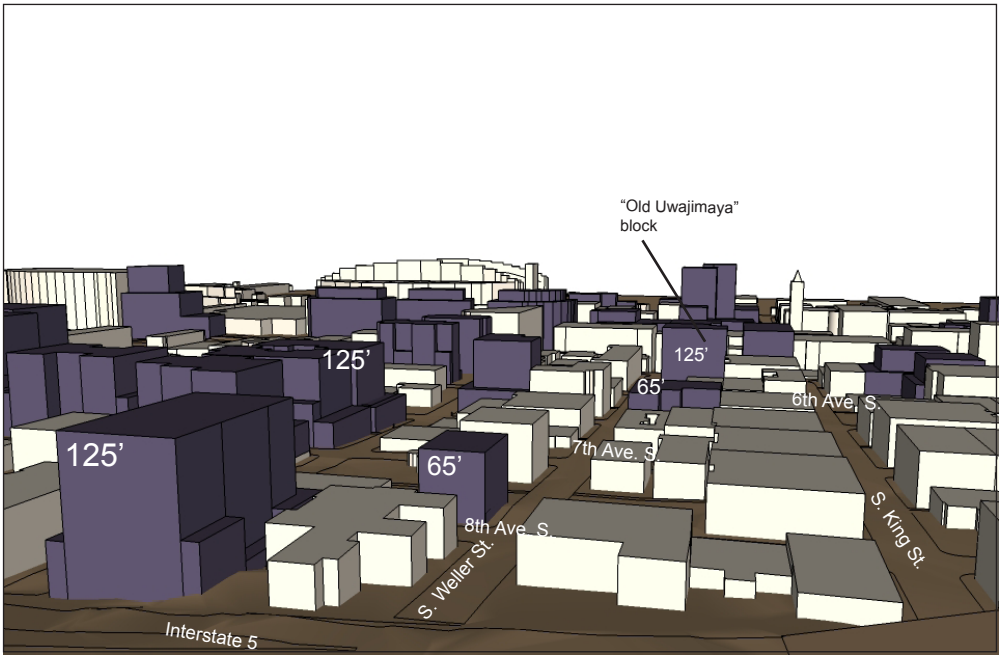
The Victorian Row Apartments is the only current landmark structure in this vicinity. It is owned by Historic Seattle, a non-profit entity that has a long-term agreement to retain the historic structure. Under Alternatives 1 and 3, the proposed NC3 85' zone would allow future development approximately 20 feet higher than current zoning. This modest increase in development capacity on this landmark property could potentially adversely affect the long-term retention of this historic resource. However, due to the relatively small increment of change, this would be considered only a minor adverse impact.

The 125-foot height proposed under Alternative 2 would further increase the potential for adverse impacts on the Victorian Row Apartments due to the greater increase in development capacity. However, as an existing landmark, it would be subject to further SEPA review and Landmark Board review if it was

Alternative 1



Alternative 2



Note: Hypothetical buildings shown, per the EIS growth scenario, except additional buildings shown on sites abutting S. Weller Street (Alt. 1) and on "old Uwajimaya" block (Alt. 2), for illustrative purposes.

Figure 3-23
View west from Interstate 5 at S. Weller St.

proposed for demolition. Adjacent properties would also be subject to SEPA review to assess whether mitigation measures are needed to help new adjacent development complement this property. Protections afforded to designated landmark structures would help to reduce or avoid significant adverse impacts on this landmark.

Locations that "May Meet Landmark Designation Criteria"

Sites listed in Table 3-28 that may meet criteria for landmark designation could be subject to future development. City policies indicate that existing structures that may qualify for landmark designation be referred to the City's Department of Neighborhoods for an evaluation of their consistency with the landmark designation criteria. This would be expected to occur on a site-by-site basis if or when these properties are proposed for re-development. It is not known at this time which of the sites listed in Table 3-28 would meet landmark designation criteria. Because this process is already established in City policies, and because the potentially affected properties have now been inventoried, there is only a low risk that a potential landmark would be affected in a significant adverse manner by future development related to proposed Livable South Downtown zoning changes.

In addition, four buildings identified in Table 3-28 are located in the vicinity of 1st Avenue S. south of S. Atlantic Street where zoning changes are not likely to occur. These are the buildings labeled as "K, L, M and N" in Table 3-28. The only relevant Land Use Code change under consideration in that vicinity is, under Alternative 3, the possibility of lodging uses being authorized as an allowed use.

CULTURAL PRESERVATION

Chinatown/I.D. neighborhood

An important goal of Livable South Downtown planning relates to ensuring that the social and cultural qualities in the neighborhood can be maintained. This may include land use actions that help preserve physical characteristics of the neighborhood and that also maintain residential and business activity.

The EIS analyses cannot eliminate a worst-case possibility that displacement of individual uses or structures that contribute to cultural character might occur. Such trends might occur with or without zoning changes, due to long-term economic forces, turnover in business ownership, and physical decay of structures that form the historic core of the neighborhood. The Housing section of this chapter identifies the potential for displacement of affordable housing resources in parts of Japantown. The Business and Economic Impacts section identifies certain risks of impacts at varying levels in Little Saigon and the Chinatown core. However, due to lack of compelling evidence, no specific finding of a significant adverse impact related to cultural preservation is made in this EIS.

Livable South Downtown planning has identified possible strategies that would assist in helping to protect Asian American culture that is expressed through the physical and social environment of Chinatown/I.D. These include:

- Programs to generate funds for affordable housing to avoid displacement of existing low-income residents in the neighborhood;
- Programs to support the preservation and rehabilitation of historic buildings, many of which contain culturally significant design features;
- Technical assistance programs to encourage retention of existing businesses in Chinatown/I.D.
- Retention of existing height limits in core businesses areas in Chinatown/I.D. in order to avoid gentrification pressures in these areas.

Livable South Downtown planning also supports retention and updating of Special Review District rules and standards for future development, with continued attention to ensuring high levels of compatibility with the historic and cultural qualities of the district, particularly within the National Register Historic District. When possible, rules should also be adjusted to accommodate common business practices—such as use of sidewalks for vegetable display stands—that may not be consistent with existing street use regulations.

MITIGATION STRATEGIES

Pioneer Square

Alternative 1

- If Alternative 1 zoning with 180-foot height limits is favored for the "railroad gap" properties at the west edge of 4th Avenue S., implement mitigation strategies recommended in the Land Use—Height, Bulk, Scale and Compatibility section to avoid significant adverse historic preservation impacts.

Alternative 2

- If Alternative 2 zoning with 150-foot height limits is favored for the "railroad gap" properties, implement mitigation strategies recommended in the Land Use—Height, Bulk, Scale and Compatibility section to avoid significant adverse historic preservation impacts.

Chinatown/I.D.

Alternative 2

- See the mitigation strategy proposed in the Land Use—Height, Bulk, Scale and Compatibility chapter, with respect to height, bulk and scale impacts at the block bounded by 5th and 6th Avenues S. and S. King and S. Weller Streets.

Alternatives 1, 2, 3

- Consider whether a portion of the National Register Historic District near 6th Avenue S./S. Main Street should be subject to IDR 150' zoning, which if amended in its bulk controls could increase these properties' attractiveness for future redevelopment. Alternatively, these properties could be included in a lower-height zone to maintain protection against future development pressures.

Little Saigon

Alternative 2

- Ensure that potential zone choices to a maximum height of 125 feet in Alternative 2 in Little Saigon would result in sufficient bulk controls to maintain compatible conditions with adjacent landmark structures, specifically in relation to the Victorian Row Apartments. Consider whether other measures are needed to further protect the long-term status of the Victorian Row Apartments if that property is included in rezones that increase development capacity.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

With implementation of mitigation strategies to address the identified significant adverse historic preservation impacts of the alternatives, no significant unavoidable adverse impacts are expected to occur.

PUBLIC VIEW PROTECTION

AFFECTED ENVIRONMENT

This section discusses view impacts based on the City's SEPA Public View Protection policies, including the topics of public viewpoints, views of landmarks and views from scenic routes. Where possible, the impact analysis in this EIS attempts to identify the additional increment of view impact attributable to the alternatives and the relative differences in impacts among the alternatives.

EXISTING PUBLIC VIEWS PROTECTED BY ENVIRONMENTAL POLICIES

The City's SEPA rules provide protection for certain defined public views and views toward historic landmarks. The section on Public View Protection indicates, "*The City has developed particular sites for the public's enjoyment of views of mountains, water and skyline and has many scenic routes and other public places where such views enhance one's experience"* (SMC 25.05.675 P). The natural and human-made view subjects include: Mount Rainier, the Olympic and Cascade Mountains, the Downtown skyline, and major bodies of water including Puget Sound, Lake Washington, Lake Union and the Ship Canal. The city does not protect views from private property (see the beginning of the "Environmental Impacts" discussion for relationship of such views to rezones).

Public Viewpoints

In an attachment, 87 public locations are identified where public views are to be protected. Of these, only four locations have a view relationship to South Downtown:

- **Kobe Terrace Park and the Danny Woo International District Community Garden**—Sixth Avenue/S. Washington Street south to S. Main Street
- **Harborview Hospital Viewpoint**—Eighth Avenue and Jefferson Street
- **Jose Rizal Park**—12th Avenue S. and S. Judkins Street
- **U.S. Public Health Service Hospital ("Pac-Med Building")**—1131 14th Avenue S.

The nature of the view relationships to South Downtown are discussed below.

Kobe Terrace and Danny Woo community garden

Two references in the special review district code for the International District pertain to Kobe Terrace Park (SMC 23.66.306 and 23.66.332). One of the goals for the International District Residential (IDR) zone is "*the design, siting, and construction of structures which minimize view blockage from Kobe Terrace park and from existing structures which are used primarily for residential purposes.*" Similarly, a height provision requires review of rooftop features for the sake of preserving views from the park. The International Special Review District Board makes decisions on development proposals in this vicinity. The IDR zone's height limit is set at 150 feet, but the newest developments in the IDR zone have not exceeded approximately 75 feet.

Kobe Terrace Park and Danny Woo Garden lie on a south and southwest-facing slope north of S. Main Street in the Maynard Avenue S. vicinity. Quite a few locations offer southerly views, but in several locations the park's trees obscure views toward distant features. A westward view is also possible in several garden locations, through two narrow parking lots framed by residential buildings, with views toward Elliott Bay, the southern end of the Olympic range and the Smith Tower. A southwesterly view is also available from some locations, over buildings in the foreground toward Qwest Field and the SR 99 viaduct, with Harbor Island and West Seattle in the background. Kobe Terrace also includes a plaza area at the terminus of S. Washington Street west of I-5, which offers westward views down S. Washington

Street toward Pioneer Square and Elliott Bay. This view is essentially limited to the existing street corridor by existing buildings and street tree vegetation (see Figure 3-24). From this vantage point, the visible Pioneer Square buildings appear low-scaled, revealing a portion of Elliott Bay in the background. The existing building on the south side of S. Washington Street, built about 20 years ago, infringed on the range of views that were formerly available from Kobe Terrace Park

Harborview Hospital Viewpoint

Harborview Hospital Viewpoint is perched on a parking garage above and east of I-5, with views in a 180-degree arc toward the office core, Elliott Bay, Pioneer Square, West Seattle, Olympic Mountains, Duwamish lowlands and even Mount Rainier to the south. From this high vantage point, Pioneer Square lies in the midground, appearing as a relatively uniform collection of boxy buildings, with the Smith Tower, Frye Hotel, King Station clock tower and athletic stadia the most visually prominent features (see Figure 3-25). A King County government office building is under construction, visually relating more to the collection of Downtown office buildings than the South Downtown study area. This building will block a small view segment in the direction near Smith Tower. In addition, a future possible development just north of Yesler Way between 5th and 6th Avenues could affect views from this viewpoint in the future—interrupting views toward a segment of central Pioneer Square.

Further to the south and east, Chinatown is visible in the midground over to approximately I-5, with visually prominent buildings including the Union Station office buildings, the Downtowner apartment building, and the Ticino apartments and new Washington Terrace senior apartment building appearing in the foreground near 6th Avenue and Yesler Way (see Figure 3-25). I-90 ramps are also noticeable but at the far edge of the midground. Elements of the view's background include the Duwamish industrial area, industrial operations in the Harbor Island vicinity, and the slopes of West Seattle extending toward Duwamish Head.

Jose Rizal Park

At the northern point of Beacon Hill, this park provides a signature view of the Seattle skyline as well as expansive western views of Puget Sound, the Olympic Mountains, West Seattle and South Downtown (see Figure 3-26). In the foreground, the I-90 ramps lie in front of the south-of-Dearborn vicinity. In the midground, Qwest Field is the most prominent view element, with the Union Station office complex nearby to the north.

Pac-Med Building

Given the proximity to Jose Rizal Park (just across the street), northwestern views from this hospital property are relatively similar to the park's views (see Figure 3-26). However, the best views toward Downtown on this facility's grounds also include Little Saigon properties west of 12th Avenue S. in the lower foreground, visually below the Downtown skyline.

View Protected Landmarks

SEPA specifies "*it is the City's policy to protect public views of historic landmarks designated by the Landmarks Preservation Board, which, because of their prominence of location or contrasts of siting, age, or scale, are easily identifiable visual features of their neighborhood or the City and contribute to the distinctive quality or identity of their neighborhood or the City.*" This typically would apply to a project-specific review affecting only one designated historic landmark. It is also broadly applicable for this programmatic SEPA review of two historic neighborhoods with landmark districts. The City's policies, codes and SEPA authority collectively provide for the protection of the visual integrity and historic character of the neighborhoods, including the urban environmental context of the dozens of buildings that form that character.

Existing View Looking South from Danny Woo Garden

View West from Kobe Terrace

Existing View Looking West from Danny Woo Garden

View 1/2-Block West of Kobe Terrace

Figure 3-24
Existing Views From Danny Woo Garden and Kobe Terrace (S. Washington St.)

Existing Conditions

Note: This viewpoint is located on a garage on the west side of Harborview Hospital, near Interstate 5.

Figure 3-25

Existing View Looking Southwest from Harborview Viewpoint

Existing View Looking West from Jose Rizal Park

Existing View Looking Northwest from "Pac-Med" (Amazon) Building grounds

Figure 3-26

Existing Views Looking West from Jose Rizal Park and Northwest from the Amazon Building

Scenic Routes

The City's SEPA policies address the protection of public views from City streets designated as scenic routes. In relation to South Downtown, these scenic routes include:

- Yesler Way
- S. Jackson Street
- 12th Avenue S. south of S. Jackson Street
- Rainier Avenue S. south of S. Jackson Street
- a small segment of 4th Avenue S between S. Dearborn Street and Royal Brougham Way, plus Royal Brougham Way extending west to approximately Occidental Avenue S.
- Interstate 5, Interstate 90 and the Alaskan Way Viaduct

The nature of the scenic route relationships to South Downtown are discussed below.

Yesler Way

This scenic route provides views of the study area from the east. As westbound travelers on Yesler Way approach and cross I-5, the overpass bridge offers a view primarily toward Downtown buildings and down Yesler Way to Elliott Bay and the Olympics. The recently-built Washington Terrace Building impairs other southeasterly views that were formerly possible. Down the hill directly to the west, the Smith Tower and the Frye Hotel are prominent view elements.

S. Jackson Street

This scenic route provides primarily local streetscape views of the Pioneer Square and Chinatown/I.D. neighborhoods. Its modest downslope toward the west provides some broader views for westbound travelers, but I-5 overpasses are a visual interruption along this route. In Pioneer Square, the westward views open up to Elliott Bay, but the Alaskan Way Viaduct is a visual interruption in this vicinity.

12th Avenue S.

This scenic route provides views westward primarily at the 12th Avenue S. Bridge crossing S. Dearborn Street, with views similar in nature to those described above for Jose Rizal Park. Views southward are toward the prominent Pac-Med Building at the northern tip of Beacon Hill, also including local streetscape views.

Rainier Avenue S.

This scenic route provides local streetscape views and distant views south toward Mount Rainier. Its downslope toward the south also affords views of the commercial Rainier Avenue S. corridor in the midground, with an upslope toward the east limiting views in that direction.

4th Avenue S. and Royal Brougham Way

Northbound travelers on 4th Avenue S. see a pleasant skyline view with King Street Station's tower in the foreground, and other Pioneer Square and Downtown buildings. Travelers on Royal Brougham Way view the exhibition center and Safeco Field facades to the north and south, a view quite different than the Downtown skyline view when this scenic route designation was originally approved.

Interstate 5 and Interstate 90

The Interstate 5 scenic route affords a limited number of views of the study area. Southbound I-5 motorists glancing to the right see a few buildings near 6th/Yesler Way, then a series of brief views overlooking Chinatown. Northbound motorists approaching Downtown have a few opportunities to view

the South Downtown vicinity in the midground with the Downtown skyline in the background. Safeco Field and Qwest Field are visual landmarks from the northbound I-5 locations where views are possible. Approaching the Little Saigon vicinity on northbound I-5, brief views consist of a few low-scale buildings nearest to the freeway bridge from S. Weller Street to S. Jackson Street on 10th Avenue S., and the Pacific Rim Center at S. Jackson Street adjacent to I-5.

Interstate 90 affords a couple of views toward the study area, including a view toward Little Saigon from the south and a westward view toward Chinatown from ramps that merge with I-5. The view of Little Saigon includes some of the buildings on S. Weller Street and buildings further north, but is somewhat impaired by the freeway sidewalls. The view toward the west is a perspective toward Qwest Field with the Dearborn Street vicinity in the midground.

Alaskan Way Viaduct

The SR 99 viaduct provides several views of the Downtown skyline, waterfront and Elliott Bay, as well as views of several nearby buildings in the Pioneer Square vicinity and views of the athletic stadia and 1st Avenue S. vicinity. From this elevated perspective, northbound passing motorists can detect the older character of the buildings on the east side of 1st Avenue S., which is representative of the Pioneer Square character, even though the buildings' relative scale is diminished in comparison to the stadia. Further north, passing motorists may note the close proximity of several Pioneer Square historic buildings and the varied architecture of the Downtown skyline elements including Smith Tower.

ENVIRONMENTAL IMPACTS

The impact analysis in this section pertains only to the public views that are protected by environmental policies. These include designated public viewpoints, views to landmarks, and scenic route view relationships.

However, it is acknowledged that future possible development in the study area might affect views from locations that are not protected by such policies. EIS scoping comments indicated interest in views from both public stadium concourses and from condominiums in Pioneer Square, for example. The likelihood of view blockage is one factor taken into consideration when making rezone decisions, according to rezone criteria pertaining to height limits in SMC 23.34.009. This means that following the publication of this EIS, it is expected that decision-makers will consider view relationships in their deliberations.

PUBLIC VIEWS PROTECTED BY ENVIRONMENTAL POLICIES

Public Viewpoints

Kobe Terrace and Danny Woo community garden

View to West on S. Washington Street

Under all alternatives, future development could slightly constrain the view corridor down S. Washington Street, through the addition of building bulk on nearby properties on S. Washington Street. However, due to the view constrictions of existing buildings, the additional infringement would be limited to relatively limited portions of building bulk on either side of the street with the view corridor retained down the street right-of-way toward Elliott Bay (see Figure 3-27).

Alternative 1

Alternatives 2 and 3

Note: The view location is approximately one-half block west of Kobe Terrace. Actual views from Kobe Terrace are constrained by existing buildings and trees as shown on Figure 3-24. The views above illustrate how future possible building bulk would relate to view perspectives westward down S. Washington Street. Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure 3-27

Effect of Future Possible Development on Views West From S. Washington St., near Kobe Terrace, Alternatives 1, 2 and 3

View to West from Garden

Future possible development on one property on the west side of 6th Avenue S. south of S. Washington Street could partially or fully block the available westerly views from several viewpoints in the community garden (see Figure 3-28). However, this could occur under existing zoning as well, which ranges up to a maximum height limit of 150 feet. The possible maximum heights range from 240 feet in Alternative 1, to 180 feet in Alternative 2, to no additional height under Alternatives 3 and 4. The level of blockage would ultimately relate to building design, which could be positively influenced by bulk shaping controls included in the Alternatives and by the deliberations of the neighborhood's special review board.

In views toward the southwest from the Danny Woo Garden vicinity, other possible future development in the 5th Avenue S./S. Jackson Street vicinity could further impair views toward the Qwest Field vicinity and West Seattle background, given the higher height limits proposed in Alternatives 1, 2 and 3.

Views to South from Park and Danny Woo Garden

With adjustments in IDR 150' zone development regulations, additional increments of view blockage from Danny Woo Gardens would be possible if future building development occurred along S. Main Street. Somewhat bulkier development in upper portions of future buildings could occur, which might widen the extent of view blockage. However, actual view impacts would depend on actual development site locations and proposed building designs. Also, because the garden is already protected from adverse view impacts by city policy and this is an issue deliberated upon by the neighborhood's special review board, the potential for additional significant adverse view impacts would either be avoided or controlled by these future development review processes. Therefore, these are identified as potential adverse impacts but not as significant adverse impacts (see Figure 3-29).

Harborview Hospital Viewpoint

The alternatives' proposed changes in the vicinity of 6th Avenue/Yesler Way and down toward 4th Avenue S./S. Jackson Street generate the only potential adverse impacts on views from this viewpoint. Compared to the existing zoned height limit of 150 feet, Alternative 1's height limit of 240 feet could result in future development near 6th Avenue/Yesler Way that would extend a building above the West Seattle horizon line in the background (see Figure 3-30). A 150-foot building would probably visually reach just below that background horizon line. Alternative 2's and 3's 180-foot height limits would result in somewhat lesser impacts than Alternative 1, but also could extend a building's top slightly above the West Seattle horizon line (see Figure 3-30). This extension above the horizon line would increase the relative visual prominence of a new building and decrease the continuity of territorial views from this viewpoint. Such impacts are interpreted to be "adverse" but not "significant adverse" impacts.

For all alternatives, including existing zoning (Alternative 4), new development at or near 6th Avenue/ Yesler Way could block or impair views toward the King Street Station clock tower and a portion of Pioneer Square—meaning this is not a new impact of the alternatives. Other impacts on this viewpoint's views are negligible.

Alternative 1

Alternative 2, 3

Alternative 4

Note: Buildings shown represent a hypothetical development that matches the growth assumed per the EIS growth scenario. The dotted line shown in the middle picture illustrates the maximum building “envelope” of 180 feet applicable to Alternative 2.

Figure 3-28
Effect of Future Possible Development on Views West from Danny Woo Garden

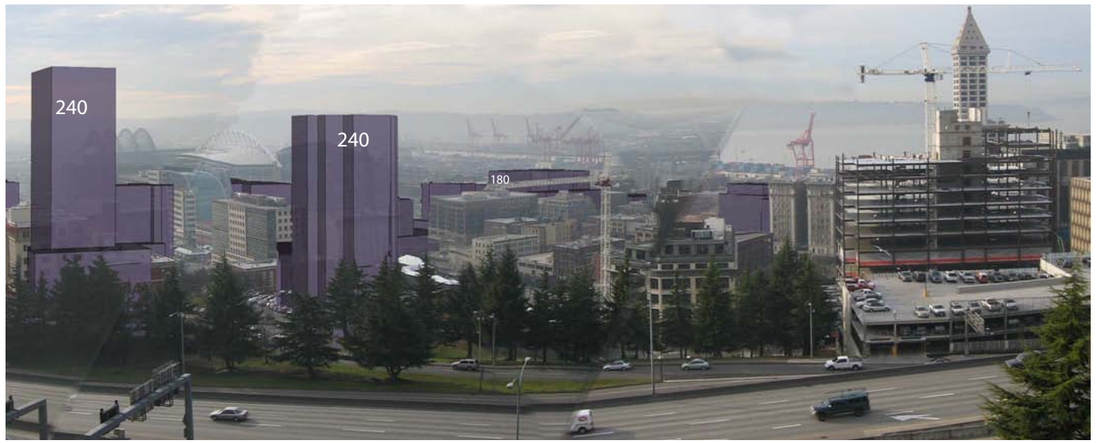
Alternative 1

Alternative 2

Alternative 3

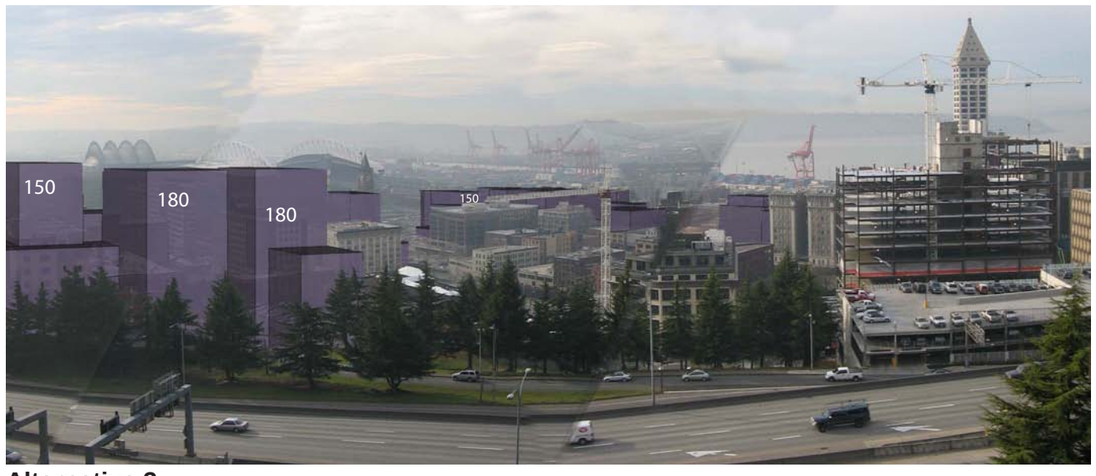
Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure 3-29
Effect of Future Possible Development on Views South from Danny Woo Garden



Alternative 1

Alternative 2



Alternative 3

Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure 3-30

Effect of Future Possible Development on Views Southwest from Harborview Viewpoint, Alternatives 1, 2 and 3

Jose Rizal Park

Future development under the alternatives would add to building bulk in the midground of views from this location (see Figures 3-31 and 3-32). In views generally toward the west, future development under any of the alternatives would remain below the lower horizon line representing land directly across Puget Sound and also below the Olympic Mountains horizon line. The only exception to this conclusion would occur if 240-foot buildings (under Alternative 2) were built in the Qwest Field north parking lot, they would visually protrude into the lower portion of the Olympic Mountains backdrop. In views toward Downtown, future development in Chinatown, Japantown and Pioneer Square would add to building bulk in the lower foreground and midground of skyline views, but would not generate significant adverse impacts on the qualities of views from this location.

Pac-Med Building

The view opportunities available from this facility's grounds include more of Little Saigon in the lower foreground than views from Jose Rizal Park. Under any of the EIS alternatives, future development would add new buildings to the foreground and midground of views toward the Downtown skyline. However, even with the highest height limits in Little Saigon (Alternative 2) and in Japantown (Alternative 1), future buildings would not generate significant adverse impacts on the qualities of views from this location (see Figure 3-33).

View-Protected Landmarks

The City's view-related policy statements in SEPA about protection of views toward landmarks appear to relate to single landmarks that provide distinctive visual qualities and points of identity or wayfinding in a neighborhood. The Smith Tower and King Street Station clock tower are the most likely candidates with these characteristics in this study area. In project-specific review, this SEPA authority would likely be applied only in rare circumstances where development plans would not otherwise be modifiable through City departmental or special review processes.

This EIS impact analysis identifies only a limited potential for adverse impacts on views toward distinctive landmarks.

- Views toward the King Street Station clock tower from some angles would likely be interrupted by future development on the over-tracks property, including views from the nearby 4th Avenue S. segment that is mapped as a scenic route. Possible mitigation strategies or bulk control requirements are recommended for the over-tracks property and the Qwest Field north parking lot development, in part, to maintain good relationships of future building bulk to the clock tower.
- For the Smith Tower, even though a couple of properties nearby to this building are defined as non-historically contributing (most notably the "sinking ship" garage site), future development either is not likely on these properties in the foreseeable future, or would be subject to future special review processes to determine its consistency with district's rules and regulations. This is interpreted to represent a potential adverse impact but not a significant adverse impact.

Please also see the impact analyses presented in the Land Use and Historic and Cultural Preservation sections in this chapter.

Alternative 1

Alternative 2

Note: Buildings shown represent a hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure 3-31

View from Jose Rizal Park with Future Possible Development, Alternatives 1 and 2

Alternative 3

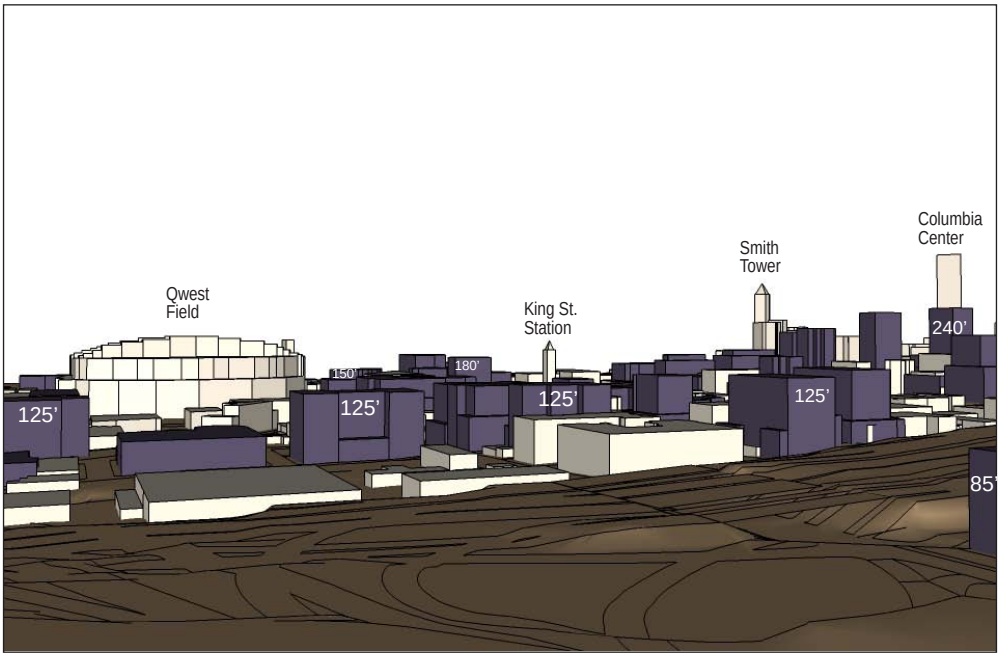
Alternative 4

Note: Buildings shown represent a hypothetical development that matches the growth assumed per the EIS growth scenario.

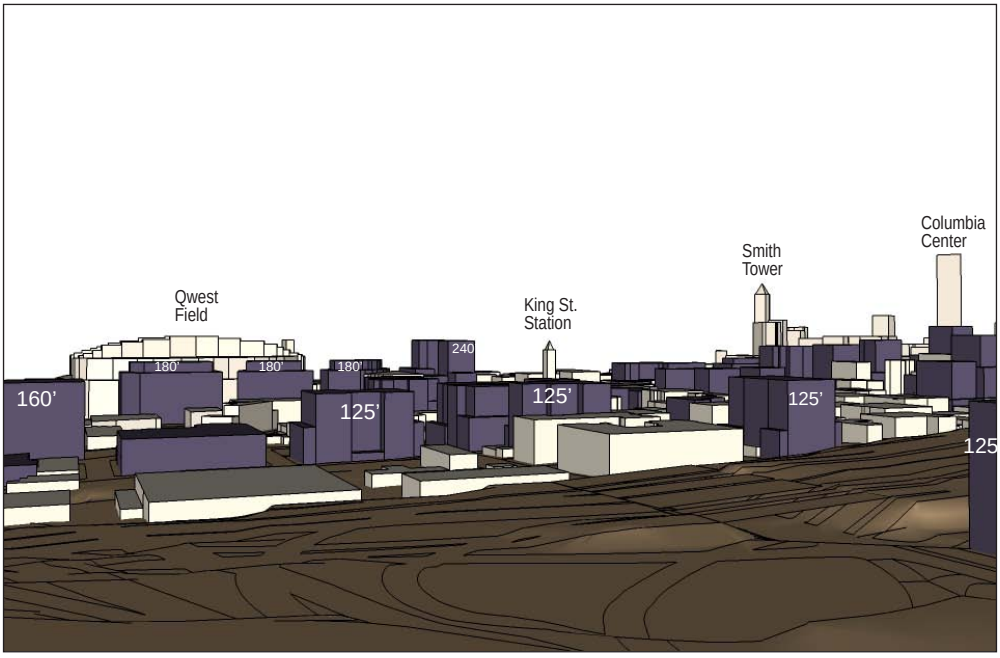
Figure 3-32

View from Jose Rizal Park with Future Possible Development, Alternatives 3 and 4

Alternative 1



Alternative 2



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure 3-33

View Northwest from “Pac-Med” (Amazon) Building Grounds, Alternatives 1 and 2

Scenic Routes

Yesler Way

Given the topography and blockage of views by existing buildings, expansive westward views are only available from one location along this scenic route—as a viewer approaches the 6th Avenue/Yesler Way intersection from the east. Property at the southwest corner of 6th Avenue/Yesler Way could be developed in the future. Future building heights could range from 240 feet in Alternative 1, to 180 feet in Alternatives 2 and 3, to 150 feet under existing conditions (Alternative 4). Visual impacts under any alternative would be similar—views toward a portion of West Seattle and the Duwamish vicinity would be blocked. However, views down the Yesler Way corridor toward Elliott Bay would continue to be available. No appreciable net difference in scenic view impacts is identified between Alternatives 1, 2 and 3 and the existing zoning (see Figures 3-34 and 3-35).

S. Jackson Street

In Little Saigon east of I-5, Alternatives 1, 2 and 3 would retain 65-foot height limits or propose 85-foot height limits along S. Jackson Street. The effects of these future building heights on scenic route views along S. Jackson Street would be negligible. Under Alternative 2, locations one block south of S. Jackson Street could accommodate 125-foot buildings, which might be visible in some views from S. Jackson Street but would not appreciably affect the scenic route.

Other proposed changes in Chinatown along a two-block street segment near 5th Avenue S./S. Jackson Street could result in future development of structures 240 feet under Alternative 1 or 180 feet under Alternatives 2 and 3 (see Figure 3-36). This potential additional node of dense development would add visual interest to the scenic route. This is interpreted to be, at worst, an "adverse" impact but not a "significant adverse" impact to the scenic route.

12th Avenue S.

Under the alternatives, future development adjacent to this street in Little Saigon could range from 85 feet (Alternatives 1 and 3) to 125 feet (Alternative 2), potentially occurring on a few properties. Potential effects of additional building bulk on views along this route are minimal because of the view orientation southward up 12th Avenue S. At worst, potential impacts on this scenic route would be considered "adverse" but not "significant adverse" impacts.

Rainier Avenue S.

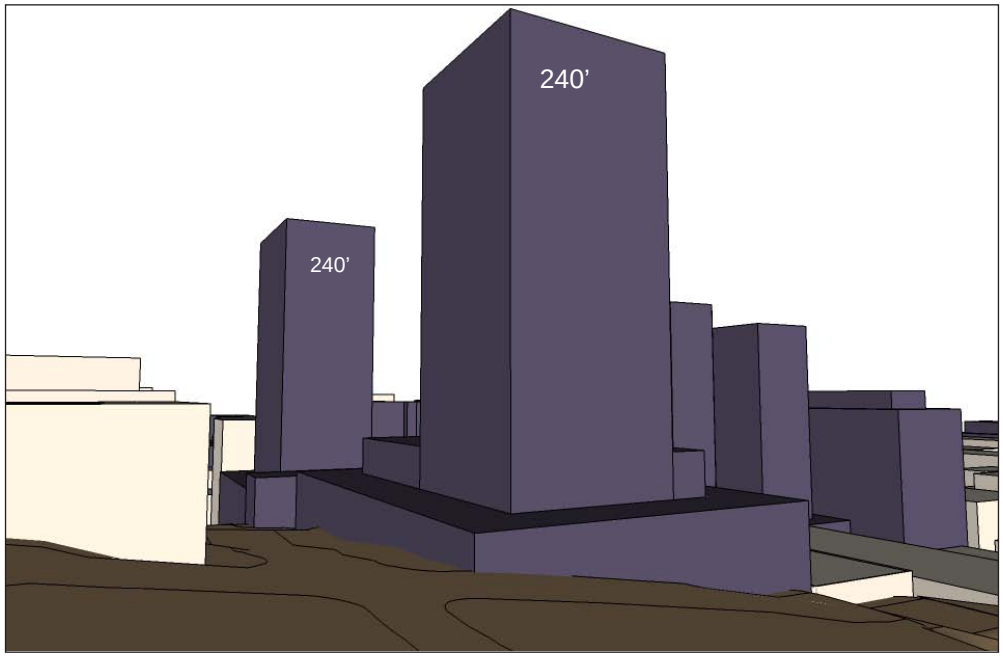
Under the alternatives, only the west side of this street would experience potential additional building heights, up to 20 additional feet, compared to the existing zoned height limit of 65 feet. This could occur under Alternatives 1, 2 and 3. Under Alternative 2, the nearest properties along the west side of the street would be limited to 65 feet (no change) between S. Jackson Street and S. Weller Street, although residential-oriented structures further west could reach up to 125 feet in height. Under any of the alternatives, the proposed Goodwill site development would be assumed to add building bulk comparable to their proposal reaching as high as 85 feet. The net potential for significant adverse impacts on the scenic route is low—views down the avenue toward Mount Rainier would be retained and the aesthetic quality of new buildings built along this part of the avenue could improve the street corridor's aesthetics over time.

View West on Yesler Way, from I-5 Overpass

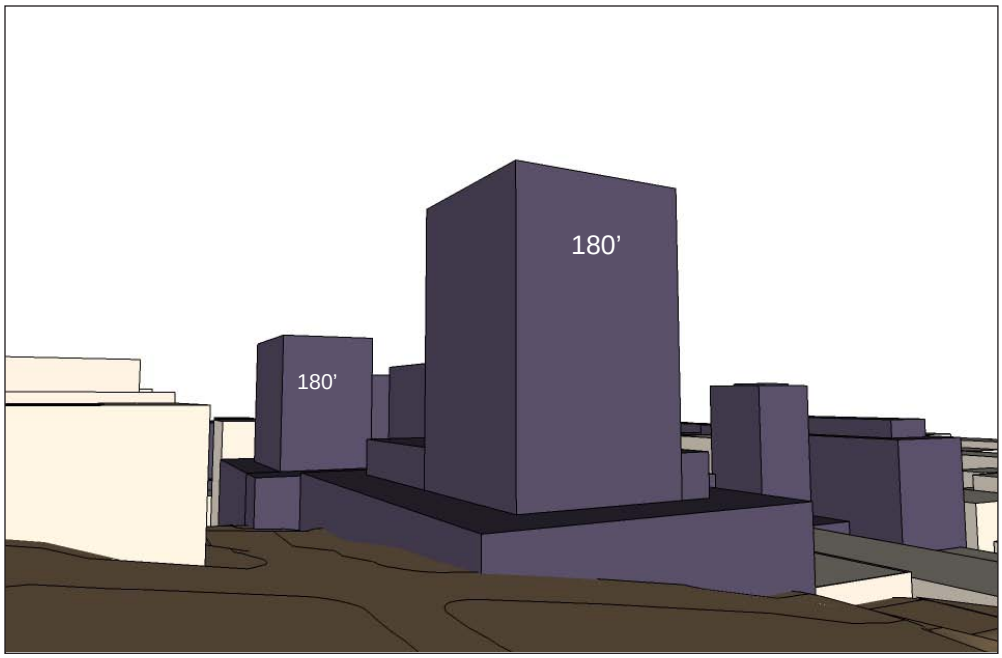
View South from 6th Avenue, Just North of Yesler Way

Figure 3-34
Approximate View Impact Area on Yesler Way Scenic Route

Alternative 1



Alternative 2, 3



Note: Building forms illustrate the maximum possible building size per draft bulk control concepts, and the relationship between existing and future possible buildings on this hillside location.

Figure 3-35

Illustration of Possible Building Bulk near 6th and Yesler, Alternatives 1, 2 and 3

Alternative 1

Alternative 2, 3

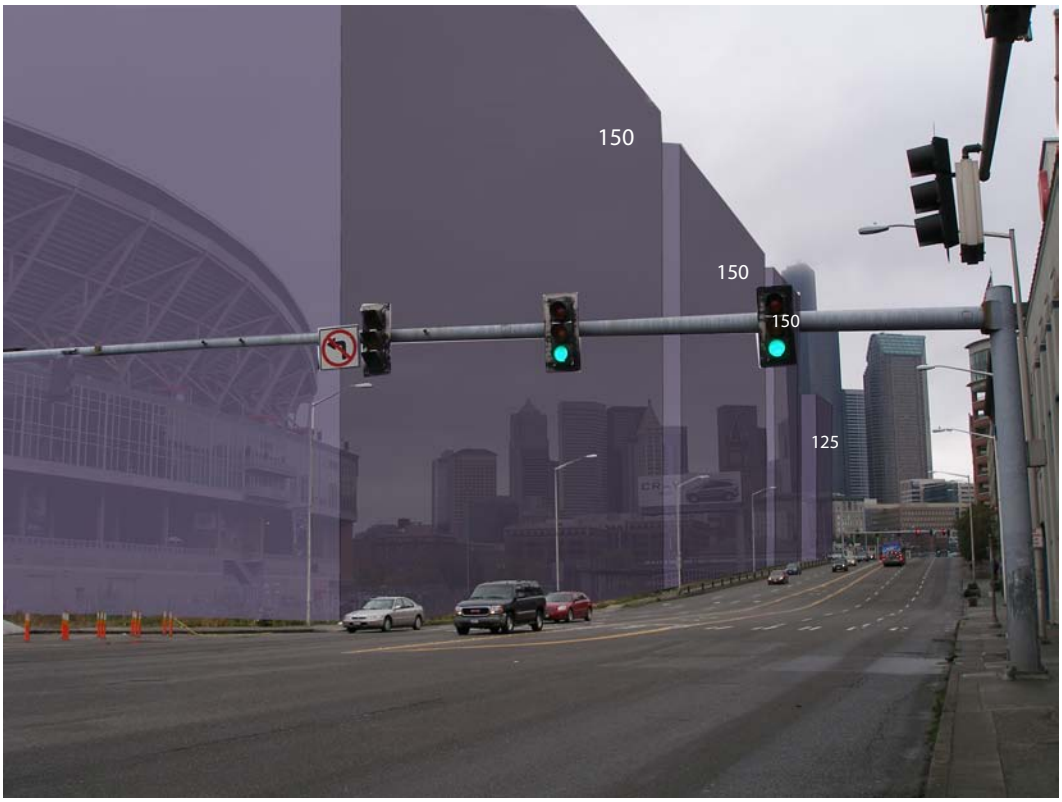
Note: Buildings shown represent a hypothetical development that matches the growth assumed per the EIS growth scenario. Dotted lines indicate a possible maximum “building envelope” per height limit and draft bulk control concepts.

Figure 3-36

View west down S. Jackson St. from Maynard Avenue S., Alternatives 1, 2 and 3

Alternative 1

Alternatives 2, 3



Note: The visible building facades reach 150 feet. Upper portion of building to 180 feet is not visible. Building forms are hypothetical and do not include setbacks from the edge of sidewalk.

Figure 3-37

Possible Effects on Scenic Route Views, North from 4th Avenue S., Alternatives 1, 2 and 3

4th Avenue S.

Views along the 4th Avenue S. corridor scenic route could change if significant development occurs on the over-tracks property. Future development in this location would block most of a skyline view northward toward Downtown, except for buildings visible northward along the 4th Avenue S. corridor (see Figure 3-37). This type of impact would also be possible under existing zoning that would accommodate buildings up to 120 feet in height. However, the proposals under Alternatives 1, 2 and 3 would incrementally add to the potential worst-case impact through additional building height that could range up to 150 or 180 feet. This increment of additional impact on this scenic route and the probable loss of a particular Downtown skyline view from 4th Avenue S. is identified as a probable significant adverse impact of Alternatives 1, 2 and 3. Mitigation strategies could include additional bulk controls or shaping to influence the quality of the available views that would remain along this corridor.

S. Royal Brougham Way

Given the presence of the stadia and exhibition center, former scenic views toward Downtown along the identified segment of S. Royal Brougham Way are already fully blocked. Therefore, no additional impacts of the alternatives are identified on the scenic route quality of S. Royal Brougham Way. Future road improvements will also contribute to an altered visual environment in this vicinity within the next few years.

Interstate 5 and Interstate 90

Future development under the alternatives would add to building bulk in the midground of views from these routes; on the I-90 off-ramps, differences in building bulk within the south-of-Dearborn vicinity would be closest in proximity to these routes. However, none of these potential changes under any of the alternatives are interpreted as a significant adverse impact on the scenic route aspect of these freeways.

Alaskan Way Viaduct

The scenic view qualities of this route would be altered by other proposed road or highway development. Under the alternatives, future infill building development could take a variety of shapes but would remain at a relatively low to moderate scale. This might include future development of the WOSCA property that would likely place new buildings along the east edge of the current SR 99 corridor. Such an outcome under any alternative would probably block views toward Qwest Field and the historic buildings on the east side of 1st Avenue S. This would represent an incremental loss of views along this scenic route that is interpreted to represent an "adverse" but not a "significant adverse" impact on the scenic route. Presenting a well-designed set of facades on the west side of the WOSCA property is an important design principle that should be included in future WOSCA site development planning, so that future views from this thoroughfare are not toward unsightly "backs" of buildings.

MITIGATION STRATEGIES

- Review of future development proposals for the "over-tracks" property should examine strategies for reducing adverse impacts to the scenic route along 4th Avenue S., and additional bulk control strategies so that future buildings do not significantly infringe on the King Street Station clock tower's visual setting.
- Review of future development proposals for the WOSCA property should require high-quality façade treatments that would not appear to "turn their backs" on viewers passing by in the SR99 corridor.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

With increased height limits in the "over-tracks" property vicinity, future development would be more likely to block or impair a Downtown skyline view from the 4th Avenue S. scenic route near Qwest Field.

ENVIRONMENTAL HEALTH

AFFECTED ENVIRONMENT

NOISE COMPATIBILITY

The EIS noise analysis is based on a study conducted by ESA Adolfson that took noise measurements from several locations in the study area and interpreted the findings (see Appendix F).

Noise Principles and Descriptors

Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies. This method of frequency weighting, referred to as "A-weighting", is expressed in A-weighted decibels abbreviated as dB(A).

Noise Exposure and Community Noise

An individual's "noise exposure" is a measure of noise over a period of time. A "noise level" is a measure of noise at a given instant in time. "Community noise" varies continuously over a period of time depending on the contributing sound sources within the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding to addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What also contributes to variation is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens). These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment. Statistical noise descriptors include the following.

Leq: the energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (e.g., the average noise exposure level for the given time period).

Lmax: the instantaneous maximum noise level for a specified period of time.

L8.3: the noise level equaled or exceeded 8.3% of the specified time period (e.g. 5 minutes per hour); it is generally similar in level to the Leq.

L10: the noise level equaled or exceeded 10% of the specified time period; similar in level to the Leq.

L90: the noise level that is equaled or exceeded 90 percent of the specified time period. The L90 represents the background noise level in most environments.

Leq (h) Hourly A-weighted noise level in decibels dB(A).

Ldn: 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

As a general rule, in areas where the noise environment is dominated by traffic, the L_{eq} during the peak-hour is generally equivalent (plus or minus 2 decibels) to the Ldn at that location.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two of these categories. There is no wholly satisfactory way to measure subjective effects of noise, or reactions of annoyance and dissatisfaction. There is a wide variation in individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1 dB(A) cannot be perceived;
- outside of the laboratory, a 3 dB(A) change is considered a just-perceivable difference;
- a change of at least 5 dB(A) is required before any expected noticeable change in human response; and
- a 10-dB(A) change is subjectively heard as a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion. For example, if two identical noise sources produce noise levels of 50 dB(A), the combined sound level would be 53 dBA, not 100 dB(A).

Noise Attenuation

Stationary point sources of noise attenuate (lessen) at a rate of 6 to 7.5 dB(A) per doubling of distance from the source, depending on environmental conditions (such as atmospheric conditions and presence of noise barriers, either vegetative or manufactured). Typical "line" sources of noise, such as highways and busy arterial roadways, attenuate at a rate of 3.0 to 4.5 dB(A) per doubling of distance from the roadway.

Seattle Noise Regulations and Impact Criteria

The City of Seattle limits noise levels at property lines of neighboring properties. Maximum permissible noise levels apply to a single source of noise, and relate to the zoning district of the noise source and the receiving property (see Table 3-29). Sounds from motor vehicles on public roads, aircraft, trains, and unamplified sounds for public events are exempt from the property line regulations in Table 3-29. See Appendix F for other details.

Table 3-29
City of Seattle Maximum Permissible Sound Levels

	District of Receiving Property		
District of Sound Source	**Residential dB(A)**	**Commercial dB(A)**	**Industrial dB(A)**
Residential	55	57	60
Commercial	57	60	65
Industrial	60	65	70

Note: Between 10 p.m. and 7 a.m., the maximum permissible noise levels are reduced by 10 dBA for residential receiving properties. Source: City of Seattle, SMC 25.08.410, June 2007

Study Area Noise Sources

Across the study area, noise is generated by several sources that are typical of Downtown and industrial areas. Land uses and activities that generate noise include:

- Port/warehouse/industrial and commercial business traffic and loading/unloading activities
- Music/dance entertainment venues (primarily in Pioneer Square)
- Athletic facility events and associated activities
- Construction activity
- Regular maintenance activities, such as solid waste collection

Transportation-related noise sources that influence ambient noise levels in their vicinities include:

- Interstate 5 (along Chinatown, Little Saigon and south-of-Dearborn Street edge areas)
- Interstate 90 (along S. Dearborn Street and south-of-Dearborn Street edge areas)
- SR 99—Alaskan Way Viaduct traffic
- Railroad "tail track" near Alaskan Way
- Railroad tracks to/from King Street Station (vicinity ranges from S. Washington Street to S. Holgate Street)
- Railyards and other areas for loading/unloading, storage and movement of containers between transportation modes (primarily south of S. Atlantic Street near Utah Avenue S.)
- Emergency medical helicopter flights to and from Harborview Hospital
- General vehicle traffic, including truck and bus traffic, on surface streets

Typical freeway and surface street traffic noise includes sound generated by tires on pavement, brakes, engines, sirens and horns. Railroad-generated noise includes a variety of mechanical noises generated by the trains, whistles and other warning signals, and noises from loading/unloading activities. Emergency helicopter traffic affects noise levels primarily near 6th Avenue and Yesler Way, and other areas near I-5.

Indoor Residential Noise Levels

Although not included in the City of Seattle's codes, the Uniform Building Code suggests that interior noise levels due to exterior sources must not exceed an Ldn of 45 dBA in any habitable room. This level is assumed to allow for normal sleep and day-to-day activities within a residence. In high-noise environments (e.g., those above 65 Ldn) in other jurisdictions, site-specific noise studies may be conducted to inform noise insulation needs. Typical home construction reduces noise levels at least 20 dB(A) (from the outdoor noise level to the indoor noise level), which results in noise levels of 45 Ldn dB(A) only when outdoor noise levels are below 65 Ldn. Both the Federal Highway Administration (FHWA) and Federal Aviation Administration (FAA) have programs designed to help achieve indoor and

outdoor noise levels consistent with these limits. However, residences near freeways, railroads and airport landing areas are often exposed to outdoor noise levels greater than 65 Ldn and need additional noise insulation to achieve an indoor noise level of 45 Ldn dB(A). Modified wall designs and sound controlling windows are typically used to achieve increased levels of sound reduction. Sound Transmission Class (STC) is a widely-used rating of noise reduction provided by windows and walls. The STC rating is roughly equivalent to the noise reduction provided, in decibels (dBA). Walls can be built to achieve noise reduction of 35-45 dBA and windows can provide a noise reduction of 40-45 dBA.

Outdoor Residential Noise Levels

Outdoor noise levels are more difficult to attenuate because, by definition, outdoor use areas are not enclosed. Outdoor use areas are considered "noise impacted" by FHWA and FAA when levels exceed approximately 65 Ldn. See Appendix F for other details.

Results of March 2007 Noise Measurements

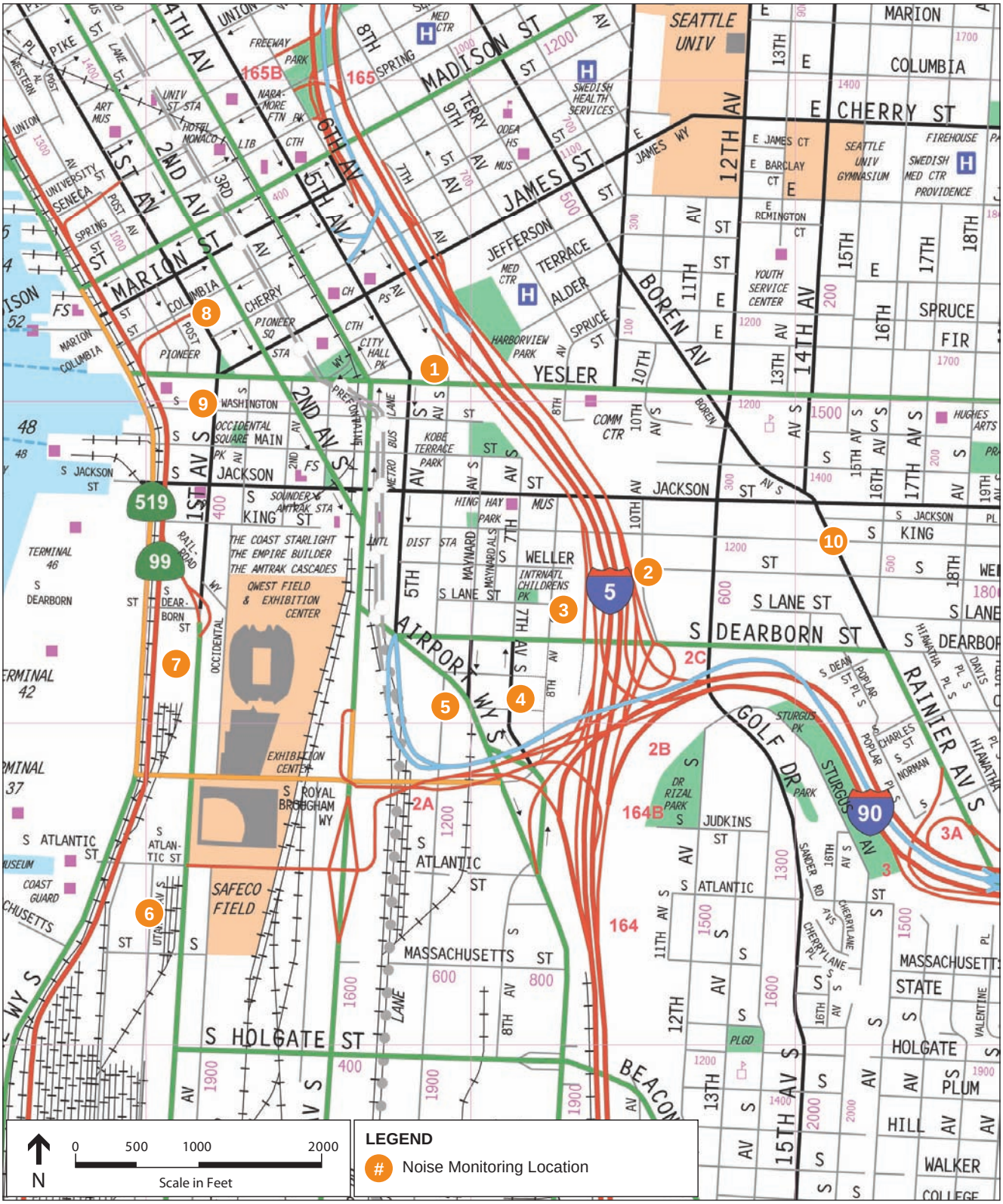
In March 2007 over two days, long-term noise measurements were made at ten locations. Also, twenty short-term noise measurements were taken—two each at the ten measurement locations (see Appendix F for other details). Table 3-30 shows the rankings of the measured sites from loudest to quietest, based on the 24-hour average noise levels measured as Ldn. Figure 3-38 shows the noise measurement locations. The data illustrate relatively loud conditions in Pioneer Square, Chinatown and Stadium Area locations that are near SR 99 and I-5, and somewhat quieter conditions in locations away from major highways.

Table 3-30
Noise Levels Measured at South Downtown Sites, Ranked Highest to Lowest

Site Number	Neighborhood	Site Location	24-hour Average Noise Level, Ldn	Range of Hourly Averages, Leq
8	Pioneer Square	1st Avenue & Columbia St.	79	64-85
7	Stadium Area	WOSCA Parking Lot	79	66-78
1	Chinatown/I.D.	Yesler Way & 6th Avenue	78	65-76
2	Chinatown/I.D.	10th Ave. S. & S. Weller St.	77	65-76
9	Pioneer Square	S. Washington St. & 1st Ave. S.	76.5	63-82
4	S.-of-Dearborn	7th Ave. S. & S. Plummer St.	75	63-75
3	Chinatown/I.D.	8th Ave. S. & S. Lane St.	71	58-71
6	Stadium Area	Utah Ave betw. Atlantic & Massachusetts	70.5	59-70
5	S.-of-Dearborn	6th Ave. S. and Airport Way S.	70.5	59-70
10	Little Saigon	S. King St. & Rainier Ave. S.	68	56-65

Source: ESA Adolfson, 2007

Short-term noise measurement data indicate the relative noise levels of typical noise generators, including street and highway traffic, train horns, airplanes, helicopters, sirens, truck and bus traffic (see Table 3-31).



MAP: Rand McNally & Company, 2006.
SOURCE: ESA Adolfson.

Figure 3-38

Noise Monitoring Location Map

Livable South Downtown

0 2 4 6 8 10
Scale in 100 Feet
N

Several of these generators created sound in the low-to-mid 70's Leq decibels. The ranges for each location in the rightmost column of Table 3-31 also indicate which areas experience noisier conditions as measured by individual sources. The locations with the highest measured levels are those nearest and most exposed to SR99 and I-5. The location with the lowest measured levels was the Little Saigon location west of Rainier Avenue S. Findings, including graphic portrayals of the sound measurements, are shown in Appendix F. See the Noise Compatibility discussion in the following Environmental Impacts part of this section for more interpretation of the relevance of these findings.

Table 3-31
Noise Sources and Associated Noise Levels from Five-Minute Measurements

Site Number	Neighborhood	Site Location	Five-minute Leq Noise levels (dB)	Noise Sources dB(A)
1	Chinatown/I.D.	Yesler Way & 6th Avenue (west of I-5)	67, 71, 72	Bus: 72 Helicopter: 78 Freeway: 67, 70-73 Train horn: 71 Airplane: 68
2	Chinatown/I.D.	10th Ave. S. & S. Weller St. (east of I-5)	71, 72	Freeway: 70-74 Trucks: 69-73 Siren: 71 Plane: <71
3	Chinatown/I.D	8th Ave. S. & S. Lane St. (west of I-5)	64, 67	Freeway: 64-67 Street traffic: 65 Truck: 73 Airplane: 66
4	South-of-Dearborn	7th Ave. S. & S. Plummer St. (I-5, I-90)	67, 69	Freeway: 64, 68-70 Train horn: 66, 70-74 Street traffic: 70-71
5	South-of-Dearborn	6th Ave. S. and Airport Way S. (I-5, I-90)	66, 67, 70	Truck beeper: 71 Freeway truck: 71 Airplane: 65
6	Stadium Area	Utah Ave betw. Atlantic & Massachusetts	65, 67, 68	Traffic: 67 Trucks: 70.5 Siren: 73 Train horn: 70-73
7	Stadium Area	WOSCA Parking Lot (east of SR 99)	76, 77	Traffic: 75, 73-78 (w/train horn audible)
8	Pioneer Square	1st Avenue & Columbia St.	70, 72	Street traffic: 70-75, 73 Bus: 77
9	Pioneer Square	S. Washington St. & 1st Ave. S.	70, 71	Viaduct/local traffic: 72
10	Little Saigon	S. King St. & Rainier Ave. S.	61, 65	Airplanes: 65-67 Street traffic: 61-65

Source: ESA Adolfson, 2007

HAZARDOUS SUBSTANCES

A large portion of the study area has a documented history of industrial and commercial uses. Most of the former tidelands in the study area were filled in the first decade of the 1900s, typically using soils from other re-grading efforts elsewhere in the city. The diverse range of activities in the southern portion of the study area has included sawmills, railroad operations, steel manufacturing, iron foundries, machine shops, warehouses, garages and fueling stations. Underground fuel tanks, heating oil tanks, past use of solvents and metals in production processes, operation, maintenance and storage of heavy vehicles, and presence of asbestos and lead-based paints in old buildings are a few of the elements and activities that have contributed to probable residual presence of contaminants in soils and groundwater from these activities.

Several past studies provide information for properties along the 1st Avenue S. corridor. Residual contaminants that may be present include solvents, gasoline and petroleum products such as diesel and fuel oils, metals such as mercury, silver, lead, zinc, copper, and other contaminants. Also, poly-chlorinated biphenyls (PCBs) are identified as present or reasonably predictable in a few locations. In addition, creosote, timber and woody debris are present in some areas due to remnant pilings at former tideland properties. Numerous properties in the Pioneer Square and Chinatown neighborhoods also have past use patterns involving a variety of businesses and industries that suggest the likely presence of residual contaminants. These characterizations of past use and contaminant presence also extend to the south-of-Dearborn vicinity.

In Little Saigon, industrial uses are known to have occupied the S. Dearborn Street vicinity, and current use patterns in the neighborhood include a diversity of commercial and light industrial activities, warehousing and automobile-related uses. This pattern suggests the probable presence of residual contaminants in soils in this vicinity as well. For example, an evaluation prepared for the "Dearborn Street" (a.k.a. Goodwill properties) mixed-use center proposal indicates potential residual contaminants in soil and groundwater, including petroleum hydrocarbons, chlorinated solvents and heavy metals (Dearborn Street Draft Supplemental EIS, Appendix 1, 2006). (Other sources include: SR 99 Alaskan Way Viaduct & Seawall Replacement Project Draft EIS, 2004 and Supplemental Draft EIS, 2006; Football/Soccer Stadium and Exhibition Center Project Draft EIS, 1998; Geotechnical and Environmental Report for Baseball Stadium, 1996.)

AIR POLLUTANT EMISSIONS AND PUBLIC HEALTH

Odor/Air Quality

Air pollutant and odor sources in the study area are similar to those described for noise: transportation activities along highways (I-5, I-90 ramps, SR 99) and surface streets, and industrial and port activities in the broader SODO vicinity. Railroad, truck, bus, ship and automobile traffic are probable sources.

Fine particulates known as PM 2.5 (less than 2.5 micrometers in size), typically associated with wood-burning and diesel fuel exhaust, are a primary vehicle-generated pollutant of interest to the Puget Sound Clean Air Agency (PSCAA). This kind of fine particulate can behave more like a gaseous substance and less like dust in its movement in air. Nitrogen oxides (NOx), volatile organic compounds (VOC) and carbon monoxide are other pollutants of interest. Particulates can have negative public health effects such as exacerbation of respiratory problems (asthma, decreased lung function) as well as contributing to risk of cancer and heart attack.

Research data suggest that due to proximity to industrial and transportation activities, air pollutant levels in some portions of the study area are probably elevated compared to other neighborhoods in the city, especially within approximately 100 feet of major transportation facilities. This is the distance where

particulates are most likely to circulate in the air and alight on building and ground surfaces. Elevated sources such as the I-90 ramps probably also result in the casting of particulates further than 100 feet, and swirling winds may have similar effects. While Port-related ship activities generate air pollutant emissions, available data do not allow for precise mapping of effects on localized air quality conditions (PSCAA, 2007).

Available monitoring data from PSCAA equipment at Beacon Hill (near Jefferson Park) and East Marginal Way south of Spokane Street are the best indicators of local conditions for PM 2.5 particulates. The current federal standard for PM 2.5 particulates is 65 $\mu g/m^3$ (micrograms per cubic meter) and the proposed federal standard is 35 $\mu g/m^3$ for the three-year average of the 98th percentile of daily concentrations. At the Beacon Hill monitor site, the concentrations remained at approximately 24-25 $\mu g/m^3$ from 2001-2005, while at the Marginal Way monitor site, concentrations slightly decreased from approximately 34 $\mu g/m^3$ to around 30 $\mu g/m^3$ during that period (PSCAA 2005 Air Quality Data Summary, 2006). These data suggest a slight trend to improved air quality conditions for particulates.

Land use characteristics with respect to mixing of residential and industrial uses are summarized below.

- Within the study area, a variety of industrial, warehouse and distribution activities occur in the 1st Avenue S. vicinity, small-scale industrial uses and the City's Charles Street Yards in the south-of-Dearborn vicinity, and small-scale industrial and distribution activities in the King and Weller Street vicinity east of 12th Avenue S. in the Little Saigon area.
- The industrial and transportation-oriented areas nearest the study area include the Port's Terminal 46, the SIG Railyard between Alaskan Way and Utah Avenue S., railyards between Occidental Avenue S. and 3rd Avenue S., general industrial/commercial uses along 4th Avenue S., King County Metro bus yard facilities south of S. Royal Brougham Way, and an industrial area east of I-5 along Rainier Avenue S.
- A few residential uses are located near the areas dominated by industrial and commercial uses. These include the William Booth Center housing at S. Charles Street in the south-of-Dearborn vicinity; the Victorian Row Apartments on S. King Street east of 12th Avenue S., and a small number of other single-family homes in Little Saigon.

The available information suggests that air quality should be a consideration in evaluating overall land use compatibility, especially where residential uses would be located in proximity to highways, railroads, port and industrial sources. A distance of at least 100 feet from such facilities can be defined as the area of greatest concern about negative effects on environmental health of potential residents, plus an additional distance (of at least 100 feet) from elevated highways that may cast particulates over greater distances. This would be of greatest interest to the south-of-Dearborn vicinity, 1st Avenue S. corridor, International District properties nearest I-5 and Pioneer Square properties nearest SR 99.

PUBLIC HEALTH BENEFITS AND URBAN GROWTH PATTERNS

A body of research, including studies by University of British Columbia professor Larry Frank, has recently focused on the relative advantages to public health of living within mixed-use in-city areas, as contrasted to low-density suburban areas. In suburbs, the typically longer distances between homes and services often require residents to use automobiles to conduct daily activities. This leads to suburban residents walking less and exercising less often, and increased incidence of obesity and other health afflictions. In contrast, research suggests that in-city residents are able to walk more often and may more frequently substitute walking in place of automobile trips for some of their daily activities.

These research findings help support the City's urban village strategy for long-term growth. By encouraging the evolution of multi-purpose mixed-use neighborhood centers with denser residential occupation and more diverse range of available services, communities are more walkable and can satisfy the needs of residents with less frequent use of automobiles. This is good not only for the form and quality of the urban environment, but also encourages healthy patterns of living for in-city residents. However, factors such as local air quality should also be considered in broad assessments of public health, at least for areas in close proximity to freeways and railroads.

ENVIRONMENTAL IMPACTS

NOISE COMPATIBILITY

All Alternatives

As indicated by the noise measurement data, several portions of the study area in general proximity to highways and railroads are subject to relatively high noise levels ranging from 70 to 79 Ldn dBA. Noise from freeways, trucks, general street traffic, sirens, train horns, helicopters and airplanes all contribute to noise in this area. Locales within roughly one block of the SR 99 Viaduct are the areas subject to the highest noise levels, at 79 Ldn dBA, and the Yesler Way/6th Avenue vicinity and S. Weller Street/10th Avenue S. vicinity, both near Interstate 5, are subject to levels of 77 to 78 Ldn dBA. Future noise levels along SR 99 would relate to the road and highway configuration that is achieved in that vicinity.

Future residential development in these vicinities would likely face the greatest adverse exposure to high noise levels. This is probable because the 20 dBA noise reduction provided by typical residential construction methods would not likely reduce the average interior noise level to the preferred 45 Ldn dBA level. Comparing the alternatives, Alternatives 1 and 3 would accommodate residential development in the northern portion of the WOSCA property, which would likely be subject to high noise levels from SR 99 traffic and other nearby sources such as railroad traffic. A few potential infill development sites near SR 99 in Pioneer Square would also be subject to such effects. Denser levels of residential development could also occur in the other cited locations under most alternatives—the most impacted of these being under Alternative 1 near Yesler Way/6th Avenue, and under Alternative 2 near S. Weller Street/10th Avenue S. Similarly, future residential development in several other vicinities would also likely be unable to meet a 45 dBA interior noise level using typical construction techniques.

In order to adequately respond to these significant adverse noise conditions if residential uses are to be present, the use of STC-rated construction materials and methods for exterior enclosure in future residential development likely should be required. (STC-rated construction is already required by the Building Code for interior walls between dwelling units.) The objective would be to reduce interior noise levels in residential uses to approximately 45 Ldn dBA, which would likely necessitate the use of higher STC-rated materials and methods for exterior enclosure at the noisiest locations. This approach would also require consideration of whether, in the highest-impacted vicinities, operable windows may be present and if not, whether adequate ventilation systems for cooling and air circulation would be present. These approaches are possible to implement through future Master Use Permit reviews, on a case-by-case basis.

Interpretation of noise analysis findings with respect to zoning and land use compatibility suggests that residential uses with preferred interior noise levels are possible to develop in proximity to SR 99, I-5 and I-90 if sufficiently noise-mitigating construction materials and methods are used. However, the high noise levels are a negative when evaluating the overall compatibility of zoning options that would allow residential uses in these locations.

HAZARDOUS SUBSTANCES

All Alternatives

The probable presence of contaminants in soil and/or groundwater across many portions of the study area means there is a heightened interest in the risks of potential exposure to hazardous substances with future development. There could be increased risks of contaminant disturbance and potential for releases during future construction activities in several locations under any alternative, including the No Action Alternative. Similarly, demolition of buildings throughout the study area could generate risks associated with the presence of contaminants such as lead and asbestos.

Differences among the zoning alternatives would enable residential uses to be present in certain locations where other alternatives' zoning would not allow for residential use. Conceptually, this might increase the worst-case potential risks of exposure due to the long-term presence of residents. This worst-case risk assumes that contaminants, to the degree they are present, would manifest an elevated health risk to residents. Under this scenario of potentially elevated risk, the most relevant differences among the alternatives are:

- The permission of residential uses in the northern portion of the WOSCA property (and immediate vicinity) under Alternatives 1 and 3; and
- The permission of residential uses in the "south-of-Dearborn" vicinity under Alternative 3.

However, it must also be acknowledged that current regulatory practices associated with hazardous materials would dictate further site-specific assessments of actual conditions and remediation actions implemented prior to or during construction. This could include various forms of on-site investigations, records research, cleanup plans and compliance with regulatory processes. Such actions would in all probability result in cleanup or remediation to required levels, tailored to the individual circumstances of future development proposals. It would take into account whether residential uses would be present, which could entail a higher level of cleanup. This would help avoid the potential for worst-case impacts under almost any scenario involving future construction in the affected area.

Based on the interpretation above, this EIS does not identify a significant adverse impact of this type for any of the EIS zoning alternatives, nor is there any substantial difference in potential for worst-case impacts among the alternatives. However, these conclusions should not be interpreted as negating the need for proper evaluation of hazardous substances in later phases of review, e.g., future site-specific development proposals.

ODOR/AIR QUALITY

All Alternatives

The available information about air quality and public health effects in this area does not provide definitive evidence of significant air quality problems, but does provide advisory guidance on the possible proximity of residential uses to transportation and port facilities. Maintaining a distance of at least 100 feet between residential uses and such facilities for the purposes of avoiding adverse exposure of residents to air pollutants is a recommended means of maintaining compatibility. The following observations can be made at a programmatic level as to the impacts of the alternatives.

1st Avenue S. Corridor: Alternatives 1 and 3 include allowing residential uses in the northern portion of the WOSCA property. If such uses occurred, they would be located adjacent to SR 99 and the railroad

"tail track" and relatively near (at approximately 180-200 feet) to the Port's Terminal 46 property. Each of these transportation and port facilities would continue to generate particulates and other air pollutants. The proximity of these pollutant-generating activities, particularly the train activity and highway traffic, to the WOSCA property suggests an adverse exposure of potential future residents to air pollutants would occur if residential uses are present. Over the long-term, such exposure would increase the risks for adverse effects on residents' health.

In locations south of S. Royal Brougham Way, the additional presence of two railyards, truck traffic on local streets, and SR519 connections to I-5 and I-90 suggest that additional multiple air pollutant sources would contribute to adverse air quality-related health effects on residents if residential uses were present. However, since the Livable South Downtown EIS alternatives do not include residential uses in this area, this impact is not attributed to any of the EIS alternatives.

Chinatown/I.D. near I-5: The Alternative 1, 2 and 3 proposals would increase the potential for future residential development in proximity to I-5, on both the east and west sides. The area of greatest concern includes the properties that are within 100-200 feet of I-5, which are essentially those directly abutting and others nearby that are most exposed to the I-5 right-of-way. Within this most-exposed area, the risks of adverse air quality-related environmental health effects would be greatest, if residential uses are present. With increasing distance, the probable concentrations of particulates and other vehicle-traffic-related air pollutants and the potential for these significant health risks would diminish.

South-of-Dearborn: The Alternative 3 SDM zone proposal includes the possibility of residential uses in the south-of-Dearborn vicinity. This would increase the proximity of residents to general industrial and maintenance activities within the study area (such as the City's Charles Street Yards), and their proximity to similar activities located nearby to the south. Similarly, such development could occur closer to the existing elevated Interstate 90 ramps. Within approximately 100-200 feet of the Interstate 90 ramps, the risks of adverse air quality-related health effects would be greatest, if residential uses would be present.

Stadium North Lot: In the Qwest Field north parking lot, new residential development could occur as close as 200 to 1,000 feet of the main Amtrak and commuter rail station at King Street Station. In addition, the zoning alternatives include the possibility of residential uses above the rail station facility. The future condition could continue to be an open-air rail station, or could become a facility topped and enclosed by future commercial or mixed-use development.

The proximity of future residential uses could conceivably contribute to residents' exposure to pollutant emissions from train operations. This is identified as a potential adverse environmental health impact. Locations closest to the rail station would be of most concern with respect to residential use. The relative exposure to this polluting condition would depend upon whether the rail station area is enclosed by future over-tracks development. The inclusion of mechanical systems would likely control air pollutant emissions and direct them to fans or vents. Such vents could be designed and located to avoid or minimize emissions to areas near residential uses, with a probability that related adverse health risks could be avoided.

Under the No Action Alternative (Alternative 4), no zoning changes would occur and, by definition, no impacts would occur. However, existing use patterns that place some residents relatively near Interstate 5 and SR 99 would continue to be present, contributing to possible public health concerns about chronic exposure to particulates.

PUBLIC HEALTH BENEFITS AND URBAN GROWTH PATTERNS

The research findings relating improved public health prospects to mixed-use neighborhoods and in-city living help support the Livable South Downtown planning effort's encouragement of denser residential populations in the Pioneer Square, Chinatown and Little Saigon neighborhoods. New residents would not only enliven these neighborhoods, but the residents would benefit from more active lifestyles, as well as access to regional and intracity transportation systems, as well as greater proximity to jobs, goods and services. At the same time, denser habitation in these areas in the Downtown Urban Center would help avoid the development impacts of additional development in suburban and rural-fringe areas, including effects on the natural environment and increased use of automobiles and congestion on regional transportation systems.

These public health benefits would be roughly similar under any of the alternatives studied in this EIS. Differences among the alternatives regarding overall public health benefits would be relatively subtle. On the whole, the growth patterns recommended among Alternatives 1, 2 and 3 would be expected to result in net positive impacts in terms of prospective public health benefits. The No Action Alternative (Alternative 4) would result in no impacts. However, the overall range of impact conclusions in this Environmental Health section should be noted when making judgments about overall public health prospects in the study area.

MITIGATION STRATEGIES

All Alternatives

Noise Compatibility

- In order to achieve interior noise levels in residential uses to 45 Ldn dBA under any alternative, future residential construction could be required on a project-by-project basis to use STC-rated construction materials and methods in exterior walls. This should be given greatest consideration in project decisions on site nearest I-5, I-90 and SR99. Noise measurements should be taken to inform future building design at a given site, and building design should incorporate assemblies (e.g. wall and window treatments, including details such as caulking) meeting a certain STC rating, to provide adequate noise reduction for residential uses.
- Future residential construction in certain high-noise areas could be required to demonstrate that operable windows would not be present and sufficient ventilation systems would be provided if operable windows are not present.

Hazardous Substances

- Given the conclusion of no identified significant adverse impacts, no mitigation strategies need to be identified. Per existing laws, implementation of remediation strategies for individual development sites would continue to be required.

Odor/Air Quality

- The ability to locate residential uses in close proximity to SR 99, I-5 and the I-90 ramps (within 100 feet) could be regulated and/or avoided through zoning choices.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Noise Compatibility

With implementation of noise mitigation strategies, where applicable, on a project-by-project basis to reduce interior sound levels to 45 Ldn dBA, significant unavoidable adverse noise impacts on future residential uses would not be expected to occur.

Hazardous Substances

None are anticipated.

Odor/Air Quality

With implementation of mitigation strategies to reduce exposure of residential uses to air pollutants, significant unavoidable adverse impacts would not be expected to occur.

FIRE PROTECTION AND EMERGENCY SERVICES

AFFECTED ENVIRONMENT

Seattle Fire Department (SFD) provides fire protection and emergency services to the study area. Fire Station 10, located at 301 2nd Avenue S. in Pioneer Square is the closest station to most parts of the study area. Other stations responding to this area include the Harborview Station (near Terry Avenue/Alder Street) which has two medic companies, and Stations 5 (near Alaskan Way/Madison Street), 6 (near 23rd Avenue/Yesler Way), and 2 (near 4th Avenue/Bell Street). A new Fire Station 10 is under construction between 4th and 5th Avenues on S. Washington Street, expected to be occupied by the first quarter of 2008. This facility will provide for easier vehicle egress than the current station.

Equipment and staff resources at Fire Station 10 include:

- Ladder – 7 person crew
- Engine – 4 person crew
- Aid Van – 2 person crew (staffed by the Engine crew)
- Haz-Mat Van – 7 person crew (staffed by the Ladder crew).

The average response times for first-in companies, based on all incidents for during 2006, are shown below:

Advanced Life Support	4.3 minutes
Basic Life Support	4.5 minutes
Fire/Rescue/Haz-Mat	4.5 minutes

Table 3-32 shows seven years of fire/emergency call data generated by the study area. Data in the last two years show a trend toward more basic and advanced life support calls, and no increase in fire-related calls. Fire Station 10 handled 61% of the study area's responses over the seven-year period of 2000-2006. The other cited stations handled 32% of the responses, and miscellaneous other stations responded to the remaining 7% of calls from the study area. Citywide trends show increases in call volumes, and increasing numbers of responses handled by crews from stations outside the immediate service area (Roberts, SFD, 2007).

Table 3-32
Number of Fire/Emergency Incident Responses in Study Area, From All Stations

Type	2000	2001	2002	2003	2004	2005	2006	TOTAL
Advanced Life Support	1,077	1,047	1,077	1,090	945	1,140	1,247	7,623
Basic Life Support	2,130	1,989	2,079	2,179	2,580	2,979	3,172	17,108
Fire/Rescue/Haz-Mat	840	796	731	708	725	677	702	5,179
TOTAL	4,047	3,832	3,887	3,977	4,250	4,796	5,121	29,910

Seattle Fire Department identifies a need for additional staff to serve citywide growth expected in the coming decade. Voter approval of EMS levies will influence funds available for staffing increases. A November 2007 vote has a proposal to fund another fully-staffed medic unit. Recent and anticipated Downtown growth will generate additional call volumes over time, which could lead to the need for expanded staffing of stations serving Downtown and adjacent neighborhoods, including the South Downtown vicinity (Hepburn, 2007).

FIRE/EMERGENCY PROTECTION IMPACTS WITH FUTURE GROWTH

All Alternatives

Protection can be provided to future development up to 240 feet

Future development evaluated in the zoning alternatives for this EIS includes building types and sizes that can be served by the Seattle Fire Department. This includes buildings up to the highest height limits of 180 feet and 240 feet. Reviews of future development proposals would ensure that fire safety and building code requirements are met, addressing needs such as sprinklers, standpipes and accessibility. As noted in the Water Utility section in this chapter, Seattle Public Utilities anticipates that adequate fire flow volumes can be provided to the vicinities in the study area.

Relationship to north parking lot and "over-tracks" development

The potential for larger developments in certain locations is of interest to the Seattle Fire Department, with respect to meeting fire and life safety standards and maintaining emergency accessibility.

- The potential for fires or hazardous material incidents at the railroad track level is a fire/emergency impact concern with future development above railroad tracks. Such development would be required to meet the standards of National Fire Protection Association (NFPA) Standard 130, which entails providing sufficient ventilation, lighting, egress and life safety protection systems for the railroad track area. Adequate separation of the buildings above from rail activity and potential emergency incidents below would also be required, which is likely to increase the protective and structural standards for such buildings (English, SFD, 2007). Future reviews, including SEPA review, would be necessary to make specific conclusions about potential impacts of this kind of development proposal.

- Sufficient accessibility for emergency equipment should be maintained at all times in the Qwest Field north parking lot vicinity. This includes during event times, and load-in/load-out of large equipment and display materials, which occurs periodically for trade shows, large concerts and similar events. Based on existing and anticipated configurations of streets, it appears likely that emergency accessibility can be maintained, even during times when certain streets might be affected by load-in/load-out. At such times, a route passable to emergency equipment should be maintained. Future individual events would continue to be subject to safety permits from city agencies, and review by the Stadium Area Parking and Access Review Committee (PARC).

Equipment and Staffing

Future building development up to 240 feet would not generate the need for additional special types of equipment (English, SFD, 2007). A haz-mat van, ladder, engine and medic aid van would be available nearby from Fire Station 10, and other equipment from supporting stations. However, additional numbers of vehicles and staffing for those vehicles are likely to be necessary as populations increase in the study area.

Additional growth in the study area is likely to increase the number of calls for service from SFD. Due to the currently high volume of emergency calls in Downtown, such increases could contribute to further strains on the ability to effectively respond with current equipment and staffing resources. Given the magnitude of growth studied in this EIS, the projected growth in the study area could lead to significant adverse cumulative impacts on fire/emergency protection by 2030 (English, Hepburn, SFD, 2007). In

other words, additional equipment and staffing resources beyond currently identified resources may be needed to maintain fire/emergency protection in the study area.

MITIGATION STRATEGIES

POSSIBLE MITIGATION STRATEGIES

To address the identified possibility of a long-term cumulative significant impact of growth on fire/emergency protection, the following mitigation strategy is presented.

- Explore methods to address cost impacts to SFD of providing additional staffing and equipment to serve cumulative future growth in the study area. Consider defining impact fees or similar strategies that would be proportional to the level of impact anticipated with individual developments.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Long-term growth in the study area could lead to significant adverse cumulative impacts on fire/emergency protection by 2030. However, such impacts could be addressed through dedication of additional staffing and equipment resources when needed.

POLICE PROTECTION

AFFECTED ENVIRONMENT

Police protection services in the study area are provided by the Seattle Police Department's (SPD) West Precinct west of Interstate 5 and the East Precinct east of Interstate 5. The study area is located within five patrol district beats. Approximately 40 to 45 officers are allocated to serve the study area vicinity. This estimate of staffing is based on the call volumes served in the study area, and includes bicycle officers, community police team, anti-crime team and 9-1-1 response staff. This number may vary at any given time depending on call patterns and personnel-related issues (Quinn, SPD, 2007).

SPD does not have an official level-of-service policy for officers-per-thousand population. The current citywide ratio is approximately 2.2 officers per thousand population. SPD evaluates service coverage based on three elements: maintaining a seven-minute average emergency response standard; increasing the amount of time patrols engage in proactive work on issues that generate repeated calls for service; and having ten cars free citywide (two per precinct) at any time for proactive work and backup response. The average response time for emergency service calls citywide varies throughout the day and week and by precinct, but on average is approximately six minutes. For many emergency situations, officers often arrive in less than five minutes.

SPD's "Neighborhood Policing Staffing Plan, 2008-2012" provides an overview of call frequency, variability in call volumes throughout the day and week, and geographic differences in demands for service among the five precincts. Calls are highest during the daytime hours. The staffing plan describes why additional officers are needed so that calls for service can be handled more effectively and additional time can be spent on "proactive" crime prevention activities. The department's proposal also includes adjusting patrol beat geography across the city to even out workload in precincts, revising patrol deployments, and adding 105 new patrol officer positions (154 since 2005). If this occurs, authorized patrol strength will increase by approximately 25% over 2005 levels.

Data analysis by SPD indicates that the department annually received approximately 32,000-34,000 dispatched calls for service in the Livable South Downtown study area over each of the past six years (Adams, SPD, 2007). The trend in call volume in this area has been stable for the past six years, but volumes during this time were somewhat higher than experienced in the late 1990s. Projected trends are for an increase in call volumes over the next few years (Adams, SPD, 2007). Narcotics-related calls are the most common type of call received, with theft, assault and auto theft also common incidents reported.

Community representatives have identified public safety as a key priority to improve the neighborhoods' quality of life. In Pioneer Square, this particularly relates to maintaining orderly and civil on-street behavior throughout the day and night, including addressing public drug use and dealing, and public inebriation (Montgomery, 2007). In Chinatown/I.D. the representatives' key priorities for public safety are similar to those for Pioneer Square, also with an interest in improving lighting in targeted low-lit areas where late-night drinking, prostitution and drug dealing activity occurs (Kurimura, Im, 2007). Criminal activity in the Hing Hay Park vicinity is also a concern. Community stakeholders also have identified the division of precincts on either side of Interstate 5 as a factor that decreases the perceived coordination and effectiveness of police protection in the Chinatown/I.D. neighborhood (Johnson, Im, 2007).

ENVIRONMENTAL IMPACTS

Future projected population and employment growth in the study area, with or without zoning changes, will gradually increase the demands for police protection over time. Compared to existing zoning, Alternatives 1, 2 and 3 would increase the probable density of employment and residential presence. This would likely increase the overall volume of calls for service and need for proactive police work as additional growth occurs in the area. An increasing residential presence would likely increase call volumes related to domestic disputes, burglaries, vandalism and auto theft. Commercial uses would likely increase call volumes related to crimes such as shoplifting, robbery and graffiti.

This programmatic EIS does not predict growth-related increases in call volumes, or a potential demand for additional police officers. SPD does not rely on these kinds of formulas, and they may not be accurate or representative of future call volumes or needs for proactive work (Quinn, SPD, 2007). Experience suggests that common unlawful activity in these neighborhoods—loitering, drug dealing, public inebriation and disorderly conduct—arise due to a combination of "environmental" factors rather than the number of residents or employees in the neighborhood. An example of an "environmental" factor is a combination of vacant and low-lit areas in proximity to establishments selling alcohol. To the extent that residential uses fill in vacant areas over time, increase lighting, put more pedestrians and "eyes on the street", and establish a more continuous pattern of street-level uses, there would be fewer dark areas where unlawful activity could occur. At the same time, an increasing presence of pedestrians and an increasing density of uses attracting night-time customers—such as restaurants and nightclubs—might also contribute to increased call volumes.

Gradual increases in call volumes would most likely cause SPD to dedicate more officer resources to respond to the range of calls generated by future growth. The overall level of police coverage would be a function of total call volumes, the frequency of overlapping emergency calls and the availability of police staffing to provide backup response as well as proactive crime prevention work. Changes that would affect shift start/end times and officer duty cycles, which determine the pattern of days on and off, are currently being considered, and any changes in these factors also would impact the availability of officers. SPD's proposed staffing increases through 2012 should allow increased patrol strength that could address much of the potential increase in demand over the next decade (Adams, SPD, 2007). Further staffing increases over time would be dependent upon future City budgeting decisions as well as precinct commanders' assignment of patrol officers in response to call volumes and the perceived need for proactive work.

Other activities beneficial to public safety would include: an active neighborhood/block watch program, close links between neighborhood groups and SPD Precinct commanders, continued partnership with human service providers, and a commitment to address public safety by implementing "Crime Prevention Through Environmental Design" (CPTED) principles. The CPTED approach would be able to address a number of the "environmental" factors noted above by minimizing the number of unsafe places in the community's environment. These strategies would make a difference over time in improving public safety.

SPD acknowledges that public safety should be maintained through effective best practice approaches to policing that will address the specific issues relevant to the study area. Recent programs and actions undertaken by SPD in the study area include frequent and regular contact with businesses and residents throughout the area, emphasis patrols occasioned by events at Qwest Field and Exhibition Center, and a special program to address problems associated with abandoned vehicles (Quinn, SPD, 2007).

In addition to the benefits of additional residential and street-level commercial presence, Livable South Downtown planning endorses a number of measures to be undertaken to improve public safety in the

neighborhoods, including: lighting improvements in under-illuminated areas, continuation of multi-agency efforts to clean up homeless encampment areas, and redrawing precinct boundaries to include Little Saigon in the West Precinct thereby consolidating the neighborhood's police coverage. This analysis suggests that future growth would result in a combination of positive and negative influences on public safety, SPD call volumes, and needs for proactive work. The overall effect of growth trends and probable increases in calls for service would represent an adverse impact on SPD, but growth would also bring additional opportunities to improve the area's public safety.

MITIGATION STRATEGIES

Due to a lack of identified significant adverse impacts, no mitigation strategies are required. See the public safety strategies suggested in the Impact discussion above.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

None are identified.

PARKS AND RECREATION

AFFECTED ENVIRONMENT

The Livable South Downtown study area includes several parks, plazas and other facilities for the diverse residents, employees, tourists, business patrons and stadium eventgoers in this area. These facilities are primarily located within the central parts of the Pioneer Square and Chinatown/I.D. neighborhoods, with limited open spaces available in other portions of the study area such as Little Saigon and the industrial-zoned stadium area. A summarized list of neighborhood parks, open space, recreational features and public-private open spaces includes the following:

Pioneer Square
Occidental Park and pedestrian mall
City Hall Park
Pioneer Square Park
Pedestrian plaza north of King Street Station
Washington Street Boat Landing
Waterfall Park at 2nd/Main*
Qwest Field north plaza*, Occidental promenade
Safeco Field plazas*
Colman Dock
Prefontaine Place

Chinatown/I.D.
Kobe Terrace/Danny Woo Gardens
Hing Hay Park
Children's Park
Plazas in the Union Station block*
Lane Street plaza at Uwajimaya*
Community Center, Library

Nearby outside the study area:
Yesler Terrace community center and playfields
Bailey Gatzert School playfields
Dr. Jose Rizal Park

(Note: Locations identified with a "*" are publicly used spaces that are maintained by private or public entities other than City of Seattle.)

The variety of neighborhood parks and open spaces serve multiple purposes. Aesthetically, they provide open space, visual relief, greenery and distinctive character elements that complement the historic character of these neighborhoods. They attract daytime use by many pedestrians and passersby. A few of these parks and plazas also provide active recreational opportunities for residents, with play equipment and gardening spaces. These include the Kobe Terrace/Danny Woo Gardens (which has active vegetable gardening spaces) and Children's Park in Chinatown/I.D. In addition, a community center and library near 8th Avenue S./S. Dearborn Street provides facilities for indoor athletic and recreational activities. Newer features of Occidental Park such as "bocce ball" courts also provide for limited active recreation. In Little Saigon, a nearby community center and playfield facilities at Yesler Terrace and Bailey Gatzert School also provide for some active recreation opportunities. Otherwise, the existing park and plaza spaces throughout the study area are more attuned to passive recreation, such as people-watching, sightseeing and photography. Occasional art-walks, weekend markets and street-vending activities also enliven these spaces.

Planned or possible future park/recreation improvements include: a future expansion of Hing Hay Park to the U.S. Post Office property to the west; landscaping improvements along Maynard Avenue S. south of S. Main Street; addition of a kiosk structure at Occidental Park; possible renovation of City Hall Park; and future development of park/plaza space in the Public Safety block (between James and Cherry Streets, 3rd and 4th Avenues).

In 2005 and 2006, Seattle Parks and Recreation (Parks) explored numerous properties for possible acquisition in Chinatown and Little Saigon vicinities. This effort included funds available from the 2000 Pro-Parks levy and King County. The proposal to expand Hing Hay Park to an adjacent property is the intended result of that effort (Blair, 2007).

In planning for park needs, Parks uses the following guidelines for distribution of park and open space:

Neighborhood Park or Usable Open Space, in Urban Village

Publicly-owned or dedicated open space that is easily accessible and intended to serve the immediate urban village. This encompasses various types of open space for passive enjoyment as well as activity and includes green areas and hard-surfaced urban plazas, street parks, and pocket parks. Dedicated open spaces should be at least 10,000 square feet in size.

Desirable: One acre of open space per 1,000 households and one-quarter acre of urban space per 10,000 jobs in the Downtown Urban Core. One-quarter acre within 1/8th mile of all locations in urban village density areas.

Acceptable: One-quarter acre within ½ mile, or community approved offset to lack of usable park space.

Offsets: School grounds, recreation facility, green streets, boulevard, and trail.

Using these measures, most of Little Saigon and the Jackson Place edge east of Rainier Avenue S. are areas identified as further than 1/8-mile from a usable open space. The existing aforementioned parks in Chinatown west of I-5 do meet proximity goals, however. In Pioneer Square, the neighborhood meets the proximity goals except in the stadium vicinity. Parks in its 2006 "gap analysis" identifies the Pioneer Square neighborhood as meeting its open space per household goals currently and for 2024, but not the Chinatown/I.D. neighborhood. According to goals for 2004 household presence, this urban village is about 0.3-acre short on usable open space, and for 2024 goals (per growth projected in the City's Comprehensive Plan) is about 1.3 acres short.

Parks planners also use several other guidelines for suggested proximity to active recreation facilities. For example, one soccer and baseball field is desirable within one to two miles of all Seattle residents. A community center should be available within one mile of Seattle residents, and community centers should serve populations of about 15,000-20,000 people (Seattle's Parks and Recreation Plan, 2000). The relatively recent construction of community centers in Chinatown and Yesler Terrace has addressed this active recreation space demand to some degree, and athletic fields are also present in Yesler Terrace and at Bailey Gatzert Elementary School near 14th Avenue S./S. Main Street.

As suggested by recent property acquisition efforts, the Downtown urban environment can be a difficult place for the City to acquire individual properties to provide additional park and recreation facilities due to limited availability and high costs. However, to the extent funding becomes available in the future Parks will consider opportunities for additional park and recreation investments (Blair, 2007)

ENVIRONMENTAL IMPACTS

Analysis for this EIS anticipates more residential and employment growth than was previously evaluated in parks planning. Compared to previous studies that assumed the growth projected in the City's Comprehensive Plan to 2024, the additional increment of residential growth studied in Alternatives 1, 2 and 3 amounts to about 3,700 to 4,100 more households by 2030 (see Table 3-33). For the No Action Alternative (Alt. 4), the additional residential growth amounts to about 1,400 additional households. The additional increment of growth would result in additional demand for parks, open space and recreational facilities, which can be evaluated at a programmatic level for its potential impacts.

Table 3-33
Net Additional Growth Contributing to Park/Recreation Demand Under the Alternatives

Comprehensive Plan Growth Assumptions, to 2024 (households)	Livable South Downtown EIS Growth Assumptions, to 2030 (households)	Net Difference Between EIS and Comprehensive Plan Growth Assumptions, to 2030 (households)
	Overall Total:	***Net Additional Amount Of Growth Evaluated in EIS:***
Pioneer Square: 1,000 Chinatown/I.D.: 1,000 TOTAL 2,000	Alts. 1, 2, 3: Appx. 5,700 – 6,100 Alt. 4 No Action: 3,400	Alts. 1, 2, 3: Appx. 3,700 – 4,100 Alt. 4 No Action: 1,400

Source: DPD, 2007

Using the DPR acreage-per-household guidelines, the net additional amounts of residential growth through 2030 would translate to an additional residential-based demand for usable park/recreation open space of:

- Alternative 1: 3.7 acres (equivalent to a space about 400 x 400 feet)
- Alternative 2: 4.0 acres
- Alternative 3: 4.1 acres
- Alternative 4: 1.4 acres

The projected demands from additional employment growth would be relatively small, amounting to less than one acre under each of the alternatives.

If neither the City nor future development provides additional park/recreation open space sufficient to meet Parks' acreage-per-household guidelines, additional deficits in open space would be generated. Such deficits are identified as potential adverse impacts of future growth on parks and recreation. Other aspects of potential parks and recreation impacts are summarized below.

Increased Use of Existing Parks and Recreation Facilities

Future residential and employment growth would tend to increase the overall use and activity levels of existing parks and open spaces. In many instances this would better activate and improve the safety of public spaces. However, with large increases in resident and employee populations, there could eventually be volumes of use at some parks or recreation facilities that would represent "overuse" of such facilities. An example would be maximized use of community center athletic facilities.

Increased Need for Usable Open Space Distributed Across the Study Area

With the probable trends of increased residential infill development across non-industrial portions of the study area and increased commercial/office development in IC zones, the residential and employee populations would be more densely distributed across the study area than under existing conditions. This would generate additional demand for usable open spaces that are distributed more evenly across the study area. Examples of areas with increased demand for open space over time include Little Saigon, where there is no dedicated park space, the south-of-Dearborn vicinity, the Qwest Field north parking lot and "over-tracks" vicinity west of 4th Avenue S., and the 1st Avenue S. corridor south of S. King Street. Similarly, even though there are park or plaza features in or near certain areas in Chinatown and Pioneer Square, local resident and employee populations would benefit if additional open space amenities were available.

Conclusion of Adverse Impacts for Alternatives 1, 2 and 3

The impacts identified above represent adverse impacts of future growth attributable to the zoning alternatives. Options for addressing these added demands include:

- seeking to ensure that sufficient usable open space is provided on-site or in nearby off-site locations, as part of future development projects, through requirements, incentives, public benefit improvements, or other strategies; and/or
- future City actions to acquire and improve properties for parks and open space; and/or
- improve properties already in public ownership.

It is also noted that under the proposed South Downtown Mixed (SDM) zone, an increased importance is attached to achieving open space amenities in future development. Assuming this zoning strategy would be successfully implemented, Alternative 3 would have a lesser potential for adverse open space impacts due to the greatest presence of SDM zones. Comparatively, Alternative 2 would have a greater potential for such impacts due to the lack of SDM zones, and Alternative 1 would have an intermediate potential for impact between Alternatives 2 and 3. In other areas of the Pioneer Square and Chinatown/I.D. neighborhoods, the overall potential for adverse open space impacts is roughly comparable under Alternatives 1, 2 and 3, and lesser for the No Action Alternative (Alt. 4).

MITIGATION STRATEGIES

Due to a lack of identified significant adverse impacts, no mitigation strategies are required. City agencies may consider actions that would provide additional parks and open spaces in this area over time.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

None are identified.

ENERGY

AFFECTED ENVIRONMENT

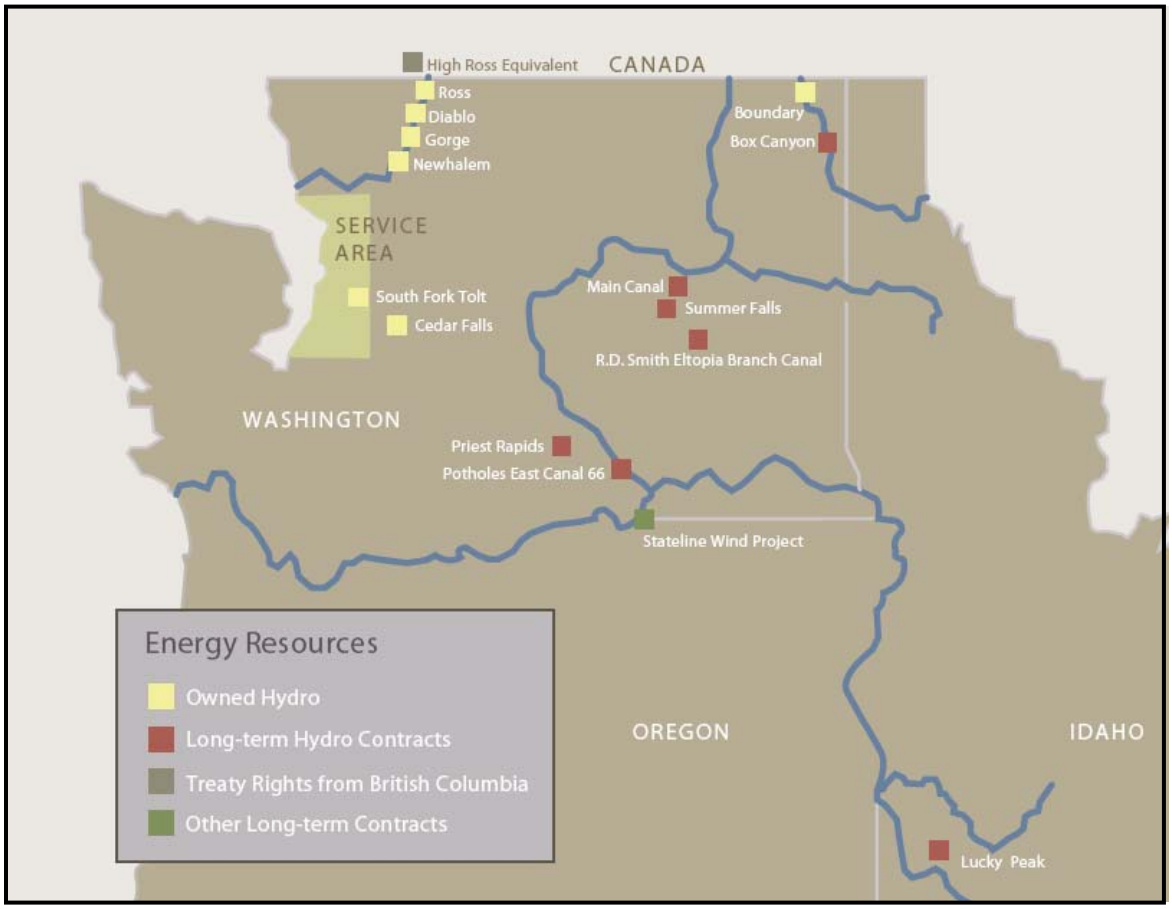
INTRODUCTION

Seattle City Light (SCL) is the municipal electric utility for Greater Seattle, serving approximately 350,000 customers, with a history dating back to 1902. SCL's service area is 131 square miles, an area with a total population of roughly 740,000 people.

GENERATION AND SUPPLY

The total capability of City Light hydroelectric plants is 1,920 megawatts (MW). The highest recent peak usage of 1,716 MW occurred in December 2005. City Light owns and operates hydro generating facilities at (1) Cedar Falls, (2) Boundary, (3) Gorge, (4) Newhalem, (5) Diablo, (6) Ross and (7) South Fork Tolt (see Figure 3-39). In addition, SCL acquires generation from Priest Rapids, Stateline wind project, Lucky Peak, products of Bonneville Power Administration consisting of "Slice" and "Block" purchases from the Mid-Columbia system and irrigation-based hydroelectric generation from the Grand Coulee Project Hydroelectric Authority.

Figure 3-39
Seattle City Light Energy Resources



HIGH-VOLTAGE TRANSMISSION SYSTEM

Electrical transmission lines connect to generation resources, bringing bulk power to receiving substations at high voltage. The SCL transmission system consists of approximately 657 circuit miles of 230 kilovolt (kV) and 115 kV lines. City Light's facilities have multiple interconnections with Bonneville Power

Administration, Puget Sound Energy, Snohomish County Public Utility District and Avista Corporation systems.

DISTRIBUTION SYSTEM

City Light has nearly 2,500 circuit miles of distribution lines at three power levels, and the lines are served from thirteen receiving substations. Three of these substations (Broad Street-Annex, Union Street and Massachusetts Street) serve an underground 13.8 kV Downtown network. Another two of these substations (East Pine and University) serve an underground 26.4 kV network in the First Hill area and University District area. The rest of Seattle gets power from a 26.4 kV looped radial distribution system. The looped radial substations are as follows: Broad (26 kV), Canal, Creston Nelson, Delridge, Duwamish, East Pine, North, Shoreline, South, University and Viewland Hoffman. South Substation also serves a dedicated 34.5 kV service to Nucor Steel.

For the South Downtown study area, there are two distribution systems: (1) the underground 13.8 kV network system and (2) the looped radial 26.4 kV system which is a combination of underground and overhead distribution. Both systems are designed to provide a highly reliable power supply to customers including Downtown commercial and residential uses, the Port of Seattle and industrial uses.

Downtown Network - Massachusetts Substation (13.8 Kv)

The Downtown network is broken up into 12 sub-networks, five identified with the Broad substation, four identified with the Union substation, and three identified with the Massachusetts substation. Of these, the "Mass South" sub-network serves primarily Pioneer Square but also a segment of Chinatown/I.D., bounded by approximately Yesler Way, Alaskan Way, I-5, S. King Street in Pioneer Square, and as far east as Maynard Avenue S./S. Jackson Street. Other parts of the study area are served by the South substation near S. Spokane Street (described below).

The "Mass South" sub-network is an underground network operating at 13.8 kV. The load for the approximately 1,500 metered customers in this area is 15.2 MVA, a little more than one-third of the load served by this substation. During high-demand periods in 2005-06, the coincidental loads for the Downtown-oriented Broad, Union and Massachusetts Substations added up to a total of 241 MW or 14.0% of the entire City Light demand of 1,716 MW. On July 24, 2006, the summer peak load for the Downtown-oriented Broad, Union and Massachusetts Substations added up to a total of 261 MW or 18.3% of the entire City Light summer peak demand of 1,427 MW. Warm weather and air conditioning needs led to the summer peak demands being higher than winter peak demands.

Electrical system improvement plans for the Pioneer Square-oriented service area include replacing old cables with new cables for four feeders emanating from Massachusetts Substation. In addition, new duct banks and new manholes will be installed. This is planned to occur over the next 15 years. Also, as part of SR99 improvements, five feeders will likely be rerouted.

South Substation (26.4 kV)

Service from the South Substation occurs through a combination of underground and overhead distribution feeders. Seven feeders from the South Substation serve the South Downtown and Duwamish vicinity, including one (known as "2638") that serves the majority of the Chinatown/I.D. neighborhood and into First Hill. The other feeders provide service to various portions of the Duwamish industrial area, including the Stadium Area and vicinity of 4th Avenue S.

The non-coincidental feeder load for the main feeder serving Chinatown/I.D. ranges from about 10.0 MVA (220 amps) in summer to 11.4 MVA (250 amps) in winter. City Light has identified potential re-conductoring projects for this area, but these projects are not currently budgeted. Unless there are specific new large loads coming on-line within the next couple years, or there is a need to transfer load from one feeder to another, City Light does not plan on new feeder enhancements.

PROJECTIONS OF FUTURE LOAD GROWTH

The load for the entire Downtown underground network is projected to grow at approximately 1.3% per year. Another estimate indicated that the Mass South sub-network could carry only 3% to 4% of the projected Downtown area load increase or an annual load growth "trend" of approximately 0.04% per year at 15.2 MVA base loads in 2006.

In the near term, City Light is performing work to maximize the substation and distribution feeder capacities for the Downtown network. Capacity work requires re-conductoring feeders using larger cables, balancing and transferring feeder loads between neighboring substations, and increasing some network capacities. Taken as a whole, the proposed enhancements will result in maximum utilization of network feeder and substation capacity available from substations to the Downtown network.

The projected growth for the South Substation's 26.4 kV service is 1.1% per year. No major system improvements to serve this growth are currently anticipated, although some minor feeder improvements may be needed.

PORT OF SEATTLE LOAD GROWTH

The Port of Seattle has requested comments from City Light on potentially providing shore power connections, a practice referred to as "cold ironing", to some of the Port's marine terminals. The estimated load for each freighter is approximately 7 MW. The terminals being considered for such service are at Terminals 5, 18, 25, 30, 37-46 and possibly Terminal 115. This includes potential service to cruise ships. If all of these occur, the estimated peak load "increase" would be between 50-70 MW. The study by the Port states this could occur over a 4-12 year period. This study is a recent planning activity and implementation would require approval by the Port Commissioners. As such, at this time, City Light's projections on use of the existing feeders and substation capacities do not include the maximum potential Port load increase.

INTEGRATED RESOURCE PLAN

City Light has developed and uses a long range plan, subject to bi-yearly updates, to guide the acquisition of new energy resources to meet the needs of its customers. The current 2006 Integrated Resource Plan (IRP) recommendations and EIS can be found on the web at: http://www.seattle.gov/light/news/issues/irp/. The IRP process involves looking at electricity resources (owned and long term contracts) and electrical demand forecasts over a 20 year period, to determine when new resources will be needed. Then, alternative mixes of existing and new resources are evaluated and compared based on cost, risk, reliability and environmental impacts, to select timely resource acquisitions that ensure customer obligations are met.

Environmental impacts associated with meeting electrical energy requirements anticipated under the existing forecast were assessed in the 2006 IRP EIS. A major focus of this document was air quality impacts and assessment of greenhouse gas emissions. SCL has adopted a policy of meeting load growth with conservation and renewable energy resources and fully offsetting all carbon emissions that may be a result of energy purchases needed to serve customers. This is an ongoing commitment that has been fulfilled in the past few years, beginning in 2005.

GREEN POWER & CONSERVATION

Seattle's history of renewable energy began in the early 1900's with the Cedar Falls hydroelectric plant. Later, City Light developed the Skagit and Boundary hydroelectric facilities. The Skagit facilities were recently recognized as meeting strict "low-impact hydro" certification requirements (see www.lowimpacthydro.org for additional information).

Since 1977, conservation has been Seattle's energy resource of choice. City Light's mission is to provide a full-range of cost-effective energy efficiency service to customers. In 2001, the State Legislature passed

a law allowing customers to partner with their electric utility to purchase new clean renewable energy sources. City Light responded by creating Seattle Green Power with voluntary customer payments helping to fund a wider range of new renewable energy sources, including local solar demonstration projects. Customer participation in green power programs helps to acquire additional supplies and accelerate the market for new renewable energy that does not create greenhouse gas emissions.

In 2002, City Light contracted for one of the largest wind power purchases in the country, 175 megawatts from the Stateline project in eastern Washington and Oregon.

In 2005, City Light began offering its Green Up program, offering market-based renewable energy certificates, or green tags, from wind power, to "green up" customer energy portfolios. City Light has long supported customers with a wide range of conservation products and services, including financial incentives that reduce customer electric bills and support the local economy.

EVALUATION OF EXISTING ENERGY USE IN PIONEER SQUARE NEIGHBORHOOD

A study was conducted by International Sustainable Solutions (ISS) to evaluate energy use patterns within the Pioneer Square neighborhood.

The ISS study found that:

- Many of Pioneer Square's existing buildings (not including Qwest Field), due to characteristics such as operable windows and less energy-intensive systems, actually perform well, with office, warehouse and residential buildings using in the range of about 10-15 kilowatt-hours per square foot annually, compared to a U.S. average of almost 29 kilowatt-hours per square foot during the 1990s. Pioneer Square retail uses' energy intensity was higher, in the range of 50 kilowatt-hours per square foot annually.
- Comparatively, some projects designed to meet LEED[1] standards (including Seattle's Justice Center and the "Brewery Blocks" in Portland, Oregon achieved energy levels in the low 20's of kilowatt-hours per square foot, and higher performance is possible—such as at the White Rock, British Columbia City Operations Center, which achieved energy intensity levels below 10 kilowatt-hours per square foot annually.
- Similarly, other European examples that use available energy-efficient technologies are performing in the range of 5-10 kilowatt-hours per square foot annually.
- A combination of several strategies would need to be implemented to achieve a major improvement in the neighborhood's energy efficiency. Strategic options could include: high performance energy efficiency requirements in new buildings; incorporation of local renewable energy by using technologies such as solar photovoltaic systems; local combined heat and power generation; and/or use of other sustainable energy technologies. These kinds of strategies are being implemented in various European countries.

[1] "LEED" is a trademark and an abbreviation for "Leadership in Energy and Environmental Design"

FUTURE GROWTH IMPACTS ON THE ELECTRICAL SYSTEM

All Alternatives

For EIS Alternatives 1, 2 and 3, the growth scenario evaluates approximately 6,000 dwelling units of additional residential growth, and approximately 24,600 jobs of additional employment growth in the study area by 2030. Employment growth would be expected to occur within existing buildings as well as new buildings developed by 2030.

The projected growth would increase overall demands in the study area for electrical service and overall energy demand, and there are environmental impacts associated with development of new electric resources that could be needed to meet this demand.

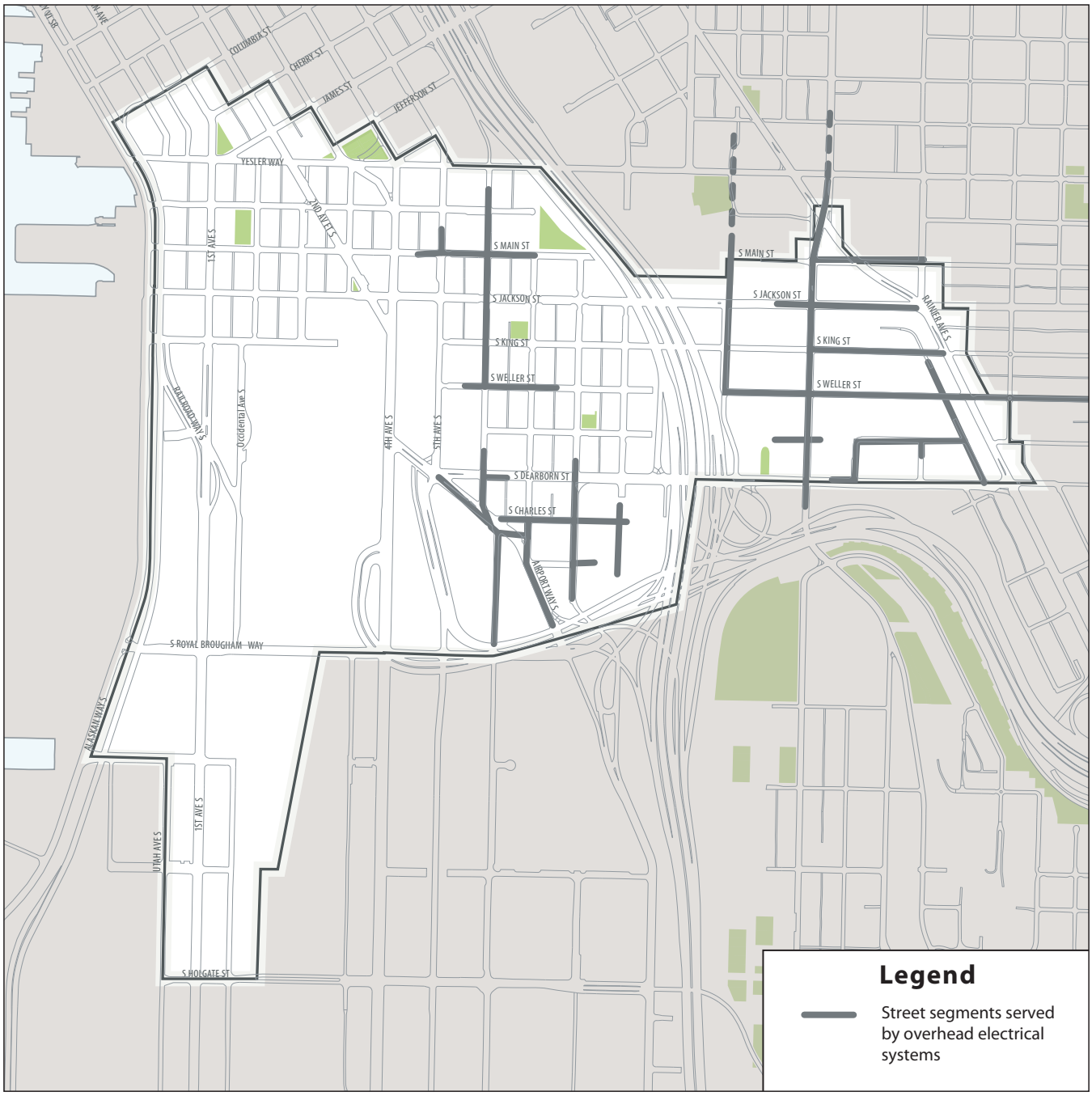
There also may be construction impacts associated with expansion or improvement of the electrical distribution system to serve new load. However, the analysis to date indicates that the City Light distribution system can accommodate load growth identified in the four EIS alternatives (Chung, Nierenberg, 2007). To reach this preliminary conclusion, City Light staff reviewed the existing systems' characteristics, the EIS growth scenarios, prospective future load growth in the Duwamish industrial area, and City Light's ongoing planning of future system improvements. Additional analysis to verify this conclusion will be conducted by City Light.

While no specific distribution system infrastructure capacity improvements related to the projected growth are identified at this time (for example, no new feeder lines are likely to be needed to serve projected growth using standard assumptions about types of commercial and residential growth), if unusually high energy demands or customer service requirements are proposed, such as a data center or research facility, City Light would partner with the applicant to ascertain electrical demands and any specific energy delivery improvements (such as a feeder extension) that might be needed to serve such uses. It is also possible that individual developments would need localized improvements to extend service from existing lines. In such cases, City Light's policy is that developers provide and bear the cost of such improvements (Nierenberg, 2007).

City Light needs right-of-way space to build power line infrastructure to meet future building development and growth demands. Overhead electric lines are one option outside of network areas. However, developers of new buildings often want to locate the building bulk abutting the property lines at the edge of street rights-of-way. In such cases, clearances to power lines in the rights-of-way may not be sufficient to maneuver equipment and maintenance personnel, so a safety hazard may occur. In such circumstances, City Light coordinates with customers to determine how service may be achieved while maintaining required clearances. In some cases, adjustments in building design may be sufficient to provide adequate clearance. In others, more costly undergrounding of electric utilities may be needed, and if needed to accommodate specific developments, the building developer may be responsible for any cost difference. This concern about new building design could continue to be addressed on a project-by-project basis (DPD favors this approach), or additional building setback controls could be defined for zones in the affected vicinity. Figure 3-40 below shows where overhead systems are present in the study area.

ENERGY CONSERVATION AND SUSTAINABILITY

There is growing public sector, citizen and development community interest in addressing global climate change and advancing sustainable development practices. SCL's programs and approaches already address several aspects of conservation and sustainable practices, especially in how the supply of energy is provided (see summarized information in "Affected Environment" discussion above, and the referenced documents for more information). To address the study area's future energy demands, Livable South Downtown recommendations will include consideration of strategies that are meant to achieve higher



0 2 4 6 8 10
Scale in 100 Feet

Figure 3-40

Location of Overhead Electrical Systems

Livable South Downtown

energy efficiency and limits on carbon emissions, through conservation and sustainable development strategies. This direction is supported by current City policy including SEPA policies, smart growth planning objectives, SCL's and Citywide carbon emission reduction objectives, and other components of the city's Climate Action Plan and SCL's 2006 Integrated Resource Plan.

The preferred approach will set performance levels for energy use and conservation, will encourage or require conservation strategies to be incorporated in design of new development, and will define how carbon emissions will be addressed. A comprehensive strategy may include the following:

1. **Beat Energy Code minimum performance:** New structures should be designed to exceed Energy Code minimum performance levels by at least 15%.
2. **Coordinate early with City Light on energy conservation assistance:** Developers and their designers should coordinate with City Light staff early in the design process to take advantage of City Light energy conservation funding opportunities relating to building development.
3. **Compare building performance to recognized benchmarks such as the 2030 Challenge:** As a way of measuring and disclosing performance, define a benchmarking method such as levels associated with the "2030 Challenge" that compares performance to a goal without setting an absolute requirement.
4. **Set an "energy budget" or similar performance level at building or district scale:** Certain types of new structures in rezoned areas could be required to not exceed the total energy use expected to occur under today's zoning, thereby setting an "energy budget" or a performance level that must be achieved even though future development would be larger than previously anticipated.
5. **Consider district-based approaches:** Strategies such as district heating/cooling systems that could provide benefits to multiple parties as well as additional environmental benefits not available through conventional or site-by-site development approaches.
6. **Consider participation in larger-scale carbon emission reduction strategies or programs:** Through the Climate Action Plan, the City will continue to examine options to achieve carbon emission reductions and climate protection. Ongoing agency and interdepartmental work will likely yield approaches that are part of a big-picture approach to sustainable growth. This may, for example, describe methods for addressing transportation-related emissions as a side-effect of growth.

Further discussion will be needed to settle on the optimal approach for South Downtown. The long-term net result of such actions is likely to promote fulfillment of the City's SEPA policies, which indicate "it is the City's policy to promote energy conservation and the most efficient possible use and production of energy."

MITIGATION STRATEGIES

The incorporation of strategies to address conservation and sustainability objectives into the City's final recommendations will help avoid or mitigate impacts associated with development of new electric resources and fulfill the City's SEPA policies on energy.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

None are identified.

WATER UTILITY

AFFECTED ENVIRONMENT

EXISTING WATER SYSTEM CONDITIONS

The Livable South Downtown study area is located in the South 326 pressure zone. Water services are provided by Seattle Public Utilities (SPU) to approximately 1,000 locations, of which roughly 70% are in Downtown zoned areas, 20% are in industrial zoned areas and 10% are in commercial zoned areas.

Sizes

The study area contains primarily 12-inch and larger diameter cast iron water mains. The major supply mains consist of 16-, 24-, and 30-inch mains that convey water in a north-south direction along the major avenues. The western study area vicinity is served by 12- and 24-inch mains in Alaskan Way and 1st Avenue S. respectively. In the Chinatown vicinity, there are 12-inch and 16-inch mains in 4th Avenue S. and 6th Avenue S., respectively, and 30-inch and 24-inch mains in Airport Way S.-to-7th Avenue S. and S. Dearborn Street respectively. The east-west pipe gridding consists mostly of 12-inch mains in the Pioneer Square and Chinatown vicinities, although there are a few scattered blocks with 8-inch mains. In the Little Saigon vicinity, 12th Avenue S. is served by a 24-inch main, with 8-inch mains present in most streets east of 12th Avenue S.

Age

The majority (63%) of the water mains in the study area were installed prior to 1920.

Water Pressure

Water pressure in this area is very good, ranging from 50-75 pounds per square inch (psi) in Little Saigon and higher hill areas of Japantown, to between 75-120 psi in the central portion of the study area, and between 120-129 psi in the western areas toward the waterfront.

Available Fire Flow

Nearly all of the hydrants in the study area supply at least 4,000 gallons per minute (gpm) at a residual pressure of 20 psi. Two locations provide fire flow below this level: S. Washington Street west of Maynard Avenue S. (near I-5), and S. Weller Street between 12th Avenue S. and Rainier Avenue South. Developers may need to install water main improvements at these locations if required for their structures. Actual fire flow requirements for new or improved structures are determined by the Seattle Fire Marshal's Office, based on the 2003 International Fire Code. Most Downtown structures rely on flow from several nearby hydrants to meet their fire flow requirements.

Reliability of Existing Water Mains

Since 2000, there have been about 25 water main leaks or breaks in this area. This is considered to be within a normal range of system performance (SPU, 2007). Seventeen of these leaks were joint-related leaks of which 15 occurred on pre-1920 cast iron mains where water pressures are about 125 psi. When these incidents occur, the main segments must be shut down to prevent further joint damage and isolate them for repairs. Spot repairs to water mains will continue to be occasionally needed in the study area due to local characteristics that include high water pressure, cast iron pipe, lead joints, soil and groundwater conditions, and rail and truck traffic vibrations.

Ongoing Planning Efforts, System Improvement Needs

Fill soils in the low-lying areas west of I-5 make watermains vulnerable to earthquake damage. In the worst-case, the entire pressure zone's service could be affected by earthquake damage in the study area. The installation of isolation valves is a potential improvement described by SPU engineers that would help reduce the extent of damage to water service (SPU, 2007). Conceptually, such valves should be located at the southern edge of the Downtown central business district just north of Yesler Way. This would enhance overall water main reliability in areas with good soils, though it would not solve post-earthquake needs in severely affected areas. Given its location and soil conditions, water supply likely could be maintained in Little Saigon after a seismic event, provided that service from an adjacent pressure zone is available.

Another possible system improvement would be to install additional local line valves with better spacing, which would reduce the size of shut-down areas when water main breaks or leaks occur. This would reduce disruptions and improve overall reliability of service. One drawback is cost—the larger diameter mains in the study area would necessitate costly commercial-level valving.

ENVIRONMENTAL IMPACTS

WATER SYSTEM IMPACTS WITH FUTURE GROWTH

All Alternatives

For EIS Alternatives 1, 2 and 3, the growth scenario evaluates approximately 6,000 dwelling units of additional residential growth, and approximately 24,600 jobs of additional employment growth by 2030. Employment growth would be expected to occur through development of new buildings but also through increased employment within existing buildings.

Projected growth would increase the overall demand for domestic water service and fire flow protection in the study area. At a programmatic level of review, no significant adverse impacts on water utilities are identified for any of the EIS alternatives (SPU, 2007). No specific system improvement needs related to the projected growth are identified. SPU staff indicate that the existing water system in the study area is well-prepared to provide service to future growth. From a system-wide perspective, the sizing of the system, and the available water pressure and fire flow volumes are generally adequate to provide service to future levels of growth under any of the EIS alternatives. This does not rule out the possibility that individual developments may be required to make localized improvements to meet fire flow or domestic service requirements. If improvements would benefit multiple parties, a developer's improvement costs are calculated in proportion to the scale of their development (SPU, 2007).

Under the No Action Alternative (Alt. 4), the expected amount of future growth would be less than predicted for the other alternatives, also with no significant adverse impacts on water utilities identified.

POSSIBLE SEISMIC DAMAGE CONTROL STRATEGIES

The EIS evaluates future growth within several portions of the study area that are at risk of seismic damage due to their soil characteristics. In order to reduce the worst-case risks of damage and water service interruptions, the installation of isolation valves between the study area and the Downtown office core, as suggested by SPU, has merit. This type of improvement would be a precautionary measure that could be pursued regardless of zoning for the study area. Also, see the Earth section in this chapter for additional discussion of seismic risks and potential damage.

POSSIBLE WATER-USE SUSTAINABILITY STRATEGIES

Despite the lack of identified significant adverse impacts on the water utility system, there would be opportunities in future development to encourage the use of alternative strategies that would reduce overall domestic water use and effluent flows to the sewer system. These strategies would have multiple kinds of environmental benefits.

Rainwater harvesting could provide supplemental water for toilet flushing, which comprises up to 20 percent of water demand in a typical building. ***On-site treatment of wastewater***, using proven technologies, could also contribute non-potable water for re-use without taking up too much space. Using both of these methods together could address all or most toilet flushing needs in a new building, which would generate year-round benefits by reducing "base flows." This would also reduce the volume of effluent flows into the sewer system, which helps reduce the potential for combined sewer overflows that are a significant environmental pollution concern in Seattle. Over the long-term, ***electronically-monitored "smart" valve systems*** may also be possible to employ in parts of Seattle's sewer system to help manage sewer flows better in real time and avoid overflows.

MITIGATION STRATEGIES

Due to a lack of identified significant adverse impacts, no mitigation strategies are proposed. However, please see the strategies listed above relating to seismic damage control and environmental sustainability.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

None are identified.

SEWER AND STORMWATER UTILITY

AFFECTED ENVIRONMENT

EXISTING SEWER SYSTEM CONDITIONS

The South Downtown study area has one of the older sections of Seattle's sewer system. Approximately 55% of the pipes were built before 1920. Materials used for these older pipes include brick, vitrified clay, and cast iron. Pipes built after 1950 tend to be reinforced concrete. About 75% of the system in the study area is "combined", meaning pipes carry both stormwater and wastewater. Only about 12% of the study area's system consists of separated sewer lines. Seattle is responsible for the collector sewer pipes; these feed into large interceptor lines that are owned and operated by King County Metro, which transports the flows to King County's sewage treatment plant at West Point near Discovery Park.

In the study area, the sewer lines vary widely in size—from 8-inch diameter in limited segments to 48-inch or even 60-inch diameter in some segments, and even larger in the Metro mainline. The King County Metro mainline runs along Occidental Avenue S., S. King Street, and then northward along 2nd Avenue S. and 2nd Avenue. Areas south of S. Royal Brougham Way drain northward. Several sewer lines in Pioneer Square flow westward, while lines in Chinatown typically flow southward toward S. Royal Brougham Way. East of 12th Avenue S. in Little Saigon, sewage flows travel eastward and then southeastward along Rainier Avenue S. and Dearborn Place S. Stormwater outfall points to Elliott Bay include locations at S. Royal Brougham Way and S. Washington Street.

Topography and soils influence sewer system operation in the study area. Fill soils are present in several flatter areas west of I-5, while till soils are more prevalent in higher elevation areas east of I-5. West of I-5, several lower elevation areas have groundwater present at shallow depths, and can be subject to the influences of tidal action in Elliott Bay. This can lead to groundwater infiltrating into older pipes, which can increase the water volumes in the pipes. Shallow groundwater may also create a need for de-watering in some existing buildings to maintain dry conditions in basements, contributing to sewer system volumes.

Many of the pipes have been inspected using cameras and a number of them have some form of defects. This does not necessarily mean that the pipes need to be replaced. A defect can be identified and remain in place for years with virtually no change and no effect on system performance. SPU has found, in fact, that some of the older vitrified clay pipes are exceptionally long-lasting. Spot repairs in many cases are sufficient. In other cases, pipes with a number of defects can be relined to improve their effectiveness.

ENVIRONMENTAL IMPACTS

IMPACTS OF FUTURE GROWTH ON THE SEWER SYSTEM

All Alternatives

Projected growth under any alternative would increase the overall generation of sewage volumes in the study area. Growth would also result in increased coverage of land by new buildings, which would generate additional roof-related stormwater runoff. However, because stormwater control systems are probably non-existent on numerous properties, the inclusion of new on-site stormwater control systems in future development projects would be beneficial in slowing down runoff and reducing the potential for overflows of combined sewer systems during intense storms. In addition, the probable inclusion of additional "green" features into at least some future developments would further help moderate stormwater volumes and peak flows to the combined sewer systems (see discussion below). Also,

expected improvements to the stormwater and plumbing codes would help limit the potential for future system impacts.

SPU is currently modeling the South Downtown sewer system to evaluate the capacity of the current system and its operation, as well as the effects of future growth. At a programmatic level of review, no significant adverse impacts on sewer utilities have been identified due to projected growth under any of the EIS alternatives. This does not rule out the possibility that individual developments might need specific localized improvements to meet service hookup requirements. In such cases, SPU's current policy is that developers provide such improvements.

Under the No Action Alternative (Alt. 4), the expected amount of future growth would be less than predicted for the other alternatives, also with no identified significant adverse impacts on the sewer system.

POSSIBLE DRAINAGE/WASTEWATER SUSTAINABILITY STRATEGIES

SPU has commissioned a study to look at various "demand management" strategies to control stormwater before it enters the wastewater collection system. The performance of several specific strategies is being studied including: green roofs, porous pavement, cisterns (e.g., that provide for "rainwater harvesting"), bioretention swales, tree boxes, infiltration trenches, and other vegetated amenities. The intent of the study is to quantify the potential of these on-site strategies to determine if inclusion in future sewer management decisions is warranted. Environmental benefits might include the potential for reduced combined sewer overflows (CSOs). As noted in the Water Utility section of this chapter, strategies like rainwater harvesting can also be beneficial by providing a source for non-potable water re-use, thereby reducing overall domestic water needs.

The potential inclusion of these types of strategies as incentives or requirements for future development plans in the South Downtown study area could provide for improved performance of the area in its stormwater controls and increase the avoidance of CSOs. The Livable South Downtown planning effort recommends that such strategies be incorporated in future development.

MITIGATION STRATEGIES

Due to a lack of identified significant adverse impacts, no mitigation strategies are proposed. However, please see the strategies listed above relating to environmental sustainability. Completion of the sewer system model may suggest other operational system improvements.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

None are identified.

EARTH

AFFECTED ENVIRONMENT

SEISMIC HAZARDS

Overview

A June 2005 study prepared for Washington State, "*Scenario for a Magnitude 6.7 Earthquake on the Seattle Fault*" by the Earthquake Engineering Research Institute (EERI) illustrates the potentially widespread consequences of a major earthquake. Potential losses from a magnitude 6.7 shallow earthquake could be ten times worse than the 2001 Nisqually earthquake, with thousands of lives lost, destruction of buildings, disruption of transportation and utilities, and severe economic disruption. Given South Downtown's historic buildings and transportation systems, seismic risks and protective strategies should be understood.

Geologic Conditions and Seismic-Related Ground Failure

The Seattle Fault zone runs through Puget Sound, Seattle, Bellevue and Issaquah, roughly parallel to Interstate 90. Shallow earthquakes could occur in this fault or five other known surface fault zones. Over 50 years, there is a 2% probability that severe ground motion could occur, based on all potential earthquake sources—and "*the projected ground motions are some of the highest in the country.*" (EERI, 2005).

A substantial portion of South Downtown and the Duwamish vicinity have poor soils, reflecting prior mud flats and subsequent filling. These poor soils generally extend as far as Chinatown/I.D. within one block of Airport Way S., angling northwest toward Second Avenue Extension. These are identified as "liquefaction hazard areas" meaning that during earthquakes the soils may behave like a liquid and experience shaking and accelerated movement.

Seismic ground failures in a shallow earthquake could include surface ruptures, landslides, loss of bearing capacity, ground settlement, lateral spreading and local flooding. Lateral spreading causes liquefied ground masses to move downward—the EERI analysis estimates such movement in South Downtown of at least 1 to 3 feet, more near shorelines. Buildings could settle or tip over due to loss of soil bearing capacity. Water ejected from soils could cause local flooding (EERI, 2005). A tsunami or flooding might also occur—perhaps 10 feet or higher, if a major earthquake deforms the Puget Sound seafloor.

Types of Potential Seismic Damage

Commercial, Industrial and Residential Buildings

Buildings most at risk for severe seismic damage are those built with "unreinforced masonry" (URM). South Downtown neighborhoods contain the largest concentration of such URM buildings in the region. These are at risk due to inadequate structural qualities, such as inadequate wall anchorage, unstable parapets, weak masonry walls, and risk of deflections, twisting or wall collapse. This includes older industrial buildings built before 1973.

The potential for damage from a magnitude 6.7 earthquake in the Seattle Fault would be high, due to "*very strong ground motions that generate forces far in excess of those experienced during the 2001 Nisqually earthquake."* (EERI, 2005). Approximately 3,900 commercial and industrial buildings in the region would experience moderate-to-extensive structural damage, amounting to $10.5 billion in losses. "*In addition…about $15.3 billion in damage to single- and multi-family residential structures* [would occur], *temporarily displacing more than 46,000 households.*" Extensive damage to local buildings

would severely affect the social and economic functioning of the study area's neighborhoods, as well as the historic resources that define their character.

Utilities

Water, sewer, electrical, communication and natural gas utilities are at risk.

- ***Water/sewer:*** Vulnerable to significant damage from major ground shaking, particularly where surface rupture or lateral spreading would occur. Pump stations, tanks and other equipment could also be seriously damaged. Sewage discharges to local water bodies could occur.
- ***Electricity:*** Could experience damage to transmission and distribution lines and substations. Potential collapse of the Alaskan Way Viaduct would cause significant damage or impairment to adjacent electrical systems. Approximately half of the electrical system would suffer outages, with service likely restorable within a few days.
- ***Communications:*** Could experience damage and service challenges.
- ***Natural Gas:*** Facilities in poor soils will experience some damage, even though Puget Sound Energy has replaced much of its iron pipe with PVC pipe.

Transportation Systems

Road, transit, rail, ferry, air and water port systems are integral to the regional economy. "*A major disruption to any one of these components…will overload the other systems, reducing their efficiency, potentially bringing them to a halt, with devastating effect on the region's economy."* (EERI, 2005). Some roads and bridges could be severely damaged or collapse, particularly vulnerable structures such as the Alaskan Way Viaduct and Fourth Avenue South bridge structure.

Marine Ports and Related Infrastructure

The Ports of Seattle and Tacoma are each multi-billion dollar contributors to the region's economy, providing movement of goods to and from other countries. Connections to rail and highway networks are important conduits for the flow of goods. Various port facilities, such as piers, wharves, seawalls, container storage yards, and upland equipment are at risk of damage. Most of the ground in these facilities is moderately or highly susceptible to seismic movement and damage. The 1995 Kobe, Japan quake caused great damage to port facilities, leading to major losses of shipping business. The same could occur in this region. Damage to railroad lines would compound the problems with the flow of goods.

Economic and Business Impacts

As suggested by the preceding discussion, potentially catastrophic damage would have tremendous regional economic impacts. Kobe, Japan incurred losses of roughly $200 billion, in a city of comparable size and geography to the Seattle area. Many small businesses would fail in the wake of a major earthquake, and impaired roads and utilities would create lasting effects on commerce and industry.

A consultant’s study for DPD used a Federal Emergency Management Agency model known as “HAZUS” to estimate potential earthquake losses in the study area. The model estimates potential losses of building inventory, transportation and utility infrastructure, economic losses due to impaired conditions, social impacts (shelter and casualties) and debris generation. It estimates damages to the existing inventory of buildings, facilities and infrastructure per the soil conditions and possible kinds of earthquakes. Because this study represents only an initial review of potential losses, it may underestimate some losses that could be better estimated if additional in-depth examination of potential infrastructure damage and economic losses occurred.

Table 3-34 illustrates the model results for earthquakes at different magnitudes. For example, the aftermath of an 8.5 magnitude earthquake could generate almost $10 billion in damages to buildings and infrastructure: around $1.7 billion in building-related capital and economic losses, almost $8 billion in transportation system capital losses and economic losses, and around $300 million in other utility infrastructure capital and economic losses, just in the study area. The presence of transportation and port facilities that are critical to the region's economy heighten the potential for losses and the interests in seismic damage prevention.

Table 3-34
Estimated Capital and Economic Losses in South Downtown During Major Earthquake Events

Earthquake Magnitude	Building-Related		Transportation System		Other Utility Infrastructure		Totals
	Capital (000,000)	Economic (000,000)	Capital (000,000)	Economic (000,000)	Capital (000,000)	Economic (000,000)	(000,000)
7.0	$568	$108	$6,486	$747	$199	$45	$8,153
8.0	$1,322	$224	$6,486	$1,189	$199	$66	$9,486
8.5	$1,447	$277	$6,486	$1,478	$199	$84	$9,971

Source: Ince, 2006

ENVIRONMENTAL IMPACTS

IMPACTS WITH FUTURE GROWTH

All Alternatives

This EIS makes does not identify significant adverse seismic hazard impacts directly related to the EIS zoning alternatives. However, under any zoning alternative, future development is likely to occur across the study area in vicinities that have elevated risk of seismic damage, due to presence of fill soils in former tidelands in the southern half of the study area, and proximity to the Seattle Fault zone.

Alternatives 1, 2 and 3 are similar in their overall relationship to potential seismic impacts. Each would accommodate large developments on the west side of 1st Avenue S., in the north parking lot of Qwest Field, possibly over the railroad tracks near 4th Avenue S. and in the south-of-Dearborn vicinity. These are all areas at least partially within fill soils.

New structures would be subject to the protective requirements of Seattle's building code, which requires increased structural strength that would limit seismic damage potential. This means that residents of future newly developed buildings would meet required levels of protection against seismic damage to their building. However, due to the potential damages to its utility and road infrastructure and older building inventory, the study area could be subject to delay in restoring habitable living conditions. This risk might be reduced if strategic investments are made to reduce worst-case potential for seismic damages to the infrastructure networks and building stock. For example, the installation of isolation valves between Downtown and the study area could reduce the risk and extent of damage to the water system.

Under any alternative, the southern portion of the study area would be subject to risks of interrupted transportation networks, damage to port facilities and other impairments to port-related economic activity. There are no meaningful differences in potential adverse impacts among these zoning alternatives.

If an earthquake occurred under Elliott Bay, a tsunami could be generated that could flood portions of the study area, to a depth of approximately five feet. This might occur in the lower elevations that were previously tidelands. This risk provides some support for continued discouragement of residential uses at ground floor level in Pioneer Square, Chinatown core, and the south-of-Dearborn area.

MITIGATION STRATEGIES

POSSIBLE MITIGATION STRATEGIES

South Downtown's seismic vulnerabilities mean it is at risk for loss of life and major damage of its existing historic buildings, infrastructure and economy. The following is a brief list of possible strategies for improving protection against damage and losses from a major earthquake:

- Prioritize investments in utility system safeguards and retrofits, such as water system isolation valves, that would help reduce disruption of service and utility system damage
- Encourage retrofit of high-risk unreinforced masonry buildings
- Prioritize protection of transportation and port infrastructure, to reduce economic impacts and disruption of vehicle movement
- Replace the vulnerable Alaskan Way Viaduct and seawall
- Expand public earthquake awareness and education programs
- Expand funding for emergency management and preparedness
- Develop an earthquake recovery strategy that would identify cost-effective preventive measures to speed recovery after a major earthquake.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The study area and its infrastructure are subject to seismic damage risks. However, no significant unavoidable adverse impacts specific to the zoning alternatives are identified.

TRANSPORTATION

AFFECTED ENVIRONMENT

OVERVIEW

The study area is used for a wide range of residential, commercial, industrial, transportation and entertainment purposes. It is strategically located adjacent to Downtown, Port of Seattle, a manufacturing and industrial center, and two stadium/exhibition facilities, and contains diverse neighborhoods with a mix of uses. It is served by a number of transportation networks—interstate highway, arterial and local streets, bus transit, passenger rail, commuter rail and freight-oriented rail—that provide accessibility serving the full spectrum of transportation needs. The networks are subject to Downtown employee commuting, truck and rail freight movement, event traffic and local traffic patterns. Due to the interaction of these patterns, conditions can become congested during morning and evening peak periods and at other times.

This transportation section is based on a consultant evaluation of transportation impacts contained in Appendix G to this Draft EIS. This section addresses the topics of arterial street system performance, transit system performance, freight movement, pedestrians, bicyclists and management of stadium event-related traffic. The next section in this chapter addresses parking-related impacts, which are also addressed in Appendix G to this Draft EIS.

The section is organized to document existing conditions, predict future conditions with and without rezones in 2030, assess the transportation-related impacts of the EIS rezone alternatives, and identify possible strategies that would mitigate identified adverse impacts. The following illustrates the organization of the section:

Existing Conditions (Affected Environment)

- Arterial Street System
    - AM and PM Peak Hour traffic volumes and vehicle travel characteristics
    - Corridor operations and travel speeds
    - Intersection operations
- Transit
- Freight Movement
- Pedestrians and Bicyclists
- Event Traffic Management

Environmental Impacts

- Travel forecasts for the No Action and Action Alternatives
- Arterial street system impacts
    - 2030 Forecast traffic volumes, AM and PM Peak Hours
    - Vehicle travel characteristics
    - Corridor operations and travel speeds, AM and PM Peak Hours
    - Intersection operations, AM and PM Peak Hours
- Transit
- Freight Movement
- Pedestrians and Bicyclists
- Event Traffic Management

Mitigation Strategies

- A range of possible mitigation strategies to address identified impacts

Significant Unavoidable Adverse Impacts

- A summation of unavoidable impacts

ARTERIAL STREET SYSTEM

Street Network

The largest arterial corridors within the study area's street network serve the highest traffic volumes while supporting several different types of travel modes. Table 3-35 summarizes the characteristics of these corridors. See Appendix G for further description of corridors.

Table 3-35
Street Network Corridor Characteristics

Corridor	Classification	Direction	Lanes [1]	2007 AWDT [2]	Speed Limit	Sidewalks
North-South Corridors						
1st Avenue S (Yesler Way to S Spokane St)	Principal Arterial / Minor Arterial [3]	NB SB	2 2	25,000	35	Both Sides
2nd Avenue Extension S (James St to 4th Ave S)	Principal Arterial	NB SB	- 3	13,000	30	Both Sides
3rd Avenue S (James St to S Jackson St)	Minor Arterial	NB [4] SB	2 2	7,500	30	Both Sides
4th Avenue S [5] (S Washington St to S Spokane St)	Principal Arterial	NB SB	3 2	29,000	30	Both Sides
Rainier Avenue S (S Jackson St to S Dearborn St)	Principal Arterial	NB SB	2 2	31,000	30	Both Sides
East-West Corridors						
S Jackson St (Alaskan Way S to Rainier Ave S)	Principal Arterial	EB WB	2 2	16,500	30	Both Sides
S Dearborn St (Airport Way S to Rainier Ave S)	Principal Arterial	EB WB	2 2	21,500	30	One Side
S Royal Brougham Way (Alaskan Way S to 4th Ave S)	Principal Arterial	EB WB	2 3	12,000	30	Both Sides
S Atlantic Street (Alaskan Way S to 4th Ave S)	Principal Arterial	EB WB	2 2	19,000	30	Both Sides

Source: *The Transportation Strategic Plan, 2005 Update* (SDOT, August 2005), field survey (March 2007), The Transpo Group (July 2007)
1. The number of lanes varies especially at intersection approaches. Reported is the mid block number of lanes excluding parking lanes.
2. Average Weekday Daily Traffic Volumes. Displays the highest measured daily traffic volumes along the corridor segment.
3. 1st Avenue S is classified as Principal Arterial south of Alaskan Way Viaduct Ramps and Minor Arterial North of AWV Ramps.
4. 3rd Avenue S is SB only between Yesler Way and S Washington St and between 2nd Avenue Ext S and S Jackson St.
5. 4th Avenue is NB only between 2nd Avenue Ext S and S Washington St.

Peak Hour Traffic Volumes

Traffic volume data were collected for the study area to evaluate existing weekday traffic conditions during both the AM and PM peak hours, which typically have the highest volumes and levels of congestion in the study area (see Figure 3-41 for 2007 volumes). During the AM peak hour, traffic volumes are highest heading toward Downtown employment centers along corridors such as 1st Avenue S., 4th Avenue S. and Rainier Avenue S. During the PM peak hour, the highest traffic volumes are the reverse of the AM peak hour, also including S. Dearborn Street, S. Jackson Street, SR 519 at S. Atlantic Street, and ramps from I-90 at 4th Avenue S. However, the corridor segments in the southern part of the study area typically have the same number of vehicles in each direction during the PM peak hour as they do during the AM peak hour. In this area and further south, industrial and commercial land uses generate vehicle trips going both northbound and southbound to access the major freeways.

Vehicle Travel Characteristics

Analysis of travel patterns indicates that during both the AM and PM peak hours, through-traffic accounts for more than 90 percent of the traffic on the South Downtown road network. This means these trips have neither origins nor destinations in the study area.

- In the AM peak hour, the average number of trips having their origin or destination within the study area is about 6,800 person trips, or 3,400 vehicle trips.
- In the PM peak hour, the average number of trips having their origin or destination within the study area is about 10,600 person trips, or 5,600 vehicle trips.

(See Tables 4-2 and 4-3 in Appendix G for more information).

Corridor Operations and Travel Speeds

Arterial level of service (LOS) and average speeds are the primary criteria to measure performance along major corridors. The travel-time based "arterial level of service" measure ranging from letter grades of "A" through "F" is based on guidelines of the *Highway Capacity Manual* (Transportation Research Board, 2000), and is summarized as follows:

LOS	Description of Operations	Average Travel Speed
A	Describes primarily free-flow operations at average travel speeds, usually about 90% of the free flow speed (FFS) for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.	>30
B	Describes reasonably unimpeded operations at average travel speeds, usually about 70% of the FFS for the street class. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.	>24-30
C	Describes stable operations, however, ability to maneuver and change lanes in mid-block locations may be more restricted than LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50% of the FFS for the street class.	>18-24
D	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40% of FFS.	>14-18
E	Characterized by significant delays and average travel speeds of 33% or less of the FFS. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	>10-14
F	Characterized by urban street flow at extremely low speeds, typically one-fourth of the FFS. Intersection congestion is likely at critical signalized locations, with high delays, high volumes and extensive queuing.	<10
		For Class III Streets: Typical free flow speed: 35 mph

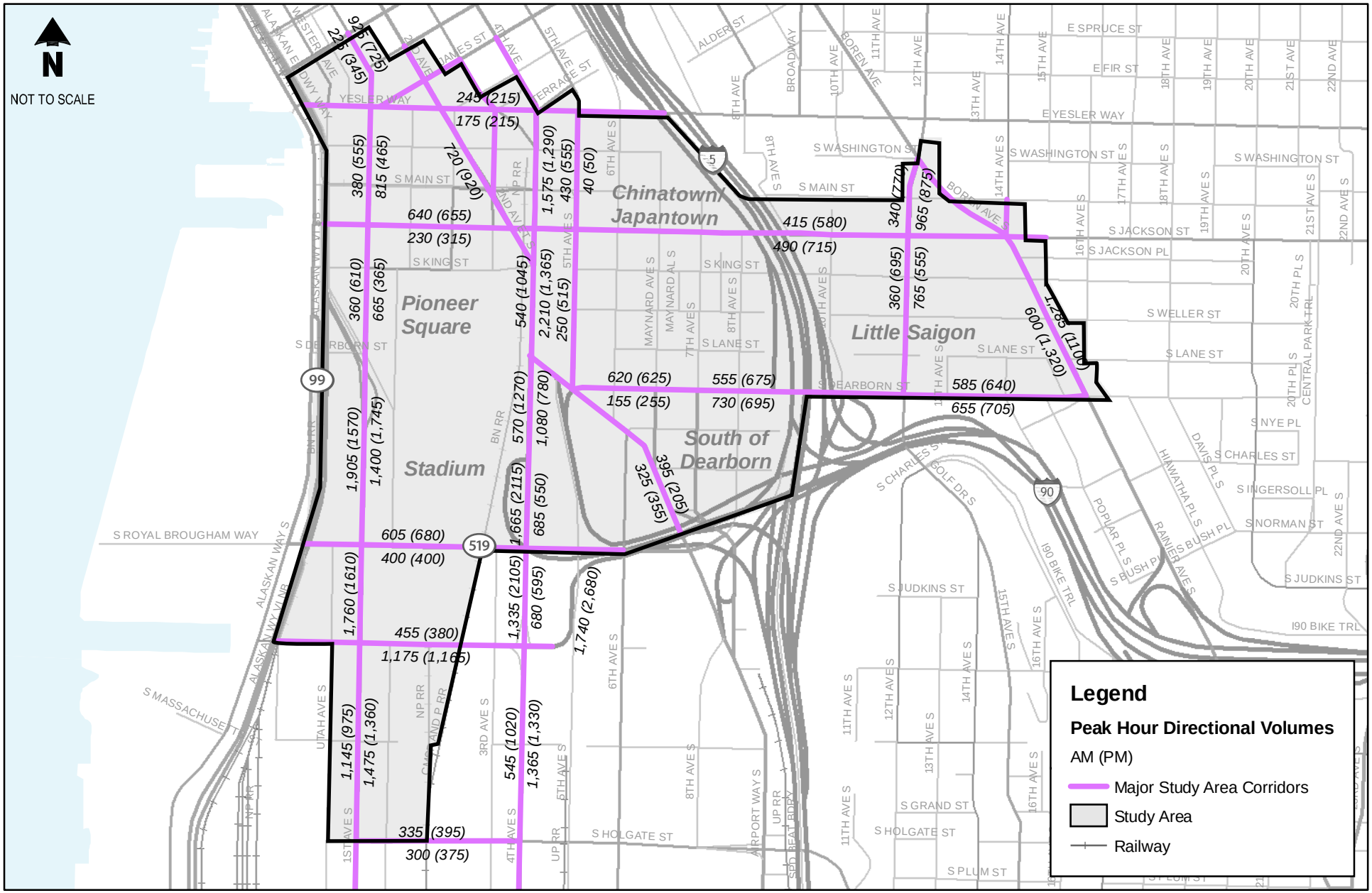


Figure 3-41

Livable South Downtown

2007 Weekday AM & PM Peak Hour Traffic Volumes

Table 3-36 summarizes the 2007 existing conditions for level of service and average speed in the AM and PM peak hour.

During the AM peak hour, most study area corridors are experiencing some level of congestion, with several locations operating below LOS D. This can occur due to the operations at a few intersections that may operate poorly and create higher average delays. For example, Rainier Avenue S. operates at LOS E due to congestion at its intersections with S. Dearborn Street and S. Jackson Street. The 2nd Avenue Extension S. operates at LOS F due to the signal time-related delays incurred at the intersection with S. Jackson Street. Among the east-west corridors, S. Royal Brougham Way and S. Atlantic Street experience low performance. The levels of service along both corridors are exacerbated by the delays at the 1st Avenue S intersections caused by traffic using these corridors to access the Alaskan Way Viaduct as well as traffic from the Viaduct to I-90. Speeds are particularly low along these two corridors due to the closely spaced intersections with Occidental Avenue S. Furthermore, the rail crossing along S Royal Brougham Way also contributes to the total delays along this corridor.

Table 3-36
Corridor Operations and Speeds (2007 Existing Conditions)

Corridor/Arterial[1]	AM Peak				PM Peak			
	LOS[2]		Speed[3] (mph)		LOS[2]		Speed[3] (mph)	
North – South Corridors	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**
1st Avenue S	D	C	15	19	D	D	16	16
2nd Avenue Extension S	-[4]	F	-[4]	8	-[4]	F	-[4]	9
3rd Avenue S	D	D	12	10	C	E	14	8
4th Avenue S	D	D	15	17	D	E	16	13
Rainier Avenue S	E	E	12	13	E	F	12	9
East – West Corridors	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**
S Jackson Street	E	F	12	10	E	E	11	11
S Dearborn Street	E	E	11	11	F	F	9	8
S Royal Brougham Way	F	F	7	5	F	F	8	7
S Atlantic Street	E	F	11	7	E	F	11	10

Source: The Transpo Group (July 2007)
1. Corridor extents are listed in Table 4-1 of Appendix G.
2. Arterial Level of Service based on the Highway Capacity Manual, Transportation Research Board, 2000 methodology for urban arterials.
3. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections.
4. 2nd Avenue Extension S is one-way southbound.

During the PM peak hour, delays are observed particularly in the southbound direction of the north-south corridors, leaving Downtown, including 1st Avenue S., 3rd Avenue S., 4th Avenue S., and Rainier Avenue S.

- Delays along 1st Avenue S. mainly occur at the intersections of S. Royal Brougham Way and S. Atlantic Street where the Downtown outbound traffic joins the traffic from the industrial areas south of the study area, which results in delays at each of the intersections. S. Atlantic Street is a particularly critical connection conveying 1st Avenue S. traffic to eastbound I-90 via S. Atlantic Street (SR 519).
- Delays along 4th Avenue S. are caused by traffic delays at the intersections with S. Jackson Street and S. Royal Brougham Way.
- Along Rainier Avenue S, the intersections with S Dearborn Street and S Jackson Street experience delays which contribute to the low speeds and LOS especially in the southbound direction.

- Delays on the east-west corridors are mainly along S. Atlantic Street and eastbound S. Royal Brougham Way and S. Jackson Street, caused by traffic heading toward I-90 and the Rainier Valley. Delays at 1st Avenue S., and due to intersection spacing and a rail crossing contributes to a share of the delays along the S. Atlantic Street and S. Royal Brougham Way corridors as well.

Intersection Operations

Table 3-37 illustrates the number of intersections, among the 49 signalized study area intersections, that operate below LOS D for the AM and PM peak hours. The level of service (LOS) is a standard measure of intersection performance that describes the average delay encountered by vehicles entering the intersection. Intersection LOS is measured on a scale from "A" to "F" as summarized below.

LOS	Average Control Delay (seconds/vehicle)	General Description (signalized intersections)
A	< or = 10	Free flow
B	>10 - 20	Stable flow (slight delays)
C	>20 - 35	Stable flow (acceptable delays)
D	>35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 - 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

During the AM peak hour, the only intersection operating at LOS F is 1st Avenue S./S. Atlantic Street. Delays are observed on all approaches to the intersection, and traffic queues spill back to "upstream" intersections. Delays are also observed at the intersection of 1st Avenue S./S. Royal Brougham Way that operates at LOS E causing queues that can block adjacent intersections and driveways. These intersections play a key role in moving local traffic from 1st Avenue S. to 4th Avenue S. and to the Alaskan Way Viaduct and I-90 (e.g., primarily pass-through traffic). The intersection of 1st Avenue S./S. Holgate Street also operates at a LOS E due to the heavy northbound traffic in the AM peak hour. Other intersections operating at LOS E are 3rd Avenue/Yesler Way and 4th Avenue S./S Jackson Street. The delays at these intersections are the result of a high number of northbound vehicles entering the Downtown area, primarily commuters, that are conflicting with the westbound volumes.

Table 3-37
2007 Existing Intersection Operations Along the Major Corridors

Corridor/Arterial[1]	Number of Signalized Intersections	Number of Signalized Intersections Operating below LOS[2] D	
		AM Peak Hour	PM Peak Hour
North – South Corridors			
1st Avenue S	10	3	3
2nd Avenue Extension S	5	0	0
3rd Avenue S	2	1	1
4th Avenue S (NB)	10	1	1
4th Avenue S (SB)	7	0	0
Rainier Avenue S	2	0	0
East – West Corridors			
S Jackson Street	10	1	1
S Dearborn Street	9	0	0
S Royal Brougham Way	5	1	1
S Atlantic Street	2	1	1

Source: The Transpo Group (July 2007)
1. Corridor extents are as listed in Table 4-1 of Appendix G.
2. Level of Service based on the *Highway Capacity Manual,* Transportation Research Board, 2000

As shown in Table 3-37, the same number of intersections operate below LOS D in both the AM and PM peak hours. However, these are not necessarily the same intersections given the difference in travel patterns between the AM peak hour (with a majority of northbound and westbound traffic) and the PM peak hour (with a majority of southbound and eastbound traffic). The only intersection operating at a LOS F in the PM peak hour is at 4th Avenue S./S. Jackson Street which is due, in particular, to the volume of traffic on 4th Avenue S., the low amount of signal green time devoted to eastbound vehicles and the coordination with the 2nd Avenue Extension S./ S. Jackson Street intersection.

The intersections operating at LOS E in the PM peak hour are 1st Avenue S./S. Atlantic Street and 1st Avenue S./S. Royal Brougham Way. Both intersections have a high number of southbound left turns (e.g., toward 4th Avenue S) that conflict with northbound traffic, reducing the amount of signal green time to serve both movements. The intersection of 4th Avenue S./S. Royal Brougham Way also operates at LOS E due mainly to the amount of signal green time dedicated to the southbound movement, which serves over 2,000 vehicles an hour.

TRANSIT

The Seattle Transit Plan identifies an "Urban Village Transit Network" (UVTN) to serve the City's urban villages and neighborhoods. The identified UVTN corridors are the focus of the Transit Plan and are envisioned to be a network of high quality, reliable transit corridors. The primary transit corridors evaluated as part of this analysis include 1st Avenue S., 2nd Avenue Extension S., 3rd Avenue, 4th Avenue S., 5th Avenue S./E3 Busway and S. Jackson Street.

The study area is well served by a variety of transit that include local bus routes (King County Metro), regional bus routes (Sound Transit and partners), ferries (Washington State Ferries), commuter rail (Sound Transit), and intercity passenger rail (Amtrak Cascades). This analysis of transit service concentrates on the performance of local transit, with performance measures drawn from those developed as part of the Seattle Transit Plan. See Appendix G for more information about the various types of available transit service.

The transit service performance measures include *frequency, span of service, travel speed* and *passenger loading.*

- *Frequency:* the maximum scheduled gap between consecutive buses on the route, which should reflect the maximum waiting time a customer could experience at a bus stop before a bus arrives. The "passing" threshold is 15 minutes, meaning buses arrive every 15 minutes or more frequently.
- *Span of service:* the hours in the day that a service runs at minimum acceptable frequencies of 15 minutes or less. The scoring threshold is 12 hours of service.
- *Travel speed:* Transit travel (operating) speed is expressed as a Percentage of Posted Speed Limit (%PSL). The "passing" threshold is 30% of the posted speed limit.
- *Passenger loading:* This threshold measures the service capacity and comfort experienced by the passenger. It is expressed as a ratio of passengers to bus capacity (e.g., 1.0 = 100% of seated capacity). The "passing" threshold is 0.9 or 90% occupancy. The measurement is made based on the load that occurs about 85% of the time on the most crowded route during the most crowded time period.

Table 3-38 summarizes current bus transit performance.

Table 3-38
Bus Performance Measures (2006)

Corridor	From	To	Frequency (Minutes)	Service Span (Hours)	Speed (Percent)	Passenger Load (Ratio)
1st Ave S	Yesler Way	S R. Brougham Way	9.58	17.50	32.2%	1.20
1st Ave S	S R. Brougham Way	S Holgate St	8.95	18.00	41.3%	1.27
2nd Ave Ext S	Cherry St	4th Ave S	4.20	21.00	22.4%	1.01
3rd Ave S	James St	S Jackson St	1.60	21.00	17.5%	0.91
4th Ave S	Yesler Way	S R. Brougham Way	2.82	20.90	30.0%	1.30
5th Ave S (E3)	S R. Brougham Way	S Holgate St	5.00	18.00	43.0%	1.15
12th Ave S	Boren Ave S	S Dearborn St	12.85	10.20	33.7%	0.94
Rainier Ave S	S Washington St	S Dearborn St	85.61[1]	16.00	33.6%	0.60
Yesler St	1st Ave S	6th Ave S	16.16	16.22	26.9%	0.51
S Jackson St	1st Ave S	8th Ave S	11.08	16.45	16.2%	0.86
S Jackson St	8th Ave S	Boren Ave S	4.65	19.83	22.8%	0.99
City of Seattle Passing Thresholds			**15.00**	**12.00**	**30.0%**	**0.90**

Source: *City of Seattle/King County Metro UVTN Monitoring Report* 2006.
Note: Shading indicates measures that are below the identified passing threshold. The performances are based on an average of the segments comprising the identified corridor.
1. Local bus routes along Rainier Avenue S. typically turn left at S. Jackson Street, so there are very few local routes along the segment of Rainier Avenue S. between S. Jackson Street and Yesler Way. Therefore the frequency value along this segment appears much higher than others.

Information in Table 3-38 indicates that most of the studied corridors meet the service frequency thresholds, and most have a relatively long period of day when transit service is available. However, in some of the more congested corridors, travel speeds fall below the passing thresholds. Also, several of these corridors are rated as deficient in passenger loading performance. Travel speeds are influenced by Downtown congestion, longer dwell times and closely spaced intersections. Passenger loading ratios indicate relatively crowded conditions during peak times on a majority of these corridors. However, if standing room was factored into the ratio, most of these corridors would probably be able to meet the passenger loading threshold standard. See Appendix G for a lengthier discussion of these measures of bus performance for existing conditions.

FREIGHT MOVEMENT

This section provides information about the type and volume of truck trips observed on study area corridors, existing major freight routes and their operating conditions. South Downtown (including south of the study area) contains a large amount of industrial lands, including Port of Seattle properties and container ship yards, railroad intermodal yards, and other businesses that rely upon the movement of trucks and freight. The arterials within the study area provide an important connection for freight transportation and are heavily used by trucks.

Freight Generators

The study area and surrounding areas generate a substantial amount of freight and truck traffic. Currently the mix of general industrial and industrial/commercial land uses comprise about half the total land surface within the study area. Many industrial and warehousing businesses are located in the vicinity along with other commercial activities and public services that use trucks or rail. The Greater Duwamish Manufacturing and Industrial Center is another major truck generator adjacent to the study area. This center is expected to accommodate at least 10% of Seattle's new employment over the next 20 years, or nearly 15,000 new jobs. Besides providing a home for the Port of Seattle's container terminals, the Greater Duwamish area is also home to King County International Airport (KCIA), located five miles south of Downtown Seattle. The Greater Duwamish and South Downtown areas also include several operations facilities that support city municipal functions. These agencies, including Seattle Public Utilities, City Light and Seattle Department of Transportation (SDOT), run truck fleets that operate all over the City. The businesses and companies in the study area and the Duwamish provide warehousing, distribution, and construction services necessary for residential, commercial and industrial land uses throughout the region.

The study area is adjacent to a major truck generator: the Port of Seattle. In fact, the Port of Seattle is one of the top three containerized cargo load centers in the Western Hemisphere, and accommodates six container terminals. One of the terminals, T-46, is located along Alaskan Way S. at the western boundary of the study area. Other major terminals such as T-25 and T-30 are located along E. Marginal Way. The Port anticipates opening T-25 and T-30 for container uses in the near future. The increased future activities for these terminals will result in additional truck traffic through the study area. However the additional truck trips due to the reactivation of T-25 and T-30 are assumed to have minimal impact along corridors such as S. Atlantic Street as illustrated in the *Terminal 30 Cargo Reactivation Report*[1].

Most freight is shipped through the port by intermodal containers that are transferred to or from railcars or trucks on the dock. At the intermodal yards, containers are transferred to and from railcars. Trucks transport the cargo to and from Port terminals and the warehousing and distribution centers. In 2002, Terminal 46 produced an average of 1,250 daily truck trips[2] with approximately 30 percent of those trips having a regional destination. Regional access to the terminal is provided by SR 519 and S. Spokane Street from both the viaduct level and the surface roadway, then along surface streets.

The City's arterial street system is crucial to a functioning regional international trade system. Major truck streets have been identified by the City to maintain acceptable freight mobility and access to the area (see Figure 3-42). Major arterials such as 1st Avenue S., 4th Avenue S., S. Atlantic Street, S. Dearborn Street and Airport Way S. provide access to the industrial businesses within and surrounding the study area. Many of the businesses that generate a majority of the truck trips are located outside the study area, but depend on travel through the study area to access the regional highway system, Southeast and Central Seattle neighborhoods, Downtown Seattle and areas north of Downtown.

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[1] *Terminal 30 Cargo Reactivation*, Heffron Tranportation, Inc, September 18, 2006.

[2] *Container Terminal Access Study, Year 2003 Update*, Heffron Transportation, Inc., October 2003

Major Truck Routes

The City of Seattle and WSDOT have defined several of the major corridors within the study area as major truck routes. These designated truck routes provide access between the industrial lands within the study area and the state highway system, while also facilitating travel between the industrial lands and the Port terminals.

Truck Route Designation (WSDOT)

The Washington State Freight and Goods Transportation System (FGTS) is a classification system adopted by WSDOT and used to classify state highways, county roads and city streets according to the average annual gross truck tonnage they carry. The FGTS classifies roadways using five freight tonnage classifications, T-1 through T-5, as follows:

- **T-1:** more than 10 million tons per year
- **T-2:** 4 million to 10 million tons per year
- **T-3:** 300,000 to 4 million tons per year
- **T-4:** 100,000 to 300,000 tons per year
- **T-5:** at least 20,000 tons in 60 days

Among those five classes, the system has distinguished "Washington's Strategic Freight Corridors" that carry four million or more gross tons of freight annually (i.e., T-1 and T-2 classes). Tonnage values are estimated from truck traffic count data and converted into average weights by truck type. The FGTS 2005 update designated 43 strategic freight corridors in Seattle, some of them located in the study area. These corridors are listed in Table 3-39.

Table 3-39
WSDOT Designated "Strategic Freight Corridors"

Route Name	Begin	End	2005 FGTS Class[1]
4th Ave S	E Marginal Way S	S Royal Brougham Way	T-1
Airport Way S	4th Ave S	S City Limit S	T-1
Alaskan Way S	E Marginal Way S	Yesler Way	T-1
S Dearborn St	Airport Way S	Rainier Ave S	T-1
S Royal Brougham Way	4th Ave S	Airport Way S	T-1

Source: *Washington State Freight and Goods Transportation System 2005 Update*
1. FGTS = Freight and Goods Transportation System

Major Truck Streets Designation (City of Seattle)

The City of Seattle designates all arterials as truck streets and has also identified certain streets as Major Truck Streets. The Major Truck Streets are defined as primary routes in the Transportation Strategic Plan for the movement of good and services and serve both local and non-local truck traffic. They accommodate freight movement through the City, and to and from major freight traffic generators. Trucks in excess of 10,000 pounds of Gross Vehicle Weight are discouraged from using non-arterial (local) streets unless they have a justifiable reason for traveling there. The City uses the street designation as an important criterion for street design, traffic management decisions, and pavement design and repair. The Major Truck Streets across the study area are shown in Figure 3-42. Almost all major north-south arterial streets (Alaskan Way, 1st Avenue S., 4th Avenue S., 6th Avenue S., Airport Way S., and Rainier Avenue S.) have been designated as Major Truck Streets. Rainier Avenue S. is an important arterial that

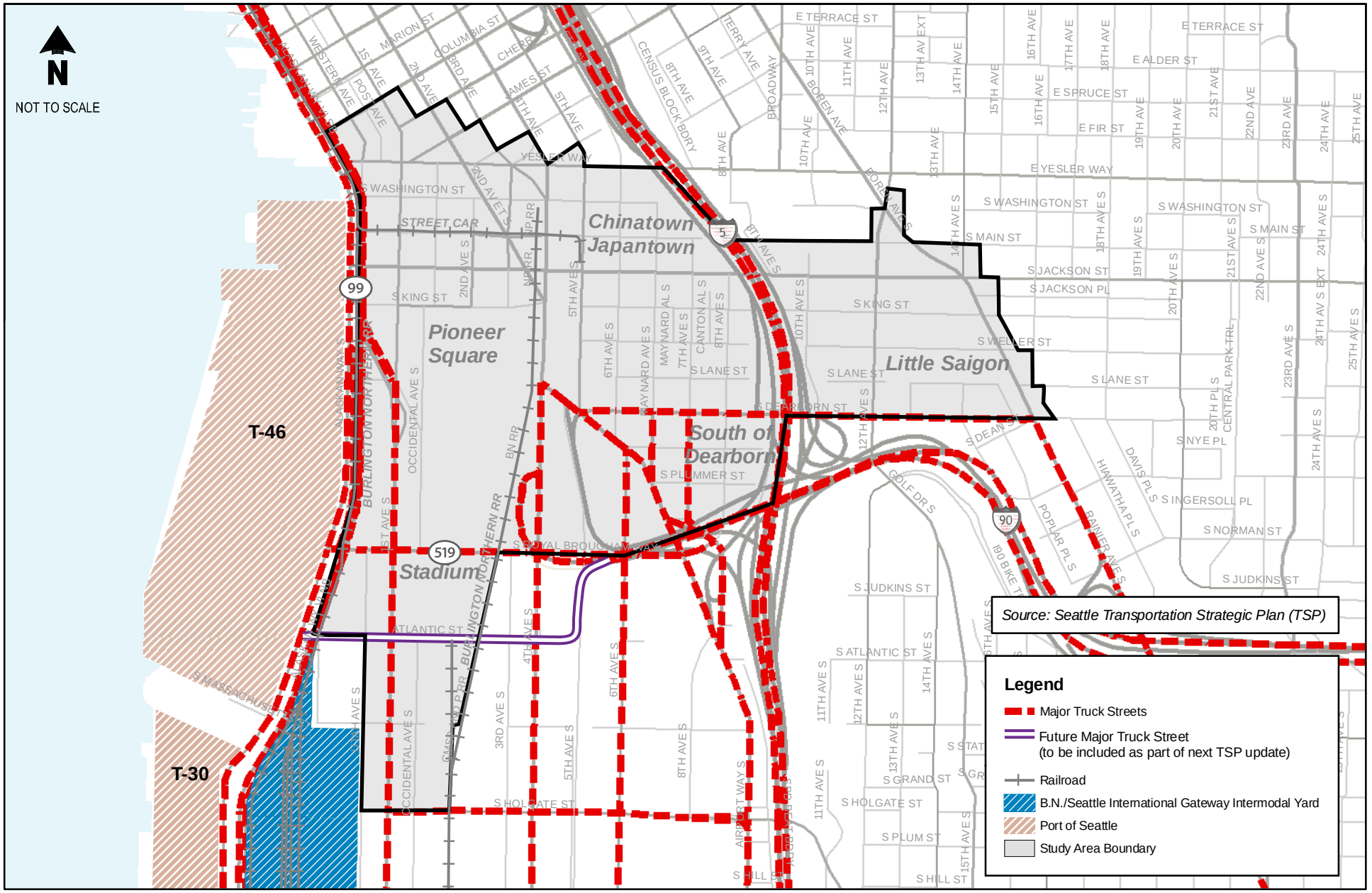


Figure 3-42

Livable South Downtown

Major Truck Streets

provides truck connections to southeast Seattle neighborhoods. Four east-west arterials (S. Dearborn Street, S. Royal Brougham Way, and S. Holgate Street) are also designated as Major Truck Streets. These routes support and facilitate travel to I-5, the Alaskan Way Viaduct, and SR 519. Since the TSP was adopted prior to S. Atlantic Street being extended to SR 519, it is not officially a Major Truck Street. The City plans to include this corridor as a Major Truck Street when the TSP is next updated.

The freight and trucking community is very concerned about activities or projects that might impact the Major Truck Streets. It is important that these corridors continue to serve trucks and freight and provide efficient access to the major industrial land uses within and surrounding the study area. They are key corridors that provide access to the regional highway system and other City neighborhoods, and should accommodate the unique operations and maneuverability that large trucks require.

Truck Volumes

Vehicle classification count surveys were conducted in early 2007 for several of the major truck routes throughout the study area. A list of the corridors is shown in Table 3-40. Traffic was classified by tube counters based on the Federal Highway Administration (FHWA) vehicle classification system. In addition, 24-hour video was conducted along Airport Way S. and 6th Avenue S. to validate the information. Table 3-40 summarizes the total truck volumes for each corridor.

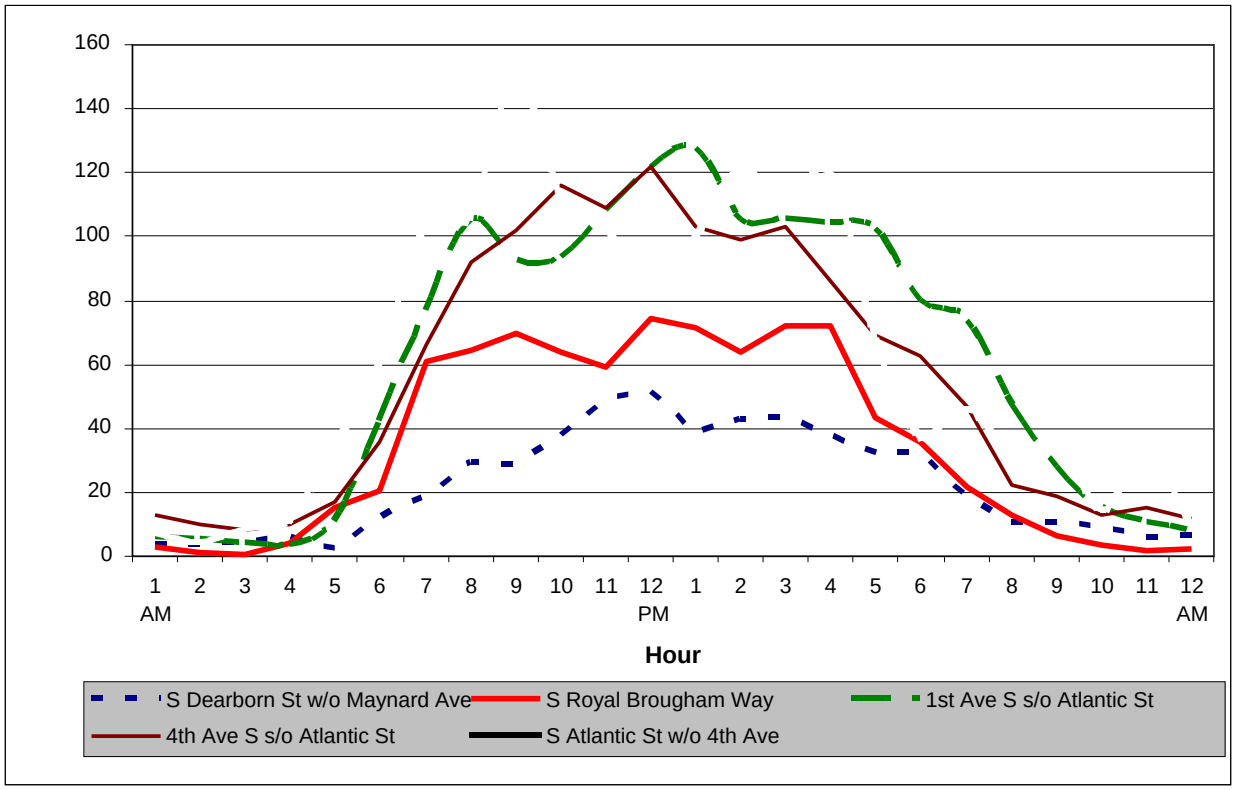
Table 3-40
Average Daily Truck Volumes and Percent of Total Daily Traffic

Corridor	Truck Volume NB	Truck Volume SB	Truck Volume Both Directions	% of Total Daily Traffic[2]
North-South Corridors				
Airport Way S (e/o[3] 5th Ave)	100	155	255	2.9%
1st Ave S (n/o[3] Royal Brougham)	800	540	1,340	4.1%
1st Ave S (s/o[3] Atlantic St)	525	955	1,480	7.1%
4th Ave S (n/o[3] Royal Brougham)	490	560	1,050	4.9%
4th Ave S (s/o[3] Atlantic St)	875	480	1,355	5.3%
6th Ave S (s/o[3] Airport Way S)	50	50	100	1.9%
East-West Corridors	**EB**	**WB**		
S Atlantic St (w/o[3] 4Th Ave)[1]	1,000	495	1,495	8.0%
S Dearborn St (e/o[3] 6th Ave)	225	315	540	6.0%
S Royal Brougham Way (w/o[3] 4th Ave)[1]	295	555	850	7.2%

Source: Based on field traffic counts (2007)
1. Based on 2005 traffic count
2. Daily truck volume divided by total daily traffic volume
3. e/o = east of; n/o = north of; s/o = south of; w/o = west of

In general, trucks represent between 2 and 8 percent of all vehicles over a 24-hour weekday. The largest numbers of trucks are along the S. Atlantic Street, 1st Avenue S. and 4th Avenue S. corridors. These corridors provide access to SR 99 and SR 519 and therefore serve more trucks throughout the day. The traffic count data also indicate that corridors such as S. Dearborn Street and Airport Way S. serve a somewhat lesser volume of truck traffic than the other corridors evaluated. This is likely because the section of Airport Way S. north of S Royal Brougham Way primarily provides access to the Downtown area, while S. Dearborn Street connects with I-5 and the Rainier Valley and has less regional truck trips. Even though the S. Dearborn Street corridor serves just over 500 trucks a day, that number represents nearly 6 percent of all vehicles and is a higher percentage than many of the other corridors. The distribution of daily truck traffic over a 24-hour timeframe is shown in Figure 3-43 for each corridor.

Figure 3-43
Daily Distribution of Trucks
(hourly truck volumes)



Source: Based on field traffic counts (2007)

The data indicate that truck activity mostly occurs during daytime hours between 8:00 am and 4:00 pm. Generally, truck volumes decline between the hours of 4:00 pm and 7:00 pm and represent a small fraction of afternoon peak commuter traffic. The truck peak occurs almost in the middle of the day whereas the peak for all traffic occurs in the afternoon commuting hours. Table 3-41 provides truck peak hours and truck peak volumes with corresponding percent of total traffic in the same periods along the major arterials in the study area. The truck percent reported in Table 3-41 is highest during the day and can comprise of 10 to 11 percent of the total vehicular traffic.

Table 3-41
Truck Peak Hour Volumes and Corresponding Percent of Total Traffic

Corridor	Truck Peak Hour From	Truck Peak Hour To	Truck Volume Both Directions	% of Total Truck Peak Hour Traffic[2]
North-South Corridors				
Airport Way S (e/o[3] 5th Ave)	11:00 am	noon	23	4.0%
1st Ave S (n/o[3] Royal Brougham)	9:00 am	10:00 am	126	5.1%
1st Ave S (s/o[3] Atlantic St)	noon	1:00 pm	128	9.0%
4th Ave S (n/o[3] Royal Brougham)	11:00 am	noon	73	6.6%
4th Ave S (s/o[3] Atlantic St)	11:00 am	noon	122	7.0%
6th Ave S (s/o[3] Airport Way S)	10:00 am	11:00 am	14	3.1%[4]
East-West Corridors				
S Atlantic St (w/o[3] 4Th Ave)[1]	8:00 am	9:00 am	149	11.1%
S Dearborn St (e/o[3] 6th Ave)	11:00 am	noon	52	8.0%
S Royal Brougham Way (w/o[3] 4th Ave)[1]	11:00 am	noon	75	10.1%

Source: Based on field traffic counts (2007)
1. Based on 2005 traffic count. 2. Truck peak volume divided by total traffic volume in the same period.
3. e/o = east of; n/o = north of; s/o = south of; w/o = west of 4. Based on counts in 2002 and adjusted to 2007

Truck Classes

The Federal Highway Administration (FHWA) Vehicle Classification system defines vehicles based on type of vehicle and the number of axles and wheels. The classification system uses 13 categories. Trucks are typically classes 5 through 13. Motorcycles, passenger cars, pickups, and buses are classes 1 through 4.

For the purpose of this study, the truck classes 5 through 13 have been grouped into two main categories to simplify the reporting of information. The two categories include:

- **Single-Unit Trucks** - Includes single-unit (light to medium) trucks for FHWA classes 5 to 7.
- **Multi-Unit Trucks** - Includes heavy truck types for FHWA classes 8 to 13.

A more detailed analysis of the classification data reveals that, on average, more than two-thirds of the counted trucks are either light or medium trucks (single-unit trucks). These types of trucks are typically used for local or regional delivery rather than interstate travel. Heavy trucks (single- and multi-trailers) make up less than one-third of the total number of trucks counted within the study area. Table 3-42 presents the truck distribution results for each of the surveyed locations.

Table 3-42
Daily Truck Distributions Along Corridors

Corridor	Direction	Truck Distribution [2]	
		Single-Unit	Multi-Unit
North-South Corridors			
Airport Way S (e/o[3] 5th Ave S)	NB	86%	14%
	SB	88%	12%
1st Ave S (n/o[3] S Royal Brougham Way)	NB	68%	32%
	SB	76%	24%
1st Ave S (s/o[3] S Atlantic St)	NB	67%	33%
	SB	72%	28%
4th Ave S (n/o[3] S Royal Brougham Way)	NB	40%	60%
	SB	65%	35%
4th Ave S (s/o[3] S Atlantic St)	NB	63%	37%
	SB	69%	31%
6th Ave S	NB	77%	23%
	SB	68%	32%
East-West Corridors			
S Atlantic St (w/o[3] 4th Ave)	EB	65%	35%
	WB	64%	35%
S Dearborn St (e/o[3] 6th Ave S)	EB	69%	31%
	WB	69%	31%
S Royal Brougham Way (w/o[3] 4th Ave S)[1]	EB	72%	28%
	WB	68%	32%

Source: Based on field traffic counts (2007)
1. Based on 2005 traffic count
2. Percentages of single-unit and multi-unit trucks out of the total number of daily trucks
3. e/o = east of; n/o = north of; s/o = south of; w/o = west of

Railway and Intermodal Facilities

Freight movement across the study area is also served by railway and intermodal facilities that support shipping to and from the port terminals and allow container transfer to railcars.

The railway maintains two mainline tracks through the study area, paralleling I-5 to the south and running to the north between 1st and 4th Avenues S, crossing S. Holgate Street and S. Royal Brougham Way (SR 519) at-grade. North of S. Royal Brougham Way and adjacent to S. Jackson Street is the King Street Station and a tunnel under the Downtown area that emerges north of the Pike Place Market. The railway then follows the waterfront north to Everett.

Rail crossings on truck routes are obstacles for truck movement and general traffic, especially in South Downtown where the BNSF mainline railroad, Amtrak, and Sounder Commuter Rail are located. There are approximately 63 train movements on the mainline tracks per day across the east/west arterial streets. These train volumes and associated traffic delays are expected to increase in the future. Additional freight, Amtrak, and Sounder Commuter Rail service will be using the tracks in the future, resulting in the at-grade crossings being closed more often throughout the day. The City of Seattle has very limited capability to control the frequency or the length of time the trains block street crossings.

In the study area, the S. Holgate Street and S. Royal Brougham Way corridors are two major east-west arterials that cross the BNSF, Amtrak, and Sound Transit commuter rail lines. A WSDOT study issued in 2003 showed the average time per train crossing to be 3 minutes, 10 seconds. Table 3-43 presents a

summary of the 2003 daily train volumes crossing S. Holgate Street. The same study calculated the total vehicular delay due to train crossings encountered by vehicles crossing the S. Holgate Street railway for both the AM and PM peak hours using the approach traffic volumes and the average train crossing duration during the same time period. The results indicate that the total delay due to train crossings during the AM peak hour is 5.87 vehicle-hours and 16.32 vehicle-hours during the PM peak hour. This total delay is derived by multiplying the traffic volume in the peak hour by the average delay at crossing in this period.

Table 3-43
Number of Train Crossings per Day at S. Holgate Street (2003)

Type of Service	Number of Train Crossing Movements
Sounder (3 trains)	12
Amtrak Cascade (3 trains)	9
Freight (BNSF)	42
TOTAL	**63**

Source: *S Holgate Street Railway Crossing Closure Traffic Impact Analysis*, WSDOT, December 2003

BNSF predicts annual growth in freight rail volumes of five to ten percent per year. This would translate into an annual increase of two to three trains per day. Therefore, by 2030, approximately 100 freight trains are anticipated to cross the study area during a typical weekday. Unlike passenger rail, freight rail schedules are more flexible; therefore, it is not possible to accurately predict freight rail activities at crossings during a specific time period. However, it is likely that a proportional increase in peak period delay at crossings will occur, with up to four trains crossing during each peak hour.

Amtrak conducted another study in 2005 for the S. Holgate Street crossing[3]. The study showed that the crossing is typically blocked for 4 hours and 24 minutes each weekday. During the peak hours, the crossings are closed about 25 percent of the time. The study anticipated longer blocking time at the crossing in the future, where analysis indicates that blockages are expected to increase to 70 percent of the time by year 2027.

Freight Operating Conditions

The efficient movement of freight through the study area is an important statewide goal for promoting economic growth and international trade. Facilitating trucks and the movement of freight is an important consideration and is evaluated in this section based upon a set of qualitative and quantitative assessments, which include:

- **Truck Connections:** Ability of current facilities to provide proper connections and circulation options for trucks.
- **Major Truck Street Travel Speed:** Travel speed on designated Major Truck Streets.
- **Design Standards:** Qualitative assessment of design standards that would facilitate truck operations.

Truck Connections

This section addresses the ability of trucks to efficiently circulate through the study area and access locations such as the state highway system, the Port, and other industrial areas.

[3] *Analysis of Train Operations Across S Holgate Street, Seattle, WA*, Amtrak, HDR Engineering, January 2005.

The current Major Truck Streets provide reasonable access to I-5 and the Alaskan Way Viaduct as well as to I-90. Port properties are accessed via S. Atlantic Street, S. Royal Brougham Way, and Alaskan Way S. Currently, trucks must use at-grade mainline railroad crossings at S. Holgate Street, S. Royal Brougham Way, and S. Lander Street. In addition, there are tail tracks between 1st Avenue S. and Alaskan Way S. that occasionally close S. Atlantic Street and S. Royal Brougham Way. Tail tracks are track extensions beyond the end of a transit mainline used to build up trains. Closures of the tail track crossings, while not as frequent as closures of the mainline crossings, are also anticipated to increase in proportion to freight rail using the mainline, causing additional delays for traffic along S. Atlantic Street and S. Royal Brougham Way corridors with closure duration of up to 20 minutes. Access to Duwamish and Harbor Island industrial areas is provided by connections at S. Spokane Street south of the study area from the 1st Avenue S. and East Marginal Way corridors.

There are several planned improvements in the study area that will improve truck connections such as SR 99 improvements, completing SR 519 Phase 2, Spokane Street Viaduct that includes widening the Viaduct, closing the westbound off ramp at 4th Avenue S and adding a westbound on and off ramp at 1st Avenue S. and an eastbound loop ramp to 4th Avenue S., Alaskan Way S./S. Atlantic Street intersection improvements, and S. Lander Street Grade Separation. A more detailed description of the planned improvements is provided in Appendix G. The improvements are expected to provide more direct access to the Port properties and the SIG yard from the regional highway system. In addition, a dedicated roadway is planned to provide direct access between T-46 and the SIG yard to avoid conflicts with traffic along the City arterials.

Major Truck Street Travel Speed

The travel speed performance measure for trucks is similar to that of general traffic. It reflects the operating conditions of street segments and intersections along the truck corridors. Higher travel speeds along the corridors could result from improving the flow of vehicles and reducing the delays at intersections. The travel speeds for the Major Truck Streets were reported previously for corridor operations. It must be noted that trucks often have slower travel speeds than regular passenger vehicles due to reduced accelerating speeds and increased delay when making turns. Trucks can further be delayed at unsignalized intersections or driveways because longer gaps in traffic are needed to safely turn into or cross traffic on the major street.

Even though truck travel speed is a bit longer than that of the general traffic, the corridor operations and level of service (LOS) represents a reasonable indicator for freight operation performance. If corridor operations decline, it is assumed that truck operations will also decline proportionally, at a minimum. In addition, for an individual trucker, the time to access a specific port gate or intermodal terminal could be affected by other factors such as the operation of the gate or terminal. Such additional delays caused by those factors are not included in the analysis.

Design Standards

Not all streets in the study area have been designed to accommodate large trucks with single- or multi-unit trailers. Therefore, truck traffic often experiences operational problems on arterials due to design related issues such as short curb radii, narrow streets or travel lanes, utility poles that are close to the curb, pavement conditions on truck access routes, and signal control operations that do not assist truck turning movements.

The streets in the study area have limited rights-of-way and are shared by various transportation modes including cars, buses, bicycles and pedestrians. Such interaction, accompanied with the lack of proper street design and congestion, can create conflicts between truck traffic and other motorized and non-motorized transportation modes.

Data are not readily available to evaluate all the locations with design issues that contribute to poor truck operations. As part of the Alternatives evaluation, improvements that are commonly a part of higher density development, in addition to any mitigation strategies, are reviewed to identify potential design issues that could impact the operation of trucks.

PEDESTRIANS AND BICYCLISTS

This section summarizes pedestrian and bicycle conditions across the study area. The discussion in Appendix G provides greater detail, including pedestrian counts at several locations.

Pedestrian Facilities

Chinatown/Japantown

This neighborhood has a considerable amount of infrastructure for pedestrians, and at least one major pedestrian generator (a bus tunnel entrance). Nearly all intersections (both signalized and unsignalized) have marked crosswalks and there is a mid-block crossing along 5th Avenue S. between S. Weller Street and S. Dearborn Street. Sidewalks exist on most streets in this area. There is high pedestrian activity in this district, including high volumes of crosswalk use.

Along streets like 4th Avenue S. and S. Jackson Street, the combination of high traffic volumes and high pedestrian volumes increases the potential for pedestrian-vehicle conflicts. This includes the 8th Avenue S./S. Jackson Street vicinity where there are transit stops on both sides of the street. Also in this vicinity, the quality of street lighting on S. Jackson Street and S. King Street is of interest for the overall safety of pedestrians and the public using the vicinity in and under I-5. Along the southern edge of Chinatown, S. Dearborn Street and Airport Way S. near the former INS building are perceived to be challenging pedestrian crossing areas. While there are signalized intersections along most of S. Dearborn Street, the width of the street and amount of traffic that flows on the street may increase its perception as a pedestrian barrier, particularly for people that move more slowly.

Steeper slopes along 6th Avenue S., S. Washington Street and Yesler Way create impediments to pedestrian movement, particular for senior citizens that live in the vicinity. Sidewalks along some street segments in this area are missing, in need of repair or have blockages that impede pedestrian travel. These deficiencies may result in pedestrian use of the street, thereby increasing the potential for pedestrian/ vehicle conflicts. On other streets just north of S. Jackson St., sidewalks are present but the slopes increase the need for pedestrian respite. Improvements are planned along Maynard Ave. S that will provide resting spots and natural features to improve aesthetics and pedestrian comfort.

Pioneer Square

This neighborhood has a considerable amount of pedestrian infrastructure. It has two major pedestrian generators (King Street Station and an access to the bus tunnel), as well as several mid-block crossings. In addition, Occidental Avenue S. is a pedestrian corridor that runs parallel to 1st Avenue S. and 2nd Avenue S. from S. Jackson Street to S. Washington Street. Most intersections have marked crosswalks. Sidewalks are present on most streets in the area.

The Pioneer Square area has a very high level of pedestrian activity, due to its mix of retail, restaurant, employment and residential uses. Also within and adjacent to the district are government centers of employment that generate pedestrian traffic. Nearby to the west is the Colman Dock ferry terminal that generates a lot of pedestrian traffic, including on a footbridge that connects to 1st Avenue.

Stadium Area

This vicinity has sidewalks on most streets, particularly near the major pedestrian generators such as Qwest Field, Safeco Field, and the Event Center. It also has the key pedestrian connection of the Weller Street bridge, which links the Chinatown are to the Stadium Area. At S Royal Brougham Way near 3rd Avenue S., the at-grade railroad crossing is an identified pedestrian safety issue because fatalities have occurred at this location in the past due to collisions with trains. The vicinity is subject to other pedestrian challenges, some due to street and parking configurations and some due to the unique manner in which event patrons use Occidental Avenue S. and other streets.

- The parking arrangement on the west side of Occidental Avenue S. approximately south of Railroad Way S. includes perpendicular parking interspersed with business entries and no sidewalk. Although a sidewalk is present on the east side of Occidental Avenue S., pedestrians may instead use the street.
- Due to longstanding habits and the attractions of street-side vending, event patrons have long perceived Occidental Avenue S south of S King Street as being a pedestrian promenade, traveling on foot in any part of the street at almost any time. This unique trait creates a condition where pedestrians and vehicles share the roadway, with potential for conflicts. During stadium events, traffic control is typically in place at several key locations and overall safety is maintained despite some mixing of pedestrians and vehicles.
- Stadium event-related pedestrian traffic also contributes to heavier use of various street segments in the vicinity, which can challenge the capacity of the sidewalks and can occasionally result in spill-over of pedestrians onto curbside lanes and jaywalking. This can occur along portions of 1st Avenue S. in the Stadium Area, particularly near Safeco Field, on S. Atlantic Street, and 4th Avenue S. near S. Royal Brougham Way. During high attendance events, pedestrians may also be more prevalent near Alaskan Way S. and S. Atlantic Street. The combination of higher traffic volumes, possible higher-speed traffic and the potential for jaywalking at S. Atlantic Street near 1st Avenue S. means this is a notable area with potential pedestrian safety issues. There is similar potential for such issues near 1st Avenue S./S. Royal Brougham Way.
- Near the existing SR 99 access ramp on the west side of 1st Avenue S, the ramp infringes on the sidewalk such that one segment is quite narrow and sheltered from view of passersby, contributing to possible public safety concerns.

South-of-Dearborn

Sidewalks are provided on most streets, some with weeds and cracked conditions. Some streets have sidewalks crossing past business entry doors and perpendicular parked cars in between, which contributes to potential pedestrian safety challenges. Airport Way S. and S. Dearborn Street, wider streets with higher speed traffic, are perceived as more difficult to cross. The characteristics of the corridors and less frequent crossing locations may contribute to potential pedestrian safety challenges. Pedestrian activity in this area in minimal, though it often does increase when there is an event at Safeco or Qwest fields due to the dispersal of event-related parking in this vicinity.

Little Saigon

Sidewalks are provided on most streets, some with weeds and cracked conditions. Pedestrian activity is highest near the intersection of 12th Avenue S. and S. Jackson Street. There are a number of locations where relatively high traffic volumes combined with pedestrian activity and physical characteristics may contribute to pedestrian safety challenges:

- 12th Avenue S./S. Jackson Street intersection vicinity
- 12th Avenue S./S. King Street intersection vicinity

- 12th Avenue S./S. Weller Street vicinity
- Mid-block vicinity on S. Jackson Street between 12th Avenue S. and Rainier Avenue S.
- Rainier Avenue S./Boren Avenue S./S. Jackson Street intersection vicinity
- Rainier Avenue S./S. Dearborn Street vicinity

Bicycle Facilities

Within the study area several roadways have infrastructure for bicycles. The infrastructure mainly consists of bicycle lanes striped onto existing roadways. Bicycle lanes are located on 2nd Avenue S. (in the Pioneer Square district), S. Dearborn Street (in the Little Saigon and south-of-Dearborn vicinities), and S. Jackson Street (in the Little Saigon vicinity). There are also several identified bicycle routes in the area, as well as multi-use paths. The multi-use paths are along Alaskan Way S. (along the border of the Stadium Area and Pioneer Square vicinities), along 5th Avenue S. (south of the south-of-Dearborn vicinity), and along I-90 to I-5 (south of the Little Saigon vicinity). Bike routes are prevalent in all vicinities. Regional bicycle connections are provided by several paths and trails in the area. The Alaskan Way trail west of the study area provides access north through the Downtown waterfront area to Magnolia. The bicycle lane along S. Dearborn Street within the Little Saigon vicinity connects to the I-90 trail, which provides connections across Lake Washington to Mercer Island and areas east of Lake Washington

To promote and encourage greater bicycle use, the City of Seattle has completed a Bicycle Master Plan. The plan identifies existing facilities, recommends improvements, discusses ways to educate the public, and identifies funding for the improvements. Several major improvements are discussed, including several miles of on-street bicycle facilities, trail connections and a signed bicycle route system. The plan also discusses the need for improvements at roadway crossings and on arterial roadways.

EVENT TRAFFIC MANAGEMENT

Event traffic management summarized in this section refers primarily to transportation management programs (TMPs), updated on an annual basis, that were required by City conditioning of permits for the two athletic stadiums, Safeco Field and Qwest Field. City decisions to permit the construction of these facilities recognized that the number of large events, their potential overlap, and their interaction with typical daily traffic in the vicinity would create substantial traffic volumes that could result in occasional severe traffic congestion. This congestion can and does result in adverse traffic delays and impaired functioning of streets and transit systems.

The TMPs include several strategies that are meant to minimize the frequency, extent and duration of traffic congestion that is influenced by event-related traffic, as well as measurable goals and other required contents. For example, the TMPs define a policy that prevents large events from simultaneously occurring at the stadiums, and requires other "special" TMPs for some added events such as playoff games that may or may not occur. Another focus of each TMP is on the immediate neighborhoods adjacent to each stadium, to discourage parking and extraneous traffic circulation within the TMP boundaries. The specific objectives for Qwest and Safeco Fields generally overlap and are mostly consistent between the two plans. Some of the specific measures are required as part of the entitlements for each venue whereas some of the other measures are done to provide incentives for patrons to carpool and travel via alternative mode versus single occupant vehicle.

Over time, it has become clearer that transportation management practices for each stadium work somewhat differently, with different characteristics that respond to the particular needs created by their events, and differences in event-goers' characteristics that can affect traffic patterns. Observations about these differences include the following:

- The Qwest Field Event Center TMP addresses fewer large events than Safeco Field's TMP.

- The physical location of each stadium and its parking facilities results in somewhat different traffic patterns. Qwest Field tends to generate traffic in Pioneer Square, and to/from its parking facilities near S. King Street and on 4th Avenue S. Safeco Field tends to generate southern-oriented traffic volumes where parking resources may be more accessible to event-goers. Given these patterns, there is relatively more concern for pedestrian safety in locations such as the 1st Avenue S. and S. Atlantic Street vicinity during baseball games (as compared to football games) due to the proximity of Safeco Field, the number of baseball games, and crowd behavior that may induce more jaywalking. These patterns also influence the distribution of police postings to maintain safety.
- Regionally, Qwest Field football events draw many fans from southern suburbs to its weekend day events. Safeco Field baseball events draw fans more evenly from within the region, along with fans walking from Downtown jobs on weekdays. These differences influence different patterns of arrival and pedestrian activity, e.g. "tailgating" before football events, and crowds walking south on Occidental Avenue S. for baseball games.
- Safeco Field events typically have included five to seven weekday day games that can create overlap with PM peak commuting periods, depending upon the starting times and eventual ending times of the baseball games. Experience has led authorities to favor start times that avoid games ending around the PM peak hour commuting period. However, scheduling practices of Major League Baseball and the need for occasional rainout make-up games can lead to day game schedules that are mostly beyond the control of the City and the Mariners.

Several elements of the access to each stadium will be altered as a result of specific planned transportation improvements, such as SR 519 Phase 2 and access improvements to SR 99 as part of the Alaskan Way Viaduct replacement project. Key at-grade pedestrian-vehicle conflicts in the immediate vicinity of both Qwest and Safeco Fields will be eliminated with improvements at S. Royal Brougham Way as part of the SR 519 Phase 2 project because SR 519 will be rerouted away from S. Royal Brougham Way. This transportation improvement will also affect how ingress and egress to the garage at Qwest Field is provided. The result of the improvement will likely be a re-allocation of resources related to pedestrian and traffic control.

ENVIRONMENTAL IMPACTS

This section describes future 2030 conditions for the transportation systems within the study area under the No-Action and Action Alternatives. The future transportation system conditions were established based on forecasts of regional population and employment developed by the City of Seattle and PSRC and reflected in the City's travel demand model for the No Action Alternative. The No Action Alternative establishes the baseline information for system performance against which the Action Alternatives are compared. For each of the Alternatives, a consistent set of new transportation facilities and services were assumed to be in place by 2030 and accounted for in the development of the 2030 travel forecasts.

TRAVEL FORECASTS

The No-Action and Action Alternatives were evaluated under 2030 travel conditions. These conditions assume an increase in travel as the result of forecasted increases in population and employment in the Puget Sound region and the study area. The travel forecasts are estimated based on the expected number of person trips per day generated by the future land uses. This information is calculated using the City of Seattle EMME/2 travel demand model. The model is a refined version of the Puget Sound Regional Council (PSRC) regional model with a greater emphasis on travel within the City of Seattle. The model includes smaller transportation analysis zones (TAZs) to provide more sensitivity to local arterials, but has also incorporated other specific enhancements such as updates to the local transit network. The model was utilized to forecast the number of vehicle trips and non-auto trips in the study area for the No Action and Action Alternatives based on the 2030 horizon year.

The AM and PM 3-hour peak periods were used to evaluate 2030 travel conditions. The model runs were completed by beginning with the No-Action Alternative and confirming regional and study area land uses along with the future transportation network assumptions. Once the assumptions had been confirmed and/or included, the model was run for each of the Action Alternatives. The only modifications to the model for each of the Action Alternatives included revisions to the land uses for the study area TAZs. No other modifications to the model were made under each Alternative.

The model includes a four-step modeling procedure which comprises trip generation based on the land uses, trip distribution among the TAZs, modal split among the various modes available, and trip assignment on the model network. The results from the trip generation and trip distribution components of the model are described below along with a summary of the mode share and trip assignment. Much of the model data described in this section has been compared to the base year model, which was calibrated to 2005 conditions.

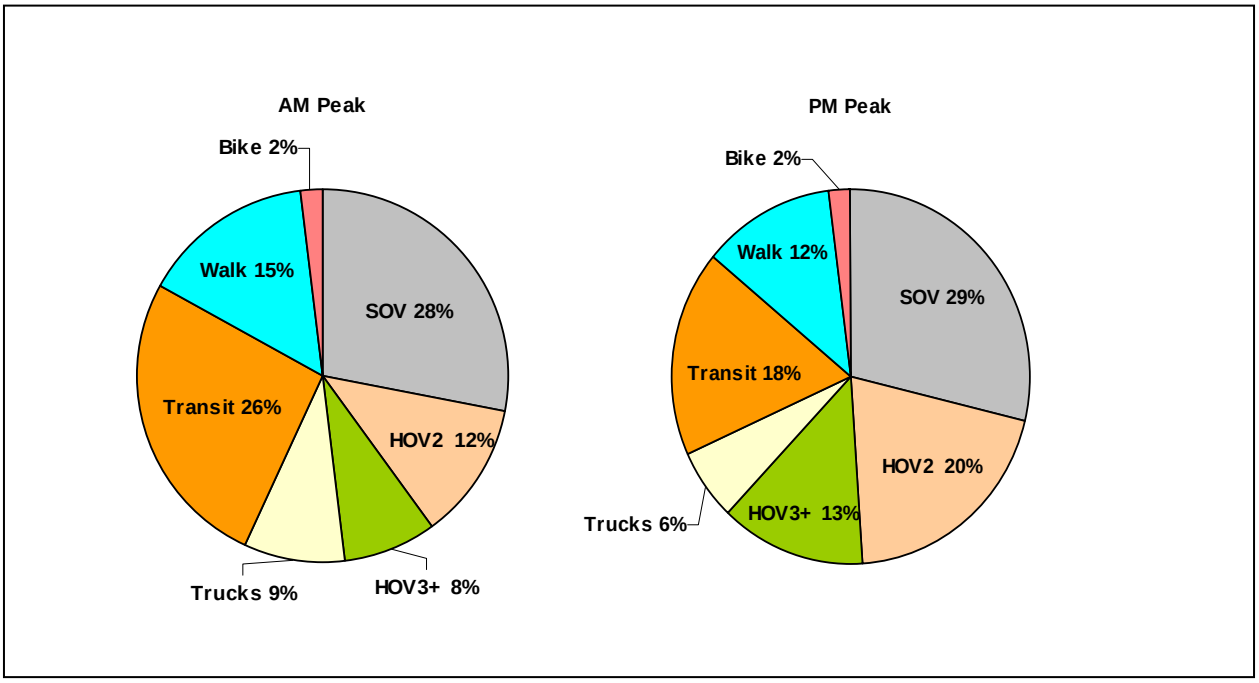
Trip Generation and Mode Share

The model estimates the number of person trips generated (produced or attracted) by each TAZ based on the types of land uses within the specified zone. Residential development is typically the producer of daily trips, whereas employment is typically the attractor of daily trips. The model includes a series of residential and employment land use categories by which it estimates travel. DPD staff developed and provided the land use information to include in the model for each of the Alternatives (see Table 5-1 in Appendix G).

The mode choice component of the model estimates the allocation of person trips among the various travel modes. Special attention was given to mode share results to assess the shifts in travel modes between the Alternatives or even over the study horizon compared to the base year travel characteristics. Figure 3-44 illustrates the six primary modes within the model and the approximate mode share for the study area TAZs under the 2030 No-Action Alternative.

The mode share results show an increase in transit share from the 2005 base year model. During the AM peak period, the percentage of transit trips increases from 24% in 2005 to 26% in 2030, while during the PM peak period transit trips increases from 16% in 2005 to 18% in 2030 under the No-Action Alternative. This shift in mode share is particularly associated with limited parking spaces in the study area and the consequent increase in parking costs.

Figure 3-44
Modal Splits for AM & PM Peak 3 Hour Periods (2030 No Action)



The number of person trips during the AM and PM peak periods has been summarized by mode in Table 3-44. The 2030 travel characteristics have been compared to the 2005 base year information for illustrative purposes. The TAZ boundaries within the model do not match the extents of the study area. Therefore, Table 3-44 also includes data for areas just outside the study area (see Figure 5-2 in Appendix G).

Table 3-44
Peak Period Travel Characteristics[1] (Base Year vs. No-Action)

	AM Peak Period[2]			PM Peak Period[2]		
	2005	2030 No-Action	% Change from 2005	2005	2030 No-Action	% Change from 2005
Average Person Trips to/from Study Area	18,200	32,100	76%	28,100	46,600	66%
Average Vehicle (Auto) Trips[3] to/from Study Area	9,100	14,600	61%	14,800	23,500	59%
Percent of Study Area Person Trips made by Transit/Walk/Bike (Non-Auto)	37%	43%	--	26%	32%	--
Study Area Person Trips made by Transit/Walk/Bike (Non-Auto)	6,800	13,600	101%	7,200	13,900	94%
Percent of Study Area Person Trips made by Vehicle (Auto)	63%	57%	--	74%	68%	--
Average Auto Occupancy	1.74	2.19	--	1.68	1.99	--

Source: City of Seattle Travel Demand Model (April 2007)
1. The information displayed in this table is based on the Model TAZ boundaries which include some areas that are outside the identified study area as shown in Figure 5-2 of Appendix G.
2. AM and PM peak periods in the SDOT Model are defined as 3 hours each.
3. Vehicle (Auto) Trips includes single occupancy vehicles, high occupancy vehicles, van pools, and trucks

2030 No Action Alternative (Alt. 4)

During both the AM and PM peak periods, the percent increase in person trips is higher than the percent increase in vehicle trips. This explains the shift in mode share between 2005 and 2030. During the AM peak period, approximately 57% of person trips are by automobile in 2030 compared to 63% in 2005. During the PM peak period, the automobile share is approximately 68% of the total trips compared to 74% in 2005. Automobile trips include single-occupancy vehicles (SOV), high-occupancy vehicles (HOV), vanpools and trucks. The increase in non-auto mode (transit/walk/bike) usage is largely attributed to the increase in parking costs in the study area and Downtown Seattle in general. Since the rate of increase in person trips is higher than that of vehicle trips, the average auto occupancy within the study area increases from 1.74 passengers per car for the AM peak period in 2005 to 2.19 in 2030. During the PM peak period, the study area average auto occupancy increases from 1.68 in 2005 to 1.99 in 2030.

2030 Action Alternatives (Alts. 1, 2, 3)

The mode share information from the model for each of the Action Alternatives is listed in Table 3-45. Similar to the No Action Alternative, a mode shift is observed from the 2005 conditions illustrated earlier. Yet, the percent of trips made by non-auto modes under each of the Action Alternatives remains similar to the No-Action Alternative. While the model is predicting a substantial increase in both auto and non-auto modes relative to the No Action Alternative, it does not indicate that non-auto travel modes will comprise a higher proportion of the travel generated within the study area. It is observed from Table 3-45 that Alternative 3 provides a slightly higher percentage of non-auto mode users.

Table 3-45
Peak Period Travel Characteristics[1] (Action Alternatives)

	AM Peak Period[2]			PM Peak Period[2]		
	Alt 1	Alt 2	Alt 3	Alt 1	Alt 2	Alt 3
Average Person Trips to/from Study Area	37,790	38,270	38,790	54,080	54,550	55,250
Average Vehicle (Auto) Trips[3] to/from Study Area	17,090	17,230	17,380	27,060	27,250	27,430
Percent of Study Area Person Trips made by Transit/Walk/Bike	43%	43%	44%	31%	31%	31%
Study Area Person Trips made by Transit/Walk/Bike	16,290	16,610	16,890	16,560	16,860	17,160
Percent of Study Area Person Trips made by Auto	57%	57%	56%	69%	69%	69%
Average Auto Occupancy	2.22	2.23	2.25	2.01	2.01	2.03

Source: City of Seattle Travel Demand Model (April 2007)
1. The information displayed in this table is based on the Model TAZ boundaries which include some areas that are outside the identified study area as shown in Figure 5-2 of Appendix G.
2. AM and PM peak periods in the SDOT Model are defined as 3 hours each
3. Vehicle (Auto) Trips includes single occupancy vehicles, high occupancy vehicles, van pools, and trucks

Trip Distribution and Assignment

The allocation or distribution of trips among the various TAZs in the model was estimated using the destination choice model (gravity model) which allocates trips based on impedances between the TAZs. For trips generated in the study area during the AM peak period, approximately 51 percent of the trips are heading to the north, 24 percent to the south, 6 percent to the east, and 1 percent to the west. The remaining 18 percent stay within the study area. In the PM peak period approximately 41 percent of the trips would head to the north, 35 percent to the south, 11 percent to the east, and 1 percent to the west. The remaining 12 percent stay within the study area. See Appendix G for further discussion of trip assignment.

ARTERIAL STREET SYSTEM IMPACTS

This section summarizes the 2030 future year conditions along the arterial street system and compares the performance of the Alternatives, focusing on differences between the Action Alternatives and the No-Action Alternative. The evaluation assumes completion of planned and programmed improvements (see Section 5.2 of Appendix G), which means arterial facilities are assumed to be identical under the Alternatives.

2030 Forecast Traffic Volumes

The forecast traffic volumes were developed using the City of Seattle Travel Demand Model, leading to detailed AM and PM peak hour traffic estimates for the 2030 No-Action and Action Alternatives for the major corridors throughout the study area.

AM Peak Hour

2030 No Action Alternative (Alt. 4)

During the AM peak period, the travel demand model forecasts higher growth rates for westbound and northbound traffic than other travel directions, attributable to Downtown employment center growth. For various travel directions, this traffic growth would represent total increases of approximately 17% to 37% in traffic volumes between the 2005 base year and 2030. This translates to an approximate 1% annual growth rate, which is consistent with the historical traffic growth in the study area. Figure 3-45 illustrates

the AM peak hour forecast volumes. The highest traffic growth is seen along westbound S. Atlantic Street, due to shifts in traffic from SR 519 ramp improvements. Other streets with relatively high growth rates include S. Dearborn Street, S. Jackson Street, Rainier Avenue S., 12th Avenue S., and portions of 1st Avenue S. and 4th Avenue S. See Appendix G for further evaluation.

2030 Action Alternatives (Alts. 1, 2, 3)

The traffic forecasts for the Action Alternatives in the Pioneer Square neighborhood and Chinatown/ Japantown vicinity west of I-5 forecast an expected traffic growth of less than 5 percent above the No-Action Alternative forecasts. Greater amounts of forecast traffic growth would occur in Little Saigon and South of Dearborn and to a lesser extent in the Stadium Area neighborhood, where traffic volumes are to increase another 5 to 15 percent above the No-Action forecasts. The Action Alternative traffic forecasts for the AM peak hour are similar to one another, only differing by a few percentage points along the major corridors. See Appendix G for further evaluation.

PM Peak Hour

2030 No Action Alternative (Alt. 4)

During the PM peak hour, the travel demand model forecasts higher traffic growth along the corridors serving commuter traffic leaving Downtown. An approximate 1-1.5% annual growth rate is forecast. For various travel directions, this traffic growth would represent total increases of approximately 21% to 40% in traffic volumes between 2007 and 2030. Figure 3-46 illustrates the PM peak hour forecast volumes.

Large increases in projected traffic volumes would be observed along both directions of S. Atlantic Street, reflecting the new SR 519 off-ramp, closure of S. Holgate Street and Alaskan Way improvements. The forecast PM peak traffic volumes increase along S. Atlantic Street from 1,165 and 380 vehicles per hour in 2007 for the eastbound and westbound directions, respectively, to 1,825 and 865 vehicles per hour in 2030. Forecast growth in traffic volumes is also significant along eastbound S. Dearborn Street, which is influenced by projected Little Saigon developments and traffic leaving Downtown. Westbound S. Jackson Street also would see a significant increase in traffic volumes due to growth in Downtown.

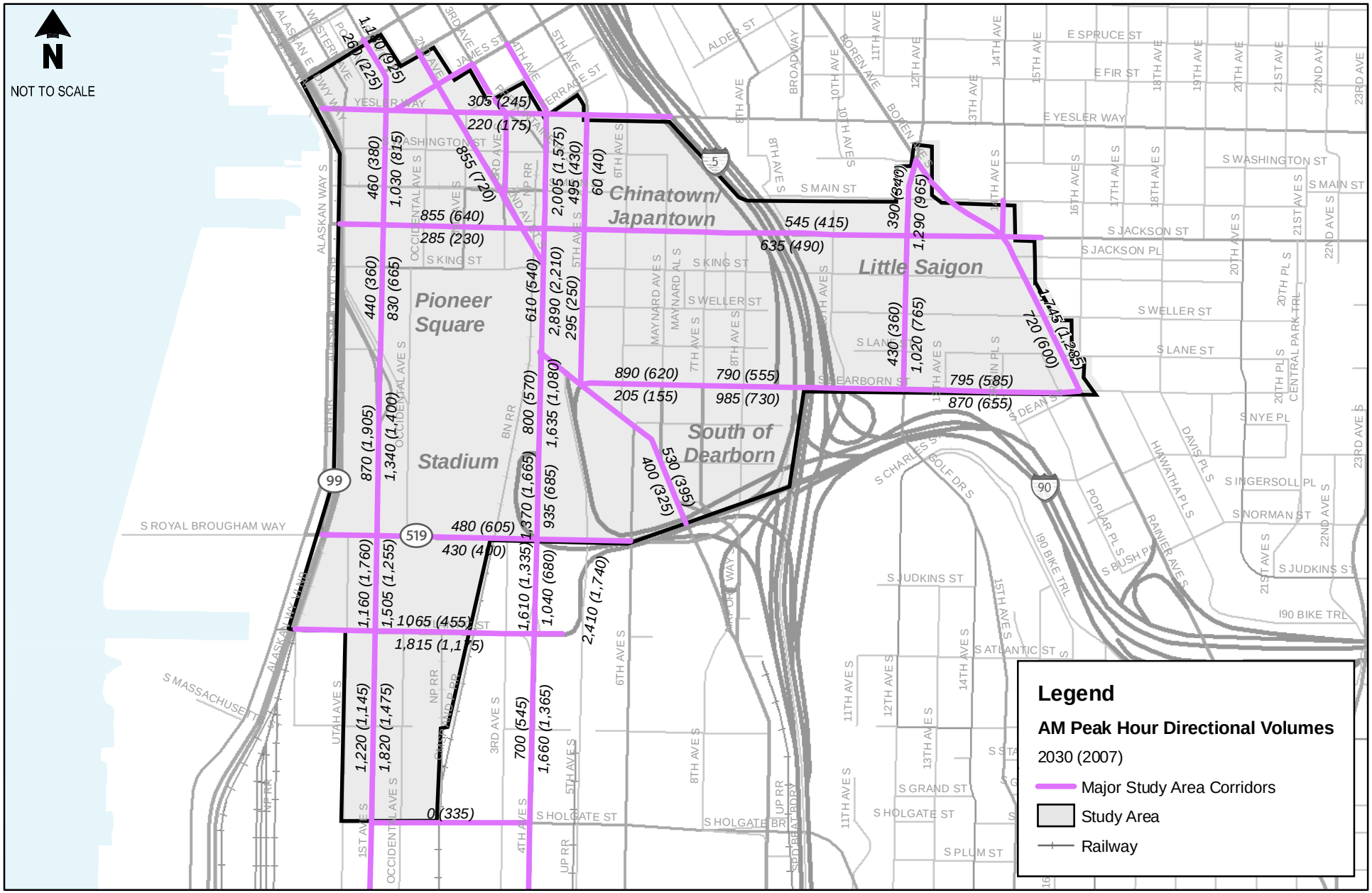


Figure 3-45

Livable South Downtown

AM Peak Hour Traffic Volumes (2030 No Action Alternative)

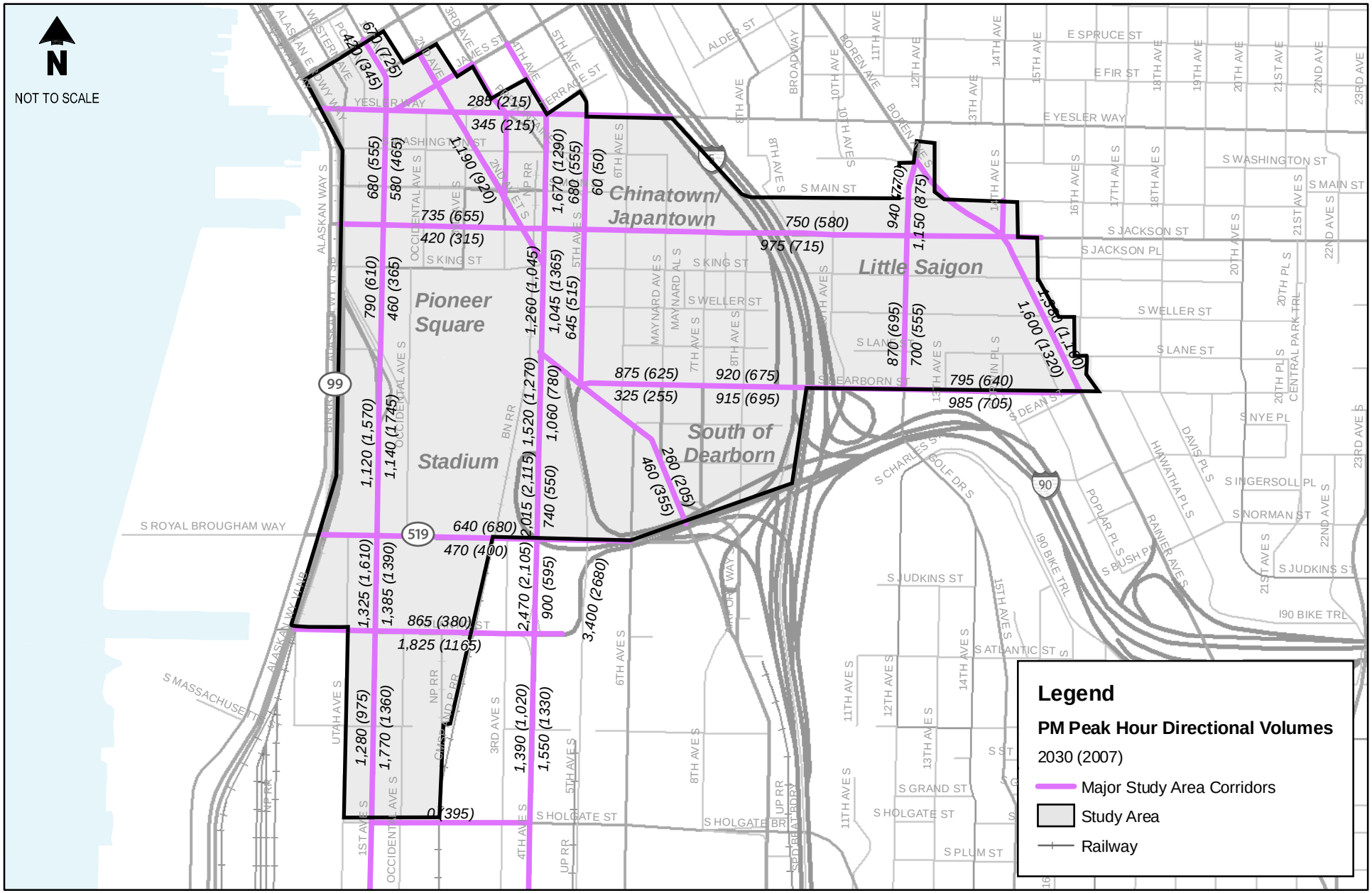


Figure 3-46

Livable South Downtown

PM Peak Hour Traffic Volumes (2030 No Action Alternative)

In the north-south corridors, general traffic growth would be slightly higher along the southbound approaches of most corridors. Along 1st Avenue S., traffic volumes would drop north of S. Atlantic Street and south of S. Jackson Street due to shifts in traffic to new "frontage" roads along SR 99 assumed with Alaskan Way Viaduct improvements. Forecast traffic growth on Rainier Avenue S. would be higher for the northbound direction, influenced by increased commercial development in Little Saigon and Downtown.

2030 Action Alternatives (Alts. 1, 2, 3)

The Action Alternatives' traffic volume forecasts for the PM peak hour are similar to one another and to the No Action Alternative. The greatest forecast increase in traffic growth above the No Action Alternative would take place in Little Saigon and to a lesser extent in south-of-Dearborn, due to projected development.

Vehicle Travel Characteristics

Given its location, many of the vehicle trips along the South Downtown study area roadways do not have an origin or destination within the study area. These trips, referred to as external trips, use South Downtown roadways to travel between their origins and destinations.

2030 No Action Alternative (Alt. 4)

The travel patterns in the 2030 No-Action Alternative would be similar to those estimated in 2005, with about 10 percent of the total traffic on roadways within the study area having an origin or destination within the study area. Nine out of 10 vehicles use study area roadways without stopping in the study area at a residence or business. These travel characteristics are similar for both the AM and PM peak periods.

2030 Action Alternatives (Alts. 1, 2, 3)

The travel patterns are identical under the Action Alternatives, indicating that the increase in vehicle trips caused by future development does not result in a significant shift in the external pass-through trips to other roadways.

Corridor Operations and Travel Speeds

This section presents peak hour arterial level of service (LOS) and average travel speeds for corridor segments under the No Action and Action Alternatives. These are the primary criteria to measure performance along study area corridors. The corridor LOS is based upon the roadway's functional classification and the amount of time it takes a vehicle to navigate the length of the identified corridor. Results are based on the average delay per vehicle expected at each signalized intersection along the corridor. Existing timing of traffic signals was a starting point for the 2030 analysis, but where appropriate signal timings were optimized, with the same signal timing assumptions made for the No Action and the Action Alternatives.

AM Peak Hour

2030 No Action Alternative (Alt. 4)

Table 3-46 summarizes corridor operations (arterial LOS) and travel speed results for the weekday AM peak hour conditions in 2030 under the No Action Alternative, with existing conditions listed for comparison. The corridor LOS and travel speeds are expected to decline or stay the same for all corridors except along S. Royal Brougham Way, where a grade-separated structure (part of SR 519 Phase 2) would eliminate delays caused by the existing at-grade rail crossing, and traffic would shift away from S. Royal Brougham Way to S. Atlantic Street, due to a new off-ramp from I-90 (also part of SR 519 Phase 2). This

would reduce volumes using the 4th Avenue S. off-ramp that would then head westbound on S. Royal Brougham Way. The shifts in traffic to S. Atlantic Street are the primary reason why travel speeds are projected to decrease significantly along S. Atlantic Street compared to existing conditions. Westbound travel speeds on S. Dearborn Street are also projected to decrease significantly, probably related to development Downtown and on the Goodwill properties.

Table 3-46
Corridor Operations and Travel Speeds—AM Peak Hour (2007 vs. 2030 No-Action)

Corridor / Arterial	Extent	Direction	Arterial LOS[1] 2007 Existing	Arterial LOS[1] 2030 No-Action Alternative
North-South Corridors			**Travel speeds in parentheses (mph)**	
1st Avenue S	Yesler Way to S Spokane Street	NB	D (15)[2]	E (13)
		SB	C (19)	D (16)
2nd Avenue Extension S	James Street to 4th Avenue S	SB	F (8)	F (5)
3rd Avenue S	James Street to S Jackson Street	NB	D (12)	D (11)
		SB	D (10)	E (8)
4th Avenue S	S Washington Street to S Spokane Street	NB	D (15)	F (7)
		SB	D (17)	F (8)
Rainier Avenue S	S Jackson Street to S Dearborn Street	NB	E (12)	F (3)
		SB	E (13)	E (11)
East-West Corridors			**Travel speeds in parentheses (mph)**	
S Jackson Street	Alaskan Way S to Rainier Avenue S	EB	E (12)	E (11)
		WB	F (10)	F (9)
S Dearborn Street	Airport Way S to Rainier Avenue S	EB	E (11)	E (11)
		WB	E (11)	F (6)
S Royal Brougham Way	Alaskan Way S to 4th Avenue S	EB	F (7)	F (9)
		WB	F (5)	F (5)
S Atlantic Street	Alaskan Way S to 4th Avenue S	EB	E (11)	F (5)
		WB	F (7)	F (2)

Source: The Transpo Group (July 2007)
1. Arterial Level of Service based on 2000 *Highway Capacity Manual* methodology for urban arterials.
2. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections (which are graded by the letter assignment, i.e., "A" – "F").

Each north-south corridor would experience reduced corridor operations and travel speeds. More than half of the studied corridors are forecast to operate at LOS F conditions in 2030, including Rainier Avenue S., 4th Avenue S. and the 2nd Avenue Extension S. Volumes at the Rainier Avenue S./S. Dearborn Street intersection are the primary contributor to the LOS F arterial operations northbound, and the intersection with S. Jackson Street also contributes to the corridor's reduced performance. Projected travel speeds would decline from 12 mph currently to 3 mph in 2030. Along 4th Avenue S., increased volumes related to interchange improvements at S. Spokane Street, and increased delays at the Airport Way S. intersection would contribute to the corridor's reduced performance. Along 2nd Avenue Extension S., increased traffic volumes, particularly at the S. Jackson Street intersection, would cause a reduction in travel speed. Slight declines are also noted along 1st Avenue S. due to additional traffic south of S. Atlantic Street, and also along 3rd Avenue.

2030 Action Alternatives (Alts. 1, 2, 3)

Table 3-47 summarizes corridor operations (arterial LOS) and travel speed results for the Action Alternatives in the weekday AM peak hour, also comparing to the No Action Alternative. Only a few differences are noted between the No Action Alternative and among all of the Action Alternatives. Additional assumed traffic trips from development in the Little Saigon vicinity in the Action Alternatives contributes to the 1-2 mph difference from the No Action Alternative for the Rainier Avenue S. and S. Jackson Street corridors. The large amount of traffic passing through the area (9 out of every 10 trips), contributes to the minimal differences among the alternatives' results. See Appendix G for further evaluation.

Table 3-47
Corridor Operations and Travel Speeds—AM Peak Hour (2030 No-Action vs. Action Alternatives)

Corridor / Arterial	Extent	Direction	2030 Arterial LOS[1]			
			No-Action	Alternative 1	Alternative 2	Alternative 3
North-South Corridors			**Travels speeds in parentheses (mph)**			
1st Avenue S	Yesler Way to S Spokane Street	NB	E (13)[2]	E (13)	E (12)	E (12)
		SB	D (16)	D (16)	D (16)	D (16)
2nd Avenue Extension S	James Street to 4th Ave S	SB	F (5)	F (5)	F (5)	F (5)
3rd Avenue S	James Street to S Jackson Street	NB	D (11)	D (11)	D (11)	D (11)
		SB	E (8)	E (8)	E (8)	E (8)
4th Avenue S	S Washington Street to S Spokane Street	NB	F (7)	F (6)	F (6)	F (6)
		SB	F (8)	F (8)	F (8)	F (8)
Rainier Avenue S	S Jackson Street to S Dearborn Street	NB	F (3)	F (2)	F (2)	F (2)
		SB	E (11)	F (9)	F (9)	F (10)
East-West Corridors			**Travels speeds in parentheses (mph)**			
S Jackson Street	Alaskan Way S to Rainier Ave S	EB	E (11)	E (11)	E (11)	E (11)
		WB	F (10)	F (9)	F (9)	F (9)
S Dearborn Street	Airport Way S to Rainier Ave S	EB	E (11)	E (11)	E (11)	E (11)
		WB	F (6)	F (6)	F (6)	F (6)
S Royal Brougham Way	Alaskan Way S to 4th Ave S	EB	F (9)	F (10)	F (10)	F (10)
		WB	F (5)	F (5)	F (5)	F (5)
S Atlantic Street	Alaskan Way S to 4th Ave S	EB	F (5)	F (5)	F (5)	F (4)
		WB	F (2)	F (2)	F (2)	F (2)

Source: The Transpo Group (July 2007)
1. Arterial Level of Service based on 2000 *Highway Capacity Manual* methodology for urban arterials.
2. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections (which are graded by the letter assignment, i.e., "A" – "F").

PM Peak Hour

2030 No Action Alternative (Alt. 4)

Corridor operations trends for the PM peak hour are similar to those projected for the AM peak hour. Table 3-48 summarizes the results for the No Action Alternative. Corridor LOS and travel speeds would decline or stay the same for all corridors except S. Royal Brougham Way.

Table 3-48
Corridor Operations and Travel Speeds—PM Peak Hour (2007 vs. 2030 No-Action)

Corridor / Arterial	Extent	Direction	Arterial LOS[1] 2007 Existing	Arterial LOS[1] 2030 No-Action Alternative
North-South Corridors			**Travels speeds in parentheses (mph)**	
1st Avenue S	Yesler Way to S Spokane Street	NB	D (16)[2]	D (16)
		SB	D (16)	E (12)
2nd Avenue Extension S	James Street to 4th Ave S	SB	F (9)	F (8)
3rd Avenue	James Street to S Jackson Street	NB	C (14)	D (10)
		SB	E (8)	E (8)
4th Avenue S	S Washington Street to S Spokane Street	NB	D (16)	E (12)
		SB	E (13)	F (8)
Rainier Avenue S	S Jackson Street to S Dearborn Street	NB	E (12)	F (6)
		SB	F (9)	F (8)
East-West Corridors			**Travels speeds in parentheses (mph)**	
S Jackson Street	Alaskan Way S to Rainier Ave S	EB	E (11)	E (11)
		WB	E (11)	F (9)
S Dearborn Street	Airport Way S to Rainier Ave S	EB	F (9)	F (7)
		WB	F (8)	F (9)
S Royal Brougham Way	Alaskan Way S to 4th Ave S	EB	F (8)	F (9)
		WB	F (7)	F (5)
S Atlantic Street	Alaskan Way S to 4th Ave S	EB	E (11)	F (5)
		WB	F (10)	F (8)

Source: The Transpo Group (July 2007)
1. Arterial Level of Service based on 2000 *Highway Capacity Manual* methodology for urban arterials.
2. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections.

Declines in corridor operations and average speed would be mainly associated with traffic leaving Downtown. Almost all of the east-west corridors would operate at an arterial LOS F, and approximately one-half of the north-south corridors would operate at LOS F. One of the corridors with the greatest difference in travel speed compared to existing conditions is S. Atlantic Street, particularly in the eastbound direction. A significant number of vehicles from Downtown and points south of the study area will continue to access regional freeways from this street. Eastbound traffic on S. Dearborn Street would also see a reduction in travel speed.

Reduction in travel speeds is also observed along southbound and northbound approaches of the north-south corridors. Although most traffic in the PM peak hour is southbound leaving Dowtnown, travel speeds also drop along northbound approaches, due to traffic signal priority given to southbound traffic. This is observed along 3rd Avenue (James to S. Jackson Street). Major reductions in travels speeds are also observed along Rainier Avenue S., attributed to developments in Little Saigon and the Rainier Valley. See Appendix G for further discussion.

2030 Action Alternatives (Alts. 1, 2, 3)

Table 3-49 summarizes corridor operations (arterial LOS) and travel speed results for the Action Alternatives in the weekday PM peak hour, also comparing to the No Action Alternative. Except for locations within Little Saigon, there are few predicted differences in travel speeds and arterial LOS between the Action Alternatives and the No Action Alternative. As noted for the AM peak hour, the large amount of traffic passing through the area (9 out of every 10 trips), contributes to the minor amount of differences among the alternatives' results.

Rainier Avenue S., S. Jackson Street, and S. Dearborn Street are corridors with indicated declines in average travel speeds for certain traffic movements, when comparing the Action Alternatives to the No Action Alternative. The lower average speeds under the Action Alternatives for these corridors is believed to be attributable to increased traffic generated by greater amounts of projected development within the Little Saigon and south-of-Dearborn areas.

Alternative 1 conditions are similar to the No Action Alternative in corridor operations and travel speeds. The most significant difference between these alternatives is expected along Rainier Avenue S., where southbound travel is predicted to decline from an average operating speed of 8 mph to 2 mph in the PM peak hour under Alternative 1. Increased traffic volumes at this avenue's intersections with S. Jackson Street and S. Dearborn Street are predicted to create significant delays along the corridor. A 2 mph decline in travel speed (from 7 mph to 5 mph) is also observed in eastbound traffic on S. Dearborn Street.

Alternative 2 conditions are similar to Alternative 1 conditions with the primary measurable difference in eastbound traffic on S. Dearborn Street, with a predicted 5 mph decline in travel speed (from 7 mph to 2 mph). This further reduction in average speeds compared to Alternative 1 is believed to be attributable to additional amounts of projected development within the south-of-Dearborn vicinity under Alternative 2.

Alternative 3 conditions would have comparatively the greatest impact on corridor operations and travels speeds among the Action Alternatives. The measurable difference is for eastbound traffic on S. Dearborn Street, with a predicted 6 mph decline in travel speed (from 7 mph to 1 mph). Also, under all Action Alternatives, travel speed would decline along Rainier Avenue S. to 2 mph from the 8 mph that would occur in the 2030 No Action condition. This further reduction in average speeds compared to Alternative 1 is believed to be attributable to projected developments in Rainier Valley and the south-of-Dearborn area, which would contribute to increased delays at the Rainier Avenue S. intersections with S. Jackson Street and S. Dearborn Street.

Table 3-49
Corridor Operations and Travel Speeds—PM Peak Hour (2030 No-Action vs. Action Alternatives)

Corridor / Arterial	Extent	Direction	2030 Arterial LOS[1]			
			No-Action	Alternative 1	Alternative 2	Alternative 3
North-South Corridors			**Travel speeds in parentheses (mph)**			
1st Avenue S	Yesler Way to S Spokane Street	NB	D (16)[2]	D (16)	D (16)	D (16)
		SB	E (12)	E (12)	E (12)	E (12)
2nd Avenue Extension S	James Street to 4th Ave S	SB	F (8)	F (8)	F (8)	F (8)
3rd Avenue S	James Street to S Jackson Street	NB	D (10)	D (10)	D (10)	D (10)
		SB	E (8)	F (7)	F (7)	F (7)
4th Avenue S	S Washington Street to S Spokane Street	NB	E (12)	E (12)	E (12)	E (12)
		SB	F (8)	F (8)	F (8)	F (8)
Rainier Avenue S (NB)	S Jackson Street to S Dearborn Street	NB	F (6)	F (4)	F (4)	F (4)
		SB	F (8)	F (2)	F (2)	F (2)
East-West Corridors			**Travel speeds in parentheses (mph)**			
S Jackson Street	Alaskan Way S to Rainier Ave S	EB	E (11)	E (11)	E (11)	E (11)
		WB	F (9)	F (8)	F (8)	F (8)
S Dearborn Street	Airport Way S to Rainier Ave S	EB	F (7)	F (5)	F (2)	F (1)
		WB	F (9)	F (9)	F (9)	F (9)
S Royal Brougham Way	Alaskan Way S to 4th Ave S	EB	F (9)	F (10)	F (10)	F (10)
		WB	F (5)	F (5)	F (5)	F (5)
S Atlantic Street	Alaskan Way S to 4th Ave S	EB	F (5)	F (5)	F (5)	F (5)
		WB	F (8)	F (8)	F (8)	F (8)

Source: The Transpo Group (July 2007)
1. Arterial Level of Service based on 2000 *Highway Capacity Manual* methodology for urban arterials.
2. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections.

Intersection Operations

The signalized intersections along the studied corridors were evaluated for intersection performance during the AM and PM peak hours, using LOS measures that rate the average delay encountered by vehicles entering the intersection. The analysis includes new intersections and improvements assumed to be created by the SR 519 Phase 2 and the Alaskan Way Viaduct Replacement projects. See Appendix G for further details, including Tables A-1 through A-5 at the end of that appendix.

AM Peak Hour

2030 No Action Alternative (Alt. 4)

Table 3-50 summarizes the intersections along each corridor that would operate at LOS E or F in the AM peak hour, allowing for comparison among the Alternatives of the relative congestion at intersections along each corridor. The table's totals count some intersections more than once if located on two corridors. Without double counting, the analysis indicates that a total of seven intersections are predicted to operate at LOS E or F under the No Action Alternative, of the 49 signalized intersections evaluated. Of these seven, five intersections would operate at LOS F:

- 1st Avenue S./S. Spokane Street
- 1st Avenue S./S. Atlantic Street
- 4th Avenue S./S. Spokane Street

- 4th Avenue S./Airport Way S.
- Rainier Avenue S./S. Jackson Street

The intersections of Rainier Avenue S./S. Jackson Street and 4th Avenue S./Airport Way S. would deteriorate from LOS D and C under 2007 existing conditions to LOS F under the 2030 No-Action Alternative. The predicted decline in operations is attributed to increases in through-traffic generated by external regional land use growth that would use Rainier Avenue S. and 4th Avenue S. to access Downtown. In addition, increased amounts of projected development in Little Saigon would further increase traffic volumes, including at these intersections.

The 1st Avenue S./S. Atlantic Street intersection in 2030 would operate at LOS F despite the widening of the intersection as part of the SR 519 Phase 2 project. This is predicted due to the shift in traffic from S. Royal Brougham Way to S. Atlantic Street and the assumed closure of S. Holgate Street, which would likely more than offset the capacity improvements at the intersection.

Table 3-50
Intersection Operations—AM Peak Hour

Corridor/Arterial	Number of Intersections[1]	Number of Intersections Operating at LOS E or F in 2030			
		No-Action	Alternative 1	Alternative 2	Alternative 3
North – South Corridors					
1st Avenue S	**10**	**2**	**2**	**2**	**2**
2nd Avenue Extension S	**5**	**0**	**0**	**0**	**0**
3rd Avenue	**2**	**0**	**0**	**0**	**0**
4th Avenue S (NB)	**10**	**3**	**3**	**4**	**4**
4th Avenue S (SB)	**7**	**3**	**3**	**4**	**4**
Rainier Avenue S	**2**	**1**	**2**	**2**	**2**
East – West Corridors					
S Jackson Street	**10**	**1**	**1**	**1**	**1**
S Dearborn Street	**9**	**0**	**1**	**2**	**2**
S Royal Brougham Way[2]	**4**	**1**	**1**	**2**	**2**
S Atlantic Street[2]	**5**	**1**	**1**	**1**	**1**

Source: The Transpo Group (July 2007)
1. Number of signalized intersections along the corridor segment.
2. Includes new signalized intersections constructed as part of the SR 519 Phase 2 and the Alaskan Way Viaduct reconstruction.

The intersections predicted to operate at LOS E in the AM peak hour under the 2030 No Action Alternative are located at 4th Avenue S./S. Weller Street and at the SR 99 "frontage" road where it would meet S. Royal Brougham Way. At the 4th Avenue S./S. Weller Street intersection (with a pedestrian crossing and garage entry), the predicted decline in LOS from B under 2007 existing conditions to LOS E in 2030 would be due to increased traffic volumes in the northbound direction. The predicted operations at the SR 99 "frontage" road/S. Royal Brougham Way intersection would be the result of a large amount of traffic using the Alaskan Way Viaduct to/from Downtown and to/from areas to the south.

2030 Action Alternatives (Alts. 1, 2, 3)

Table 3-50 also describes the number of intersections operating at LOS E or F for the Action Alternatives in the 2030 AM peak hour, allowing for comparison with findings for the No Action Alternative. Trends similar to the No Action Alternative are predicted.

Under Alternative 1, one additional intersection would operate at LOS E, at Rainier Avenue S./S. Dearborn Street. The LOS at this intersection would decline from LOS D under the No Action Alternative to LOS E, likely due to increased traffic volumes from projected development in the Little Saigon neighborhood. A total of eight intersections would operate below an LOS D, including five at LOS F and three intersections at LOS E.

Under Alternative 2, three additional intersections would operate at LOS E compared to the No Action Alternative. This would include Rainier Avenue S./S. Dearborn Street, Airport Way S./S. Dearborn Street, and 4th Avenue S./S. Royal Brougham Way, likely due to increased traffic volumes from projected development in the 4th Avenue S., south-of-Dearborn and Little Saigon vicinities. Also, the 4th Avenue S./S. Weller Street intersection would further decline to an LOS F, compared to LOS E under Alternative 1 and the No Action Alternative. A total of ten intersections would operate below an LOS D, including six at LOS F and four intersections at LOS E.

Under Alternative 3, three additional intersections would operate at LOS E or worse, compared to the No Action Alternative. The ten intersections predicted to operate at LOS E or F would include the same locations as identified under Alternative 2. However, the SR 99 "frontage" road/S. Royal Brougham Way intersection would further decline to an LOS F, while the 4th Avenue S./S. Weller Street intersection would operate at LOS E. These differences from Alternative 2 conclusions would likely relate to differences in the projected development patterns in the Stadium Area vicinity. A total of ten intersections would operate below an LOS D, including six at LOS F and four intersections at LOS E.

PM Peak Hour

2030 No Action Alternative (Alt. 4)

Table 3-51 summarizes the intersections along each corridor that would operate at LOS E or F in the PM peak hour, similar to the AM peak hour analysis. The analysis indicates that a total of seven intersections are predicted to operate at LOS E or F under the No Action Alternative, of the 49 signalized intersections evaluated. Of these seven, five intersections would operate at LOS F:

- Rainier Avenue S./S. Jackson Street
- Rainier Avenue S./S. Dearborn Street
- 4th Avenue S./S. Royal Brougham Way
- 1st Avenue S./S. Lander Street
- 4th Avenue S./S. Spokane Street

Intersections predicted to operate at LOS E in the PM peak hour would be 1st Avenue S./S. Royal Brougham Way, and 4th Avenue S./S. Lander Street.

Commuting patterns away from Downtown employment centers would be a primary reason for these intersections' operations. Each of these intersections is located along principal arterials that connect with the regional freeway system and provide access to south Seattle and west Seattle neighborhoods. Other traffic would continue to use 1st Avenue S. and 4th Avenue S. to access I-5 and eastbound I-90, creating congestion at the identified intersections. Intersections along Rainier Avenue S. are expected to decline in LOS from LOS D currently to LOS F under the No Action Alternative, likely due to projected development in south Seattle, central Seattle and Little Saigon.

The intersection at 1st Avenue S./S. Atlantic Street would improve from LOS E currently to LOS D under the No Action Alternative, due to planned SR 519 Phase 2 improvements that will add dual southbound turn lanes along 1st Avenue S.

The predicted LOS F and LOS E at 1st Avenue S./S. Lander Street and 4th Avenue S./S. Lander Street intersections, respectively, would relate to assumed 2030 conditions including the closure of S. Holgate Street at the railroad tracks and a prohibition of a northbound left turn at the 4th Avenue S./S. Atlantic Street intersection as part of the SR 519 Phase 2 project.

At S. Spokane Street, the proposed interchange configuration would shift traffic at the intersection with 4th Avenue S. from the westbound approach to the northbound approach, which would probably result in an LOS F. However, it should be noted that signal timing and phasing were assumed to be the same as existing conditions despite changes in geometric configuration at this intersection.

Table 3-51
Intersection Operations—PM Peak Hour

Corridor/Arterial	Number of Intersections[1]	Number of Intersections Operating at LOS E or F in 2030			
		No Action	Alternative 1	Alternative 2	Alternative 3
North – South Corridors					
1st Avenue S	**10**	**2**	**3**	**3**	**3**
2nd Avenue Extension S	**5**	**0**	**0**	**0**	**0**
3rd Avenue S	**2**	**0**	**0**	**0**	**0**
4th Avenue S (NB)	**10**	**3**	**3**	**3**	**3**
4th Avenue S (SB)	**7**	**3**	**3**	**3**	**3**
Rainier Avenue S	**2**	**2**	**2**	**2**	**2**
East – West Corridors					
S Jackson Street	**10**	**1**	**2**	**2**	**2**
S Dearborn Street	**9**	**1**	**2**	**2**	**2**
S Royal Brougham Way[2]	**4**	**2**	**3**	**3**	**3**
S Atlantic Street[2]	**5**	**2**	**2**	**2**	**2**

Source: The Transpo Group (July 2007)
1. Number of signalized intersections along the corridor segment.
2. Includes new signalized intersections constructed as part of the SR 519 Phase 2 and the Alaskan Way Viaduct reconstruction.

2030 Action Alternatives (Alts. 1, 2, 3)

Table 3-51 also describes the number of intersections operating at LOS E or F for the Action Alternatives in the 2030 PM peak hour, allowing for comparison with findings for the No Action Alternative. During the PM peak hour, the same intersections operating at LOS E or F under the No Action Alternative would continue to operate at such levels. However, under each of the Action Alternatives, a total of twelve intersections would operate at LOS E or F, five more than under the No Action Alternative. These additional five intersections are:

- 12th Avenue S./S. Jackson Street
- Airport Way S./S. Dearborn Street
- SR 99 "frontage" road/S. Royal Brougham Way
- SR 99 "frontage" road/S. Atlantic Street
- 1st Avenue S./S. Atlantic Street

The Airport Way S./S. Dearborn Street intersection would operate at LOS F under the Action Alternatives, while the other intersections listed above would operate at LOS E. Traffic from development projected to occur in the Little Saigon vicinity under each of the Action Alternatives would contribute to additional traffic along corridors such as S. Jackson Street, 12th Avenue S., S. Dearborn Street, and Rainier Avenue S. The LOS E at 12th Avenue S./S. Jackson Street under the Action Alternatives in the PM peak hour would compare to an LOS D under the No Action Alternative.

Traffic from development projected to occur in the Stadium Area would contribute to the SR 99 "frontage" road intersections to decline to LOS E operations. These intersections would provide access to SR 99 so they are anticipated to serve a significant volume of vehicles during the PM peak hour. The LOS E at 1st Avenue S./S. Atlantic Street under the Action Alternatives in the PM peak hour would compare to an LOS D under the No Action Alternative. The intersection of 1st Avenue S./S. Royal Brougham Way would operate at LOS E for Alternatives 1 and 2, but would decline to LOS F under Alternative 3 due to increased projected development in the Stadium Area vicinity.

In summary, during PM peak hours, Alternative 1's traffic patterns at intersections would be most similar to the No Action Alternatives in terms of the number of intersections operating at LOS E or F. Alternative 2's and 3's traffic patterns at intersections would perform similarly, with Alternative 3 generating more impacts in the Stadium Area than Alternative 2. The overall predicted differences in intersection operations among the alternatives are not very significant, because traffic operations would be greatly influenced by external traffic from development outside the study area, and because South Downtown acts as a gateway to Downtown.

TRANSIT

The transit analysis summarizes 2030 transit service conditions and evaluates the performance of the Urban Village Transit Network corridors under each of the Alternatives. The transit performance measures are consistent with those developed as part of the Seattle Transit Plan. The analysis focuses on:

- local bus routes, which are expected to serve a majority of the study area's transit needs;
- expected growth in and distribution of transit ridership and corresponding impacts on local bus service; and
- differences between the Action Alternatives and the No Action Alternative.

The analysis assumes completion of planned and programmed improvements identified in section 5.2 of Appendix G, including completion of Sound Transit Phase 1 and portions of Phase 2 (the East Link). Other improvements include those projects identified in Metro's 6-year Transit Development Plan, along with those identified as part of the Transit Now Initiative that was passed by voters in 2006.

Increased Transit Ridership

Expected increases in transit investments and land use density within Seattle are expected to result in increased demand for transit. This demand is summarized in Table 3-52.

Table 3-52
Study Area Transit Demand Growth in Person Trips (AM Peak Period)[1]

Neighborhood	2007[2]	2030			
		No Action	Alternative 1	Alternative 2	Alternative 3
Pioneer Square/ Chinatown/Japantown	5,250	10,400	11,750	11,800	11,800
Stadium Area/South of Dearborn	150	250	350	350	500
Little Saigon	550	1,200	2,100	2,050	2,000
Total	**5,950**	**11,850**	**14,200**	**14,200**	**14,300**
Growth vs. 2007 Existing		99%			
Growth vs. 2030 No-Action			20%	20%	21%

Source: City of Seattle Travel Demand Model (April 2007)
1. The information displayed in this table is based on the Model TAZ boundaries which include some areas that are outside the identified study area.
2. Based on King County Metro ridership data (Fall 2006) adjusted to 3-hour period and distributed based on model distribution pattern.

The transit ridership forecasts are based primarily on the City's travel demand model developed for the AM peak hour extending from 6 AM to 9 AM.

2030 No Action Alternative (Alt. 4)

Within the study area, transit alightings and boardings are expected to increase by approximately 99% over today's conditions. While much of the growth in transit trips is expected to occur in Pioneer Square and Chinatown west of I-5, the highest forecast increase on a percentage basis is for the Little Saigon area, with ridership more than doubling over 2007 conditions. This would relate to projected residential and commercial growth in that area. In addition, Little Saigon is a farther distance from Downtown than the other study area vicinities, thereby increasing the attractiveness of transit to walking.

2030 Action Alternatives (Alts. 1, 2, 3)

Future development related to the Action Alternatives would generate more transit trips, as summarized in Table 3-52. Each of the Action Alternatives would increase transit demand by approximately 20 to 21 percent, due to residential and employment growth. Alternatives 1 and 2 would generate similar levels of increased transit trips, and Alternative 3 would generate slightly greater increases in trips in the Pioneer Square, Chinatown, Stadium Area and south-of-Dearborn areas.

Transit Travel Patterns

North-south flows would be the dominant directions for transit trips generated by the study area land uses. During the AM peak hour, approximately 78% of trips produced by the study area would be destined for areas to the north, such as Downtown Seattle and the University of Washington. Approximately 17% of transit trips would be oriented to the south, 4% to the east and 1% would stay within the study area. During the PM peak hour, the inverse of these patterns is assumed. This pattern suggests bus routes serving northerly areas would be more likely affected than routes serving other travel directions.

Transit trips destined for the study area during the AM peak hour would include 38% and 39%, respectively, from the north and south, and 11% each from the west and the east. During the PM peak hour, the inverse of these patterns is assumed. This pattern suggests bus routes serving areas to the north and south would be more likely affected than routes serving other travel directions.

Bus Performance Measures

Future conditions were evaluated using the measures described in the Affected Environment discussion above, and in Appendix G.

Frequency

2030 No Action Alternative (Alt. 4)

Similar to existing conditions, two locations with deficient service are not anticipated to have additional service that would meet the 15-minute frequency threshold. These occur along Yesler Way, and the segment of Rainier Avenue S. between S. Dearborn Street north to S. Washington Street. All of the other studied corridors are anticipated to continue to meet the 15-minute frequency threshold in 2030.

2030 Action Alternatives (Alts. 1, 2, 3)

Due to no assumed differences in local bus service, conclusions for the Action Alternatives are the same as identified for the No Action Alternative.

Span of Service

The 12th Avenue S. corridor is anticipated to continue to receive service levels similar to today. Metro's long-range plans do not identify increases in this corridor's span of service. All of the other studied corridors are anticipated to continue to meet the current span of service threshold in 2030. (The span of service thresholds would need to be increased gradually in the future to meet the objective set by the Seattle Transit Plan of 16 hours per day.)

2030 Action Alternatives (Alts. 1, 2, 3)

Due to no assumed differences in local bus service, conclusions for the Action Alternatives are the same as identified for the No Action Alternative.

Travel Speed

Increases of approximately 30% on average in other traffic volumes are expected by 2030, which would contribute to lower speeds and more delays along arterials. Anticipated congestion would create a heavier burden on transit operations and deteriorate the reliability of service. Increased dwell times at bus stops and increased ridership were factored into an anticipated transit speed calculation. The "passing" threshold for this measure is for buses to operate at an average of 30% of the posted speed limit (%PSL). Table 3-53 describes the results for the No Action and Action Alternatives.

Table 3-53
Transit Travel Speed Indicator for UVTN Corridors

			2030 Travel Speed as Percentage of Posted Speed Limit[1]			
Origin	**From**	**To**	**No Action**	**Alternative 1**	**Alternative 2**	**Alternative 3**
1st Ave S	Yesler Way	S R. Brougham Way	24%	23%	20%	23%
1st Ave S	S R. Brougham Way	S Holgate St	19%	18%	15%	16%
2nd Ave Ext S	Cherry St	4th Ave S	9%	9%	9%	9%
3rd Ave	James St	S Jackson St	14%	14%	14%	14%
4th Ave S	Yesler Way	S R. Brougham Way	17%	16%	16%	15%
Rainier Ave S	S Washington St	S Dearborn St	10%	6%	6%	6%
S Jackson St	1st Ave S	8th Ave S	16%	16%	16%	16%
S Jackson St	8th Ave S	Boren Ave S	14%	10%	10%	10%
City of Seattle Passing Threshold				**30%**		

Source: The Transpo Group (July 2007)
1. Based upon anticipated arterial congestion and increase in transit boardings and alightings.

2030 No Action Alternative (Alt. 4)

All UVTN corridor segments within the study area are expected to operate below the minimum acceptable standard of 30% of the posted speed limit under the No-Action Alternative. This would include the corridors that are currently operating at acceptable operating speeds such as 1st Avenue S., 4th Avenue S. and Rainier Avenue S. The results account for the future operational conditions of the corridor segment combined with the dwell time at bus stops. The corridor with the lowest operating speed is 2nd Avenue Extension S. It is expected to decline from 22% in 2007 to 9% under the No-Action Alternative. The other corridors are forecast to operate below 20% except the 1st Avenue S. section between Yesler Way and S. Royal Brougham Way which is expected to operate at 24% of the posted speed limit. Lower running speed due to higher delay along corridors and at intersections are the main reasons leading to the deterioration of transit operating speed.

2030 Action Alternatives (Alts. 1, 2, 3)

Most of Action Alternatives are expected to operate at even lower speeds than those under the No-Action Alternative. The reduced speeds would be the result of increased delays along the arterials combined with additional bus passengers that increase dwell times. All corridor travel speed indicators are forecast to drop several percentage points under each of the Action Alternatives, except for the S. Jackson Street section between 1st and 8th Avenues S., and 2nd Avenue Extension S. and 3rd Avenue (south of James Street), that are expected to remain operating almost at the same operating speed as the No-Action Alternative. This is due to similar arterial operations and travel speeds in the future. Travel speed along 1st Avenue S. is most affected by Alternative 2. Alternative 3 would result in a further slight decline in transit speed along 4th Avenue S., due to increased projected commercial growth on the corridor that would create more congestion and delays for buses.

Passenger Loading

The passenger loading factor reflects the quality of trip in terms of convenience and comfort. This is expressed as the ratio of passengers to the corridor service capacity. The corridor service capacity is calculated by multiplying the bus frequency by the average number of bus seats. The minimum passing threshold is 90% of seated capacity as defined by the Seattle Transit Plan.

To determine the passenger loading factors, the growth in transit person trips was assessed for the study corridors. Based on the model forecasts, all transit corridors will experience some growth by 2030 except the E3 Busway/5th Avenue S segment, where bus ridership will drop by almost one half along the transit

way due to trips moving to Light Rail. The corridors with the highest growth rates include 3rd Avenue (south of James Street) and a segment of S. Jackson Street. The resulting passenger loading ratios are listed in Table 3-54. These assume no increase is introduced to the operation levels of local bus services along the corridors.

Table 3-54
Passenger Loading Ratio by UVTN Transit Network Corridor

				2030 Passenger Loading Ratio			
Origin	**From**	**To**	**2007**	**No Action**	**Alternative 1**	**Alternative 2**	**Alternative 3**
1st Ave S	Yesler Way	S R. Brougham Way	1.20	1.31	1.27	1.26	1.31
1st Ave S	S R. Brougham Way	S Holgate St	1.27	1.43	1.40	1.40	1.40
2nd Ave Ext S	Cherry St	4th Ave S	1.01	1.37	1.39	1.40	1.36
3rd Ave S	James St	S Jackson St	0.91	1.52	1.53	1.53	1.48
4th Ave S	Yesler Way	S R. Brougham Way	1.30	1.49	1.50	1.52	1.49
5th Ave S	S R. Brougham Way	S Holgate St	1.15	0.64	0.64	0.65	0.63
Rainier Ave S	S Washington St	S Dearborn St	0.60	0.75	0.74	0.74	0.75
S Jackson St	1st Ave S	8th Ave S	0.86	1.67	1.63	1.65	1.61
S Jackson St	8th Ave S	Boren Ave S	0.99	1.18	1.17	1.17	1.10
City of Seattle Passing Threshold				**0.90**			

Source: City of Seattle Travel Model (April 2007) and current transit capacity.

2030 No Action Alternative (Alt. 4)

Almost all corridors will experience growth in loading during the peak period. This growth will result from growing population and employment not only in the study area but also in the region. Regional (or through) trips represent a high share of the loading factor of transit routes crossing the study area. Due to this growth, the existing passenger loading ratios will exceed the 90% threshold of seated capacity on almost all north-south corridors, except for Rainier Avenue S. and the 5th Avenue S. busway. The 5th Avenue S. loading ratio declines due to trips switching to Light Rail. The new Light Rail service also results in Rainier Avenue S. not having as much growth in transit trips, thus resulting in acceptable passenger loading ratios for the corridor. Corridors such as S. Jackson Street and 3rd Avenue (south of James Street) are expected to decline sharply in the future from increased transit ridership. Similar to 2007 results, 1st Avenue S. and the 2nd Avenue Extension S. will continue to not meet the passenger loading ratio in 2030.

2030 Action Alternatives (Alts. 1, 2, 3)

The passenger loading ratios for each of the Action Alternatives are similar to those expected under the No-Action Alternative. The passenger loading ratios would change influenced by the location of projected new development under each Alternative. Table 3-54 highlights that corridors such as 5th Avenue S. and Rainier Avenue S. would continue to operate at acceptable load levels, whereas S. Jackson Street segments would be over capacity similar to the other remaining corridors where demand would exceed average seated capacity of buses. Since local demand represents only a small percentage of total transit ridership, large differences between the Action Alternatives are not observed.

FREIGHT MOVEMENT

This section provides information about the future 2030 freight operating conditions for the No-Action and Action Alternatives. Efficient movement of freight and truck traffic within the study area is critical to the region's economic development due to proximity to the Port of Seattle, Intermodal Rail Yard, and the Greater Duwamish Manufacturing and Industrial Center. The freight evaluation focuses on the expected growth and distribution of freight traffic and the impacts on the Major Truck Streets under each of the Alternatives. The evaluation is based on a set of qualitative and quantitative assessments that compare freight operating conditions against those under the No-Action Alternative. The assessments include the ability of trucks to efficiently circulate through the study area and access major destinations such as the Port, regional highway system, local businesses and other land uses; the change in travel time expected along the Major Truck Streets; and design standard issues that could impact truck operations and maneuvers.

The evaluation assumes completion of the planned and programmed improvements identified in Section 5.2 of Appendix G. A significant amount of transportation investment is expected to occur by 2030 that will benefit the overall movement of freight within and through the study area. These improvements include projects such as SR 519 Phase 2, Alaskan Way Viaduct, S. Lander Street grade separation, and the Spokane Street Viaduct improvements that include widening the Viaduct, closing the westbound off-ramp at 4th Avenue S and adding a westbound on- and off-ramp at 1st Avenue S. and an eastbound loop ramp to 4th Avenue S. The improvements have been assumed under each of the Alternatives and incorporated into the evaluation results.

Freight Growth

Future freight demand was estimated for future 2030 conditions based in part on Seattle's travel demand model. The model includes a truck component that was adapted from the PSRC regional travel model, which in turn was derived from the FASTrucks Forecasting Model developed in the year 2000 for the Washington State Department of Transportation. The model includes special generators for Port of Seattle terminals and also uses employment categories to estimate light, medium and heavy truck generation. The model results were further adjusted based on forecasts presented in the Container Terminal Access Study completed in 2003 for the Port of Seattle and later updated in 2005[4]. The updated study identified the growth in truck trips from the surrounding container terminals.

In 2004, the Port of Seattle moved 1.8 million twenty foot container equivalent units (TEUs), an increase of 20 percent over 2003. In 2006, there were approximately 2 million TEUs carried. Within the next two years, Terminals T-25/T-30 will be reactivated and anticipated to generate 234,000 TEUs in 2009 and 560,000 TEUs by 2030[5]. Also, it is anticipated that Port volumes would increase to about 4.9 million TEUs by year 2030. This growth results in more truck traffic along the study area arterials. Specific growth rates for Terminal 46, which borders the study area, were noted and included in the forecasts and analyses of the AM and PM peak hour corridor and intersection operations analysis.

The Action Alternatives would generate a higher number of local and delivery truck trips as more employment land uses are proposed within the study area than the No-Action Alternative. The additional demand generated by the study area land uses of Action Alternatives would range from 16 to 17 percent during the AM peak and from 25 to 27 percent during the PM peak period. This increase in local delivery truck trips coupled with the truck trip growth from the Port of Seattle and the industrial areas south of the study area, will create a need for improved access and circulation throughout the study area. By 2030, truck generation is anticipated to increase by approximately 33 to 34 percent throughout the Puget Sound Region. The study area share of truck trips is less than 5 percent of the total regional truck activity

[4] *Port Truck Trips for Transportation Planning Studies*, Memorandum, Heffron Transportation Inc, July 19, 2005

[5] *Terminal 30 Cargo Reactivation*, Heffron Transportation Inc, prepared for Port of Seattle, September 18, 2006

reflected in the model based on a summary of the model TAZ data. The data indicate the Action Alternatives do not significantly increase the total share of truck trips as compared to the No-Action Alternative.

Truck Travel Characteristics

The model was also used to assist in identifying local and regional truck travel characteristics based on the distribution of commercial land uses throughout the region. It is expected that each of the 2030 Alternatives (including No-Action) will have similar travel patterns. Figure 3-47 illustrates the distribution of truck trips to and from the study area based on the 2030 model trip tables. The travel characteristics are for all types of trucks from delivery trucks to semi-trucks. The study area only includes a portion of the Port of Seattle container yards, but no other regional truck distribution centers. Figure 3-47 shows that approximately 80 percent of trucks will be originating or destined for locations north or south of the study area in the AM and PM peak hours. Truck trips to the Eastside will comprise 12 percent. Another 3 percent will connect to areas in Kitsap County and beyond. Truck trips that are produced and attracted within the study area will be approximately 4 percent of the total truck trips generated by the study area land uses.

Freight Performance Measures

Improved freight mobility is a major goal of the State of Washington and the City of Seattle. Efficient movement of goods and services through the study area is critical for the economic success of major industrial stakeholders within and bordering the study area such as the Port of Seattle. The future performance of freight transportation was assessed using the performance measures identified in Chapter 2 of Appendix G. These measures include Truck Connections, Travel Speed on Major Truck Streets, and Street Design Standards. These indicators provide a mechanism to measure the impacts the Alternatives might have on freight and compare them against one another on a relative basis.

Truck Connections

This performance measure addresses the ability of trucks to efficiently circulate through the study area and access locations such as the regional highway system, the Port of Seattle container yards, and other local industrial businesses. The City of Seattle designated Major Truck Streets are a system of streets that are meant to serve both local and non-local truck traffic. The circulation of trucks is primarily served by these streets. The Major Truck Streets were previously highlighted in Section 4.3.2. As discussed in Chapter 4, the existing Major Truck Streets provide good access to I-5 and the Alaskan Way Viaduct, as well as I-90. Arterials such as 1st Avenue S., 4th Avenue S., S. Royal Brougham Way, S. Atlantic Street, and S. Dearborn Street provide much of the truck circulation throughout the study area.

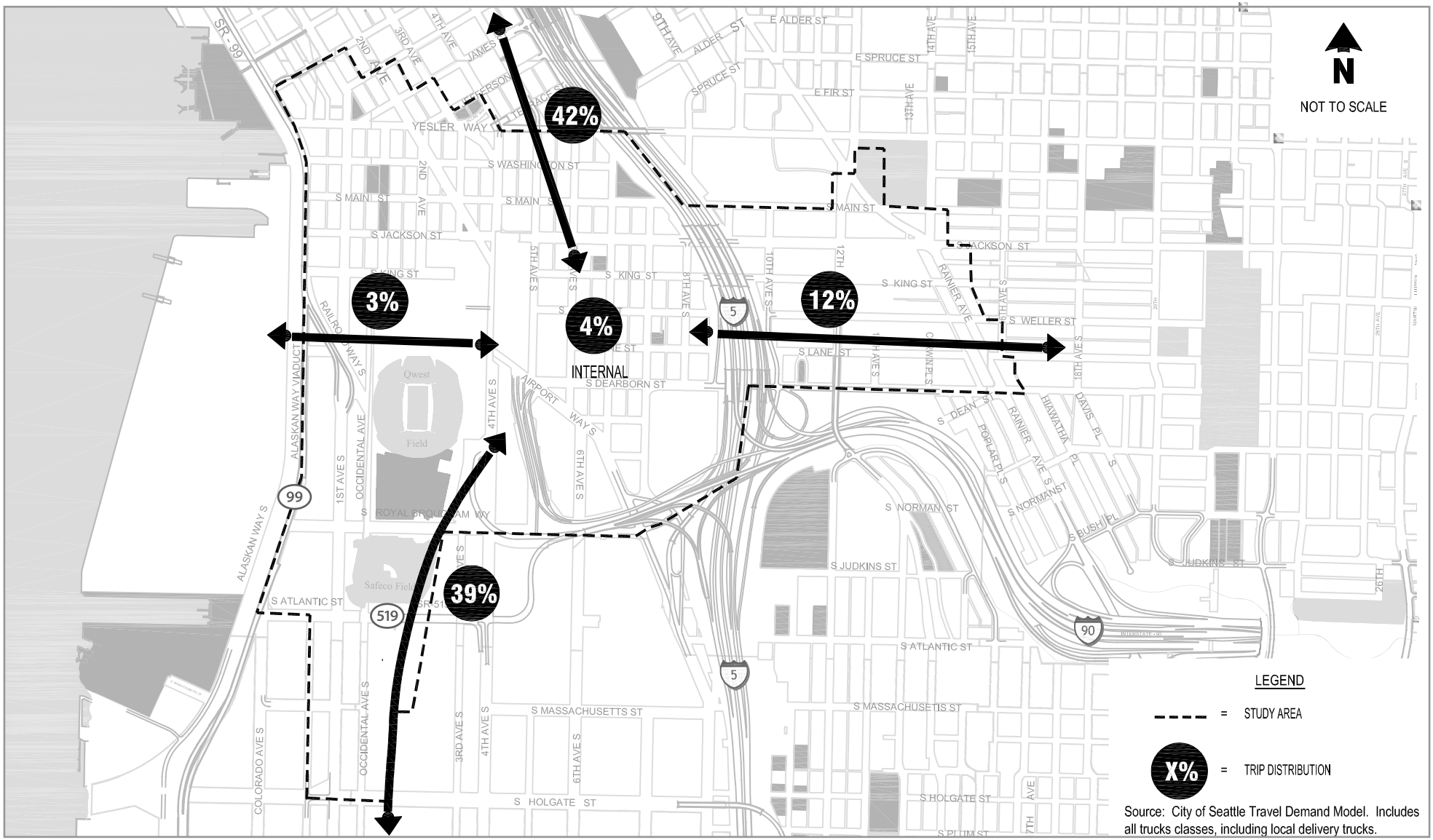


Figure 3-47

Livable South Downtown

Study Area Truck Trip Distribution (2030)

No-Action Alternative (Alt. 4)
East-west connectivity between I-5, I-90, the Port, and the other industrial lands in South Downtown is expected to be improved by 2030 with the completion of SR 519 Phase 2. The project will provide direct westbound access from I-5 and I-90 to the S Atlantic Street corridor. This project provides improved access to Terminal 46 and the 1st Avenue S. corridor, eliminating possible delays caused by trains along S. Royal Brougham Way. Trucks would no longer have to use the S. Royal Brougham Way corridor to access the waterfront after exiting at 4th Avenue S.

Improvements as part of the Alaskan Way Viaduct Replacement project will improve regional access to the south with the completion of new freeway ramps along the S. Atlantic Street corridor just west of 1st Avenue S. Trucks heading to/from the south will be able to connect to the Alaskan Way Viaduct, which is not possible today at that location. Other improvements in truck connections are those just outside the study area such as the S. Lander Street overpass and the 1st Avenue S. and 4th Avenue S. ramps to the Spokane Street Viaduct. The S. Lander Street overpass will reduce delays caused by train activity and the 1st Avenue S. and 4th Avenue S. ramps to the Spokane Street Viaduct will provide improved access to the regional highway system.

The only improvement likely to negatively impact truck connections is the possible closure of S. Holgate Street. Truck trips between 4th Avenue S. and 1st Avenue S. will be negatively impacted as there will be fewer connections crossing the railroad tracks in this area. However, the City of Seattle has not yet committed to this project and is still evaluating the feasibility and impacts. Even with the assumption of S. Holgate Street being closed between 3rd Avenue S. and Occidental Avenue S., the other freight improvements within the study area will result in improved truck connections under the No Action Alternative.

Action Alternatives (Alts. 1, 2, 3)
The Action Alternatives are not likely to limit or change the available connections to trucks. While an increase in intensity of land use may impact the total volumes and delays encountered along the Major Truck Streets, the Major Truck Streets will still provide the connections needed to serve the study area. The arterials not designated as Major Truck Streets will also assist in providing local delivery routes to access the new commercial and residential land uses.

The Action Alternatives in the study area would create additional commercial and employment-oriented land uses, which would also generate more demand for local deliveries. The greatest amount of additional non-residential development is forecast for the Little Saigon neighborhood under Alternative 1 and in the Stadium Area neighborhood under Alternatives 2 and 3. Under those Action Alternatives, the increase in land use intensity would result in additional delivery trucks on S. Dearborn Street and Rainier Avenue S. to access the Little Saigon neighborhood and on 1st Avenue S., 4th Avenue S., S. Royal Brougham Way and S. Atlantic Street corridors to access the Stadium Area neighborhood. These corridors are designated as Major Truck Streets and provide primary access to the neighborhoods for local deliveries.

However, the increase in land use intensity would make it more difficult for local delivery trucks and other locally generated truck traffic to access the Major Truck Streets. The additional general vehicle traffic would cause more delay to trucks that are accessing the Major Truck Streets from local streets or vice versa. There would likely be fewer gaps in traffic, making it difficult for trucks to access the Major Truck Street system from local streets or driveways within the study area. Moreover, the higher residential and employment densities would add more non-motorized trips (bicycles and pedestrians) on streets and would create more interaction with general traffic, including trucks, at crosswalks and bicycle lanes, thus creating further frictions and impediments for trucks on study area arterials.

Travel Speed on Major Truck Streets

Travel speed is an indicator of the operating conditions along Major Truck Streets. Higher travel speed means smoother flow along routes and shorter delays at intersections. Since trucks are sharing streets with other types of vehicles, truck speed is directly affected by the operating speed of the general traffic. Usually, posted speed for trucks on highways is lower than that for other vehicles. This is true for I-90 and I-5 mainline freeways. Posted speeds along the arterial streets in the study area, which are much lower than the freeway speeds (30 to 35 mph), do not assign speeds for trucks different from those assigned to the general traffic. It is expected that trucks move slower than general traffic because of the mechanical characteristics of these large vehicles. Trucks have slower acceleration speeds and take more time to maneuver. However, the results of the arterial and intersection traffic analysis provide a reasonable indicator of each Alternative's relative impacts to truck travel speeds.

The majority of truck trips occur during the mid-day hours along routes within the study area. While the mid-day hours have the highest truck volumes, they have lower passenger vehicle volumes than are observed in the AM and PM peak hours. The increase in land use intensity within the study area would have more of an impact during the peak hours when there is less roadway capacity available, but not as much impact during the mid-day when less congestion occurs, thereby impacting the majority of truck trips proportionately less.

Existing and future travel speed conditions reported by this study are based on an integrated analysis that takes into consideration both link running speed and delays at intersections. The analysis is consistent with the corridor operations data presented in this section and Section 5.4 of Appendix G, except that it focuses on specific truck corridor segments. Table 3-55 shows the analysis results of travel speed along the Major Truck Streets for AM and PM peaks hours, based on the worst 15-minute analysis.

No-Action Alternative (Alt. 4)

Travel speeds along most of the truck routes will generally decline by 2030 compared to 2007 existing conditions. The reduction in speed is the result of the increase in traffic volumes of approximately 30 percent or greater expected under the No Action Alternative, combined with little or no additional roadway capacity. The exceptions are northbound traffic at 1st Avenue S. and eastbound traffic at S. Royal Brougham Way due to completion of the Alaskan Way Viaduct frontage roads and grade separation of S. Royal Brougham Way. East-west routes along S. Dearborn Street and S. Royal Brougham Way will likely operate with average speeds of 10 mph or less. North-south routes show relatively better performance than the east-west routes, while 1st Avenue S. is expected to operate at speeds higher than any other route, mostly due to shifts in traffic to the new Alaskan Way Viaduct frontage roads.

Action Alternatives (Alts. 1, 2, 3)

Generally, all Action Alternatives result in slightly lower average speeds on truck routes than the No Action Alternative as increased development generates additional traffic. The PM peak hour speeds are much lower than those expected in the AM peak hour. The AM peak hour travel times would likely have the most impact on truck trips, since more truck trips normally occur in the morning than in the early evening. However most of the truck trips occur outside both the AM and PM peak hours during the mid-day when travel speeds are typically higher due to less overall traffic volumes along the corridors.

The Action Alternatives' travel speeds along Major Truck Streets are similar to one another. Alternative 3 would have the greatest impacts compared to the other Alternatives especially along the S. Dearborn Street corridor, which would be congested due to poor intersection operations along the corridor and especially at the Rainier Avenue S. and Airport Way S. intersections. Alternative 3 would generate a higher number of trips on study area streets than the other Alternatives which would result in higher

congestion and delays. Corridor speeds in Alternatives 1 and 2 are similar even though Alternative 1 shows slightly higher speeds along 1st Avenue S. in the AM peak hour and along S. Dearborn Street in the PM peak hour.

Table 3-55
Travel Speed along Major Truck Streets

Corridor	Extents[1]	Speed Limit (mph)[2]	Direction	2007	2030 Travel Speeds (mph)[2] No-Action	Alternative 1	Alternative 2	Alternative 3
AM Peak Hour								
1st Ave S	S King St to S Holgate St	35	NB	12	14	14	12	12
			SB	19	16	16	15	14
4th Ave S	S Dearborn St to S Holgate St	30	NB	17	10	9	9	9
			SB	15	14	13	12	11
S Dearborn St	5th Ave S to Rainier Ave S	30	EB	11	11	10	10	10
			SB	11	6	6	6	6
S Royal Brougham Way	1st Ave S to 4th Ave S	30	EB	7	10	10	10	10
			WB	5	5	5	5	5
S Atlantic St	1st Ave S to 4th Ave S	30	EB	11	6	6	5	5
			WB	7	13	13	13	12
S Holgate St	8th Ave S to Boren Ave S	30	EB	11	CLOSED			
			WB	11				
PM Peak Hour								
1st Ave S	S King St to S Holgate St	35	NB	15	18	17	17	17
			SB	17	12	12	12	11
4th Ave S	S Dearborn St to S Holgate St	30	NB	18	16	16	16	15
			SB	11	9	9	9	8
S Dearborn St	5th Ave S to Rainier Ave S	30	EB	9	7	5	2	1
			WB	8	9	9	9	9
S Royal Brougham Way	1st Ave S to 4th Ave S	30	EB	8	9	10	10	10
			WB	7	5	5	5	5
S Atlantic St	1st Ave S to 4th Ave S	30	EB	11	8	7	7	6
			WB	10	10	10	10	9
S Holgate St	8th Ave S to Boren Ave S	30	EB	10	CLOSED			
			WB	12				

Source: The Transpo Group (July 2007)
1. The corridor extents are for the street segments that are within the study area boundaries. These extents differ slightly than those reported for the corridor operations results in Section 5.4 to be more specific on the impacts to the Major Truck Streets.
2. Miles per hour

There is little sensitivity predicted between the Action Alternatives in the time it takes to travel the Major Truck Streets through the study area. However, the future analysis indicates truck operations would encounter low average speeds, similar to the general traffic, along the Major Truck Streets for each of the Alternatives. Reductions in truck travel speed would increase the costs of moving freight within and through the study area regardless of the Alternative.

Design Standards

There is the potential for increased development within the study area to impact the design and function of the designated Major Truck Streets. A greater amount of residential or retail development will create additional demand on the City's sidewalk system due to an increase in pedestrians, while also requiring additional vehicle access points to the arterial street system. In other cases, bike lanes have been targeted for Major Truck Streets such as 4th Avenue S. as part of the Bicycle Master Plan. Each of these items has the potential to introduce alternative roadway designs to better accommodate other modes of travel. For example, additional pedestrians could warrant new crosswalk locations or curb bulb-outs to reduce the crossing distance and exposure to pedestrians, while bike lanes could reduce the width of lanes (or eliminate lanes altogether) to provide right-of-way for bicyclists. Each of these design treatments might impact the ease of truck navigation through the study area.

However, a primary focus of many of the transportation investments in the South Downtown area has been to better facilitate the movement of freight, whether it is more direct access to the regional highway system or eliminating conflicts between trains and passenger vehicles. Improvements such as SR 519 Phase 2, Alaskan Way Viaduct, S. Lander Street grade separation, and S. Spokane Street ramps are expected to include all design elements required for appropriate truck movements such as lane width, bridge vertical clearance, pavement structure, and minimum turning radii. The project designs will also include treatments for non-motorized elements, such as including a pedestrian pathway along the S. Royal Brougham Way structure, in addition to the truck design elements. While none of the land use alternatives has specifically identified impacts to roadway designs, it is reasonable to assume that there is the potential for design treatments to be introduced as part of specific development projects that could affect the movement of trucks.

In addition, oversized heavy vehicles are routed to and though the study area periodically. One primary example is the special event venues where equipment and shows have over-dimensional trucks that need special routing to accommodate the larger loads, operating under a permit. Not all study area streets are designed to accommodate these types of vehicles. The Right of Way Improvement Manual suggests that a 20-foot high by 20-foot wide envelope be maintained on routes that the City decides to maintain for these kinds of trips.

No-Action Alternative (Alt. 4)

A growing number of trucks will be traveling through the study area due to future growth at the Port of Seattle and other industrial businesses within and surrounding the study area under the No Action Alternative. The growth in the neighborhoods will have the potential to introduce unfavorable design treatments for trucks. For example, the No-Action Alternative assumes additional residential and commercial development for the Pioneer Square, Chinatown/Japantown, and Little Saigon areas. The future growth could potentially impact designs along S. Dearborn Street, which is the southern border to the Chinatown/Japantown and Little Saigon areas. These could include reduced lane widths and/or turning radii to accommodate additional turn lanes or wider sidewalks. On the western side of the study area, growth in the Pioneer Square neighborhood could impact design treatments along 1st Avenue S. New mid-block crosswalks, bike lanes, or even dedicated transit lanes could reduce lane widths along the corridor. Other than the S. Dearborn Street and 1st Avenue S. corridors, most other Major Truck Streets only pass through the Stadium Area and South-of-Dearborn neighborhoods, both of which would remain largely unchanged in land use in this alternative.

Action Alternatives (Alts. 1, 2, 3)

As part of the Action Alternatives, the same background growth in industrial land uses and regional truck traffic will take place adjacent to the study area as assumed under the No-Action Alternative. However, as part of the Action Alternatives, increased residential and commercial land development would be located across the study area and would need to be served by commercial vehicles of different sizes depending on the type of business activity. It is anticipated that light, medium and heavy trucks would

need to have good circulation and access to the arterial street system based on the regional and local land use growth.

Additional land use within the study area along with growth in surrounding land use intensity would result in more trucks primarily through the South-of-Dearborn and Stadium Area vicinities. These neighborhoods are bisected or adjacent to Major Truck Streets such as S. Dearborn Street, Airport Way S., SR 519, 1st Avenue S. and 4th Avenue S. Traffic growth along these corridors would not be limited to trucks only. More cars and non-motorized movements would occur along these corridors as more people and businesses would be located in the study area. This would pose challenges to provide the proper streetscape design to accommodate all users. Better visibility, adequate non-motorized facilities, signage and improved street lighting are a few examples of streetscape design features that could be incorporated into the roadway prism. Similar to the No-Action Alternative, there are design treatments that can impact truck movements and make it more difficult for trucks to circulate through the study area. Currently there are no specific street design revisions that are assumed to occur in the future to support the Action Alternatives, but such revisions could be considered to mitigate possible impacts in the future.

PEDESTRIANS AND BICYCLISTS

This section summarizes and compares the impacts to pedestrians and bicyclists under each of the Alternatives. Qualitative performance measures used for pedestrians and bicycles are as follows: how well the current facilities would serve the new pedestrian and bicycle population resulting from development in the study area; how accessible pedestrian attractors are to new and existing pedestrian and bicycle users; and how pedestrians and bicyclists would be affected by growth in traffic volumes from new development.

By 2030, several pedestrian and bicycle improvement projects are planned to be completed as part of each of the Alternatives. These projects include the Link Light Rail Stadium Station and the planned pedestrian/bicycle pathway nearby; the SR 519 project, with grade separation at the S. Royal Brougham Way railroad crossing; and grade separation of the S. Lander Street railroad crossing. The grade separation at Royal Brougham is an important project as there have been a number of railcar/pedestrian collisions at that location, one in 2005 which resulted in a fatality.

The analysis focuses on the differences between the Action Alternatives and the No Action Alternative. To compare the different Alternatives, the amount and location of proposed land uses were considered, because new pedestrian and bicycle trips would be generated by the new land uses.

Pedestrians

A portion of the new trips generated by future land use development would be pedestrian in nature. These trips would include walking trips between land uses, as well as trips to/from transit stops. The primary facilities that will support increased pedestrian travel include the City's sidewalk system, crosswalks, signals and multi-use trails. Impacts to the existing pedestrian facilities are summarized below.

No Action Alternative (Alt. 4)

The No Action Alternative assumes the existing zoning for the area will continue. The largest amount of growth projected to occur would be in the Little Saigon, Chinatown/Japantown, and Pioneer Square neighborhoods, all of which currently serve a large number of pedestrians. In Pioneer Square, the projected growth is mainly focused in the vicinities along 1st Avenue S. and S. King Street. Both roadways currently provide sidewalks for pedestrian use, except at locations near the present SR 99 ramps (which are anticipated to be removed in the future). Chinatown/Japantown is projected to experience

mainly residential growth, which would be spread throughout the neighborhood. The streets in this area provide sidewalks to serve pedestrians. In Little Saigon, the projected growth would be mainly along S. Dearborn Street, which provides sidewalks. However, the infrastructure on other roadways in Little Saigon is currently less conducive to pedestrians, specifically S. King Street and S. Weller Street, due to poor conditions from overgrown vegetation and trip hazards from heaving and cracking.

Two other areas anticipated to experience growth where there is currently not as much pedestrian activity on a daily basis are the South-of-Dearborn and Stadium Areas. The Stadium Area growth would likely be mostly along 1st Avenue S., which provides sidewalks to serve pedestrians except in the location of the existing SR 99 ramps as noted above. The growth forecast in the South-of-Dearborn area is more likely to occur west of 7th Avenue S. including 6th Avenue S. and along Airport Way S. While sidewalks are present on these roadways, they have cracks and are in need of improvement. In addition, east-west movement is difficult from this area as it is bounded on one side by I-90 and the other by 4th Avenue S. and the I-90 off-ramps.

Pedestrian access to existing major attractors is expected to remain largely similar to current conditions. The Stadium and Pioneer Square areas will have good access to Colman Dock, King Street Station, the bus tunnel entrances, and event facilities near S. Royal Brougham Way. The neighborhoods east of 4th Avenue S. will most likely continue to access these facilities via current major pedestrian crossings, along 4th Avenue S. near King Street Station and at S. Jackson Street. Pedestrians in the South-of-Dearborn area will have the most difficulty traveling to major area attractors as connectivity to/from the west is poor, with S Royal Brougham Way at the very south of the South of Dearborn neighborhood providing the closest east-west connection. In addition, while the Link Light Rail Stadium station will be located just off 5th Avenue S., south of S. Royal Brougham Way, some sidewalk segments connecting to the station site, such as along 6th Avenue S. and parts of Airport Way S., are in poor condition.

Future development would increase traffic, pedestrian and bicycle volumes, and may result in a potential increase in vehicle/pedestrian and vehicle/bicycle conflicts. However, planned improvements, particularly the grade-separation of pedestrians at S. Royal Brougham Way, will help minimize impacts and separate motorized transportation from non-motorized transportation. Other future development would also be expected to result in improved sidewalk conditions over time, which would eliminate a number of deficiencies.

Action Alternatives (Alts. 1, 2, 3)

The Action Alternatives disperse residential growth in the area, though the majority of the growth is focused in the Chinatown/Japantown, Little Saigon, and Pioneer Square areas. This is similar to the No Action Alternative; however, the amount of growth planned under the Action Alternatives is greater. The corridors that would experience the most growth are also similar to the No-Action Alternative (S. Dearborn Street, 1st Avenue S., and 6th Avenue S.), along with the addition of 4th Avenue S. and S. Jackson Street. The majority of these three neighborhoods have good pedestrian connections including S. Jackson Street and sections of 4th Avenue S. However, some areas could use improved pedestrian access, particularly on the west side of 4th Avenue S. near the I-90 off-ramp which lacks sidewalks.

As discussed for the No Action Alternative, access to major pedestrian attractors is expected to remain similar to existing access conditions. A large amount of growth is projected for the western portion of the study area, which is near the majority of the pedestrian attractors. However, there is also quite a bit of growth projected in the Little Saigon and South-of-Dearborn neighborhoods under all Alternatives. This implies that east-west pedestrian movement needs in the area would become greater. Potential conflicts with traffic volumes could occur along roadways with lesser non-motorized connections, particularly in the South-of-Dearborn neighborhood and along sections of 1st Avenue S. and 4th Avenue S.

The Alternatives' pedestrian impacts summarized:

- Zoning change leading to residential uses where none currently exist, such as the South-of-Dearborn neighborhood, suggests a need for improved pedestrian crossings of S. Dearborn Street to access Chinatown/Japantown and the many services in this neighborhood.
- Under the No Action Alternative, current facilities and planned improvements should accommodate most of the expected growth in pedestrian activity, with the exception of probable needed improvements in the South-of-Dearborn neighborhood.
- The increase in growth under the Action Alternatives could lead to an increase in conflicts between pedestrians and motor vehicles, particularly in neighborhoods with new types of land use being introduced.
- In terms of pedestrian activity and impacts over the entire study area, there is no substantially distinguishable difference between the Action Alternatives.

Bicyclists

The City of Seattle Bicycle Master Plan (BMP) identifies several bicycle improvements in the South Downtown area. The BMP goals are to increase the use of bicycling and improve bicycle safety in Seattle. These goals are to be met by developing a system of bicycle facilities (including "sharrows"—pavement markings designating bicyclists' use of the roadway, bike lanes, and multi-use paths), providing supporting facilities for bicyclists, identifying partners to assist in bicycle education and enforcement, and obtaining funding to execute the identified improvements. The completion of all of these projects will improve regional and local connectivity and enable easier movement around the South Downtown area and to major attractors (for example, Qwest Field and Colman Dock) for non-motorized travel.

No-Action Alternative (Alt. 4)

The largest amount of growth is planned in the Little Saigon, Chinatown/Japantown, and Pioneer Square neighborhoods. Bicycle facilities exist in these areas to serve that growth. In particular, bike lanes exist along S. Dearborn Street, 2nd Avenue S., and a portion of S. Jackson Street. In addition, there are several roadways designated as bike routes in each of the areas, (parts of 1st Avenue S., 4th Avenue S., 6th Avenue S., 7th Avenue S., 12th Avenue S., Maynard Avenue S., and S. Jackson Street), but there are no markings communicating this to motorists.

The Stadium and South-of-Dearborn areas currently do not have the same level of bicycle activity as the other three areas, but a projected increase in growth will likely result in an increase in bicycle activity. Both of these neighborhoods do not have very good bicycle connections, particularly the Stadium Area. The only designated bike route in that area is along 1st Avenue S., with no east-west connection available. The South-of-Dearborn area does have more bike routes (6th Avenue S., 7th Avenue S., Maynard Avenue S., and Airport Way S.), as well as a bike lane nearby along S. Dearborn Street. However, the majority of these routes are north-south and the S. Dearborn Street bike lane stops at 6th Avenue S. to the west. This leaves no direct bicycle connection to the west, which is the direction of several major attractors. It also leaves no direct connection to the Link Light Rail station, though the bike route along 6th Avenue S. travels close to the station.

The changes in land uses are expected to increase traffic volumes. The increase in vehicular volumes should proportionally increase the potential for conflicts between bicycles and vehicles. The planned improvements, particularly those as part of the Bicycle Master Plan, will help minimize conflicts between vehicles and bicyclists.

Action Alternatives (Alts. 1, 2, 3)

As stated previously, the corridors that will experience the most growth under the three Action Alternatives are also similar to the No-Action Alternative (S. Dearborn Street, 1st Avenue S., and 6th Avenue S.), with the addition of 4th Avenue S. and S. Jackson Street. All of these corridors have at least a portion designated for bicycle use, with S. Dearborn Street and S. Jackson Street having bicycle lanes. Still, the growth in these areas would contribute to a need for additional improvements, particularly to better facilitate east-west connections.

As further growth is anticipated in all Alternatives in all the neighborhoods, the effects of existing bicycle deficiencies defined previously would be further felt with future development under the Action Alternatives. Conflicts with traffic are likely to occur where bicycle facilities are absent, particularly in the southern (Stadium Area and South-of-Dearborn) vicinities.

The Alternatives' bicycle impacts summarized:

- All four Alternatives assume projected growth is focused in Chinatown/Japantown, Little Saigon, and Pioneer Square, which have some bicycle facilities to accommodate growth. The other two neighborhoods are in need of bicycle facilities to support growth.
- The increase in growth under the Action Alternatives would most likely intensify existing bicycle facility deficiencies. The increase also could lead to an increase in conflicts between bicyclists and motor vehicles, particularly in neighborhoods with few or limited bicycle facilities.
- In terms of bicycle activity and impacts over the entire study area, there is no substantially distinguishable difference between the Action Alternatives.

EVENT MANAGEMENT

Future development in the South Downtown study area and anticipated road network impacts would alter traffic patterns and access routes over time. This would likely create some changes in how event traffic is managed. Changes to event traffic management needs and programs will likely take place in stages as new development and street network changes occur. This will likely result in a need to progressively adapt the TMPs for the stadium and event venues in the Stadium Area.

Conceptually, this evolution over time could affect event traffic management in several ways. For this analysis, these potential effects are categorized as:

- Increased vehicle traffic volumes and congestion;
- Changes in event goers' vehicular traffic routing and destinations, arising from changes in the street network and differences in parking availability;
- Changes in pedestrian traffic flow patterns, and the potential for increased and decreased pedestrian-vehicle conflicts;
- Changes that might arise due to future development in specific locations; and
- Changes in the definition of police postings and related traffic operational issues.

Increased Vehicle Traffic Volumes

Because the SR 519 Phase 2 improvements will include changes on S. Atlantic Street and S. Royal Brougham Way, S. Atlantic Street will become the vicinity's primary route to and from I-90 and I-5. The anticipated increases in traffic volumes in the 1st Avenue S./S. Atlantic Street vicinity will alter traffic flow patterns, increasing congestion and use of street capacity. The higher traffic volumes could increase the potential for pedestrian-vehicle conflicts, particularly for baseball events with large attendance. It could also conceivably alter how traffic is controlled by police during events both in the evenings and for

weekday afternoon games. These factors suggest a need to evaluate strategies that would improve pedestrian safety controls in this area. These could involve physical improvements as well as improvements in event traffic management practices by the police.

Possible Changes in Vehicle Traffic Patterns

The anticipated increases in peak-hour congestion in many of the corridors near the Stadium Area could alter how event goers access the area and which parking or alternate transportation choices they choose. For example, event traffic that may use 4th Avenue S. from the I-90 off-ramps and S. Royal Brougham Way may divert to S. Atlantic Street and 1st Avenue S. In addition, availability of free or lower-cost parking could result from future development and road network construction. This could cause a reorientation of many event attendees' intended destinations, perhaps to locations further south, north or east of the immediate stadium vicinity. Depending on how police choose to control traffic flows, it may be more difficult for some event goers to reach their original intended destination. Until event attendees would learn new patterns, this would probably create driver confusion and additional congestion in the stadium vicinity. These factors would probably be most adverse to traffic conditions if they occurred prior to weekday afternoon and evening baseball games or weekday evening football games, when other pass-through traffic is at peak or near-peak levels, or large concert or exhibition events where attendees may be unfamiliar with access routes.

Possible Changes in Pedestrian Traffic Flow Patterns

With increases in future development under the various alternatives, different configurations of pedestrian facilities might result. For example, the "over-tracks" development might provide a new pedestrian promenade route from the north, accessing Qwest Field and potentially Safeco Field as well. This type of facility would be of great benefit to pedestrian comfort and safety, and provide additional routes for pedestrians, such as improved connections from the Qwest Field north parking lot to points east. Under the No-Action Alternative, this "over-tracks" development would not likely occur and the additional pedestrian connection would not be in place.

The future development condition also may generate additional pedestrian volumes from points further north, south or east with available parking supply spread further from the Stadium Area. The longer pedestrian travel distances will likely result in more street crossings and an increase in the potential for pedestrian-vehicle conflicts.

The planned S. Royal Brougham Way improvements would generate some probable pedestrian benefits, in that portions of that street would have much less traffic, affording safer pedestrian conditions. Also, an elevated route over the railroad tracks would reduce the potential for train-pedestrian conflicts, which are a known existing safety hazard.

Possible Changes Related to Future Nearby Development

Future development, such as in the north half of the Qwest Field north parking lot, would introduce new land uses into the area. The new land uses would alter pedestrian flow patterns to some degree and also could alter vehicle circulation needs as well. This could create additional potential for pedestrian-vehicle conflicts. This could be controlled by providing sufficient sidewalks in high-traffic areas, and prudent adjustments in police control practices along certain street segments and intersections. These will need to be evaluated on a year-by-year basis, anticipating and proactively planning for how event traffic can safely mix with pedestrians as well as vehicular traffic seeking access to the new development. There would probably also be a need to examine how safe pedestrian routing near large construction sites can be established during construction periods.

Possible Changes in Police Postings

Related to all of the above influences on event traffic, changes over time in pedestrian and vehicular traffic patterns and the road network itself would probably create a need to adjust police posting patterns and management of traffic flows. The police postings would likely need to be evaluated every year for each of the venues' TMPs based on the expected conditions for the upcoming year. Conceivably, this could generate a need for additional police resources to be engaged if a more widespread area is subject to higher traffic volumes, parking access, and potential pedestrian-vehicle conflicts.

MITIGATION STRATEGIES

POSSIBLE MITIGATION STRATEGIES

A range of possible mitigation strategies are presented in this section. Mitigation strategies conceptually include approaches such as reduction in travel demands, implementation of funding mechanisms, construction of physical improvements, and traffic and parking management policies. Due to the growth in regional and local traffic and planned development projects alone, future conditions would benefit from implementation of most of the mitigation strategies described in this section even under the No Action Alternative. While reference is made to mitigating the Action Alternatives, the City may wish to consider incorporating some of these strategies regardless of which Action Alternative is selected, if any.

Impacts to travel are forecast within the study area by 2030 with or without the Alternatives' projected changes to land use and zoning. As the region continues to grow, more travel will take place within the study area since it acts as a gateway to Downtown Seattle. Growth in vehicle trips, combined with increased transit and freight traffic, will increase delays for all users of the transportation system. In most of the neighborhoods, except Little Saigon, projected traffic volumes under any of the Action Alternatives are not likely to be more than four percent higher than those expected under the No Action Alternative. This overall pattern is reflected in the analysis of performance measures such as arterial travel speeds and transit passenger loading, where the Action Alternative results are very similar to those under the No Action Alternative. However, within the Little Saigon neighborhood transportation impacts are likely to be more noticeable than in other neighborhoods, regardless of the specific Action Alternative.

In order to reduce the future impacts to the transportation system, a series of mitigation strategies could be implemented over time as development occurs. While some strategies would improve mobility for multiple modes of travel, other mitigation strategies may improve one mode of travel but have negative effects on another mode (see Table 6-1 in Appendix G for further portrayal of tradeoffs).

Transportation Demand Management

The transportation system consists of two basic components: the supply side, which is usually the road infrastructure and transit system, and the demand side, which are the travelers using the system. Due to right-of-way limitations and City policies, expansion of the roadway system is not a strategy that the City is encouraging. Therefore, mitigation strategies are more focused on reducing the number of single-occupancy vehicles entering the study area than increasing roadway capacity.

The City has implemented aggressive transportation demand management strategies (TDM) in Downtown Seattle that have helped reduce the percentage of workers driving alone to Downtown. These same strategies could be used in connection with future development within the South Downtown study area. Continuing and strengthening these strategies would help reduce the impacts to the arterial corridors,

while also reducing overall parking demand. The following strategies could continue to be promoted throughout the study area:

- Promoting carpooling or car sharing
- Incorporating flex-car with subsidies
- Providing discount transit passes
- Expanding use of vanpools
- Supporting increased use of telecommuting
- Encouraging alternative travel modes like walking and biking
- Requiring preferential parking for carpools and vanpools
- Discontinuing parking subsidies
- Providing a guaranteed ride home program
- Providing incentives for using alternative modes

Area Specific Land Use Modifications

Recommendations for rezones in parts of the study area could be influenced by the transportation impact conclusions. This could allow for zoning and future land uses that would generate lesser levels of peak hour traffic impacts.

Transportation Mitigation Payment Program

The City of Seattle could develop a program which would require new development in the area to share in the funding and implementation of a system of improvements or program enhancements to help address the need for increased mobility within the study area. A transportation mitigation payment program would define the process where developers would contribute their fair share in costs of their identified impacts. This could take the form of a transportation impact fee program, a local improvement district (LID), a transportation benefit district (TBD), or SEPA traffic mitigation. A mitigation payment program could be multi-modal and focus on transit, pedestrian, bicycle, and freight improvements, including additional programs or strategies to promote these travel modes. Such a program would provide developers and the City with more certainty of what mitigation fees would be, and provides an appropriate funding source for needed improvements.

Arterial Street System Strategies

This section describes mitigation strategies that are identified to help reduce impacts to arterial and intersection traffic operations, and to facilitate mobility for all users of the arterial street system. The strategies identified are not tied to specific developments but are policy-oriented measures or programs to enhance traffic circulation and operations.

Access Management

Access management policies would restrict or prohibit direct access to and from major corridors, such as 1st Avenue S. and 4th Avenue S. north of S. Royal Brougham Way, or Rainier Avenue S. north of S. Dearborn Street. Installation of traffic signals or left-turn lanes to serve specific developments could be restricted or prohibited. New traffic control such as signals or turn lanes would reduce the capacity of the corridor and increase overall delays. Full access would only be provided at existing intersections or along the surrounding collector or local street system, where capacity exists or is provided by the developer. If a major corridor is the only option for access, then access could be restricted to right-in/right-out only.

Signal Timing Optimization & Phasing

Monitoring and continuous updating of signal plans is a vital aspect to improving arterial and intersection operations. As traffic volumes shift or grow due to new development and increases in through-traffic, the periodic re-timing or synchronizing of traffic signals is critical. By doing so, movements into and out of the City during the AM and PM peak periods would be accommodated by providing more signal green

time and appropriate signal cycle lengths that respond to peak directional flow while facilitating local circulation needs. The mitigation program could provide additional funding that would allow for more frequent analysis and updates for signal timing. The mitigation program also could help fund investments in traffic signal equipment to support improved coordination. The improvements to signal phasing and coordination must be balanced against the need to reduce vehicular delay with pedestrian safety and mobility.

Seattle Traffic Management Center/Intelligent Transportation Systems (ITS)
Expanding the existing Seattle Traffic Management Center (TMC) and increasing its funding is another important measure in improving signal operations within the study area. Enhancing the TMC would enable faster response to incidents and help off-set the consequences of the daily variations in traffic patterns and volumes. This is particularly important in the Stadium Area during events. Traffic along the arterials would be able to be monitored more frequently and signal timing plans could be adapted to changing travel patterns or to facilitate unusually heavy traffic flows. Dynamic message signing could help direct drivers through the area and assist visitors in finding available parking.

On-Street Parking Removal / Additional Time of Day Restrictions
The City should consider removal of on-street parking along the minor street approaches at intersections with key arterials to provide for additional turn lanes or vehicle queuing storage space. New turn lanes on the minor street approaches would allow the City to consider providing longer signal cycle lengths and more green time for traffic on the intersecting major arterial. More efficient signal operations also would be a benefit of having additional turn lanes on the minor streets. These issues would have to be studied on a case-by-case basis taking into consideration the impacts of these measures on parking supply, pedestrian crossings, and transit. Possible locations would be within the Chinatown/Japantown and Little Saigon neighborhoods. Locations should be considered closely when evaluating traffic impact assessments for new developments. Time of day restrictions, such as are currently in place on several Downtown streets, can also be imposed on existing zones in order to avoid peak hour capacity reductions.

Transit Strategies

Without the Action Alternatives, the performance of the transit system is expected to decline significantly due to the growth in demand, coupled with the increase in traffic congestion and delays along the UVTN corridors. The differences in performance of the transit system under the 2030 No Action Alternative and the Action Alternatives would be very similar, with small differences noted along key corridors such as 4th Avenue S. and Rainier Avenue S.

This section describes the mitigation strategies to reduce impacts to the transit system, and provide more people-moving capacity throughout the study area, sometimes at the expense of other traffic. Transit mitigation is grouped into three categories focusing on frequency and span of service, travel time, and passenger comfort and convenience. The most significant measures focus on improving transit speed and reliability along the transit corridors, as most are anticipated to be operating below UVTN performance standards.

Local Bus Frequency and Span of Service
Work with King County Metro to increase the level and availability of transit service along key UVTN corridors. For example, increasing the frequency of bus service along the Rainier Avenue S. and Yesler Way corridors can provide continual 15-minute bus service during most times of the day and therefore, would meet the minimum performance standards. In addition, expanding the span of service along the 12th Avenue S corridor by a few hours would be required to meet the 12-hour span of service threshold. The increased frequency and longer span of service is needed to mitigate additional development in the Little Saigon neighborhood under each of the Alternatives or under the No-Action Alternative.

Increases in peak hour transit capacity are generally needed in all of the major corridors except Rainier Avenue S. and 5th Avenue S. This could be achieved by either providing larger transit vehicles or higher frequency (shorter headways) along the corridors. Alternatives 1 and 2 require more capacity than Alternative 3 for the S. Jackson Street corridor, 2nd Avenue Ext S., and 3rd Avenue S. sections north of S. Jackson Street. Ultimately, transit improvements in the study area could be addressed at an area-wide level and will provide the most benefit when transit speed and reliability can be better predicted and not impacted as much by arterial congestion.

Dedicated HOV or Bus Lanes

Without additional transit facilities to improve the speed and reliability of the transit system, additional bus service will be difficult to fully implement. Significant revisions to the arterial street system would likely be needed to improve transit reliability and operations to accommodate increased person trips within the study area, while also accommodating transit trips that pass through the study area. Dedicating lanes for transit along the most congested corridors would be needed to meet travel speed and passenger loading performance measures. This could be accomplished by the removal of general purpose lanes or on-street parking to provide the width required to accommodate a dedicated transit lane. Candidate corridors are 1st Avenue S., 4th Avenues S., Rainier Avenue S., and S. Jackson Street which all currently accommodate at least five lanes. Yesler Way is another potential corridor, which currently has three lanes with on-street parking on both sides.

Removal of on-street parking through Pioneer Square on 1st Avenue S. and S. Jackson Street corridors could create a dedicated lane for transit or other high-occupancy vehicles (HOVs). However, removal of on-street parking would have a major impact on area businesses and would also increase the forecast parking deficiencies within the neighborhood. Conversion of general purpose travel lanes along 1st Avenue S., 4th Avenue S. north of S. Royal Brougham Way, and Rainier Avenue S. would improve transit speed and reliability but would also significantly impact arterial and intersection operations for non-transit vehicles, including freight. The decision of switching a general purpose lane to a transit lane should be considered based on a thorough analysis of the person-carrying demand and capacity of the two options. These measures could be studied in conjunction with other transportation modes to assess their impact on overall operations and circulation. Freight mobility is very important in the area, so any modifications that further restrict freight could be investigated and studied further. Moreover, the final decision on introducing HOV/bus lanes could be taken based on more thorough examination and analysis of impacts along the candidate corridors outside the limits of the study area and their connections to the regional transportation system.

Transit Signal Priority

Implementing transit signal priority can also improve transit mobility on City streets. Mitigation could be provided, in part, through investments in technologies to better facilitate transit vehicles along the UVTN corridors such as 1st Avenue S., 4th Avenue S., S. Jackson Street, and Rainier Avenue S. Queue bypass lanes complemented with transit signal priority treatments, could be installed in locations where buses have to often wait through multiple signal cycles.

Bus Bulbs / In-line Stops

Provision of bus bulbs at transit stops can make for easier and faster arrival, access, and departure for buses. This mitigation measure is site-specific and would be best applied on corridors with at least two lanes per direction. The bus bulbs also would allow for additional space on sidewalks for installing shelters and other transit amenities at the bus stops. In-line bus stops would likely increase delays along the corridor for other vehicles and freight, so they could be primarily explored for locations that minimize impacts to other modes of travel. Note that the bulb-outs may reduce some on-street parking if located in parking lanes, due to needed tapers.

Real-Time Information & Transit Amenities
Transit mitigation also could include providing transit kiosks at major transit stops. In addition, amenities such as improved transit shelters and benches can be useful in improving passenger comfort and convenience. Additional right-of-way for wider sidewalks also would be desirable where these facilities are located.

Freight Strategies

Impacts to freight are expected under the No Action Alternative due to increased congestion within the study area. The most direct mitigation impacts to freight movement would be to increase travel speed. Other strategies address roadway and intersection design standards and truck circulation needs. However, many of the mitigation strategies for other travel modes could impact freight operations and could be balanced against the needs for freight mobility. Items such as curb bulb-outs, narrow travel lanes, new crosswalks or signals, and driveway access locations all can adversely impact truck operations and maneuverability. These types of other mitigation could be discouraged along the Major Truck Streets to promote the efficient movement of goods and services, and reduce delays to trucks, knowing that many major streets also serve other uses and modes especially is the denser urban neighborhood. As individual capital projects are undertaken to maintain and enhance streets for multiple users, the City could evaluate various transportation needs, including those for freight movement. Final design decisions will be guided by adopted plans, the Right of Way Improvement Manual, and the recently passed Complete Streets Ordinance.

Traffic Management Strategies
These strategies would include incorporating traffic management strategies, such as providing signal priority along freight corridors through the use of specific traffic signal plans, which would improve truck mobility along City surface streets. One strategy would be to devote a higher percentage of signal green time to serve established freight movements at the expense of competing movements, particularly outside of major commute peak hours. This strategy could be applied along S. Dearborn Street, Airport Way S., 1st Avenue S., 4th Avenue S., or S. Atlantic Street corridors; however, the primary corridor would have to be chosen for those corridors that intersect such as 1st Avenue S. and S. Atlantic Street. These timing strategies would only be implemented after studying the impact to transit operations or other modes of travel. Another strategy would be to introduce technologies that improve communications to better manage logistics, including dispatching of commercial vehicles and dissemination of real-time traffic information to avoid delay where possible.

Fund Truck Route Design Improvements
A dedicated funding program could be established to improve existing truck routes by upgrading street infrastructure to better facilitate truck operations and movement. This could include establishment of a program to fund regular improvements to the major truck streets to accommodate wider turning radii, signal upgrades, relocation of utility poles or other obstacles, and more frequent pavement overlays. Poor pavement conditions also result in an increase in road noise and vibrations that are disruptive to people in adjacent buildings, in particular, sensitive residential, educational and health care land uses. Other funds could go toward installing concrete on major truck streets that front new development to prolong the life of the street and reduce the amount of maintenance required.

Performance Standards
The City could develop and adopt performance standards for the major freight corridors. This would help in identifying operational thresholds for Major Truck Streets and better identifying impacts to freight movement. For example, one criterion might establish truck travel speed standards (expressed as an absolute minimum speed or as percent of the posted speed) similar to those developed for transit. This system-wide action plan would create a measurable threshold that would help maintain minimum level of

system performance to support freight movement. The performance standards also could be used in prioritizing capital and maintenance improvements within the City.

Local Truck Access
New development could comply with delivery trucks requirements for proper access, maneuvering and operations. Where sizeable facilities are planned to serve light trucks (like utility trucks) and heavier delivery trucks, on-site spaces could be planned for loading zones and docks to allow adequate accessibility, loading and maneuvering. Limited number of loading/unloading zones could be provided for light delivery trucks to serve adjacent small shops and businesses that can not be accessed off-street. Intersections at local streets could have turning radii that provide for reasonable access by fire trucks, sanitation trucks, and light delivery vehicles. Curb parking on both sides of the local street must not obstruct accessibility of delivery and utility trucks to land uses. Where the right-of-way or free space allows, controls or special lanes and spaces could be imposed to separate and channelize the heavier trucks away from areas designed for automobiles and pick up trucks.

Pedestrian And Bicycle Strategies

All of the Alternatives would generate increased pedestrian and bicycle activity throughout the study area, with the Action Alternatives likely to contribute a higher proportion of pedestrians and bicyclists than under the No Action Alternative. Pedestrians and bicyclists impacts could be addressed with these identified strategies.

Sidewalk Improvements & Maintenance
The City and/or property owners could develop a program to help fund improvements to the sidewalk system to address existing trip hazards, locations not meeting ADA requirements, and to construct missing linkages. Improvements also could include the installation or replacement of non-code compliant curb ramps, and resurfacing of sidewalks to provide safer travel. Developers also could be required to include these measures on their street frontage where substandard facilities exist. The City is currently completing a citywide study of the pedestrian system, which will include recommended projects to improve the sidewalk and trail system covering the study area.

Pedestrian Crossings and Linkages
Enhancing pedestrian linkages to the Stadiums, waterfront, and adjoining neighborhoods will help mitigate and support the higher pedestrian volumes under the Action Alternatives. Installing a pedestrian crossing along 4th Avenue S. near S. Atlantic Street to join in to the pedestrian staircase leading up to the elevated S. Atlantic Street overpass is one of the specific improvements that have been identified. Other pedestrian crossings also should be considered or enhanced along 1st Avenue S. north of S. Royal Brougham Way. Other locations for new crossings or enhancements to existing facilities could be located along Airport Way S. and S. Dearborn Street to facilitate easier pedestrian access to and from the South-of-Dearborn area. As development occurs along 1st Avenue S., Airport Way S., and S. Dearborn Street, additional opportunities for pedestrians to safely cross the corridors could be provided. Linkages to the waterfront trail along Alaskan Way could be promoted and improved. Attractive and safe pedestrian access to neighborhood activity centers (community centers, health care facilities, active retail and cultural amenities) could be emphasized and provided. The use of all-way walk signals within the Pioneer Square, Japantown/Chinatown, and Little Saigon neighborhoods could be explored. These will allow for improved pedestrian crossings while also potentially improving vehicle operations.

Pedestrian Scale Facilities
Programs to improve the pedestrian environment with decorative lighting, more landscaping treatments, and street furniture, such as benches, throughout the neighborhoods could be required of new developments. Allow for increased sidewalk width to accommodate these facilities. These facilities

would encourage increased pedestrian travel by enhancing safety and comfort. In larger developments, providing for convenient pedestrian passage through the site may be beneficial.

Bicycle Lanes and Sharrows
Mitigation measures to accommodate bicyclists are included in the Seattle Bicycle Master Plan. While these measures may eventually be incorporated, increased development in the study area would make them even more critical. They are included as mitigation strategies because future development may provide the opportunity to incorporate these measures specifically when frontage improvements are incorporated. The Bicycle Master Plan lists the following specific improvements:

- **Installation of bike lanes**
  - 7th Avenue S (I-90 trail extension to S. Dearborn Street)
  - Airport Way S. (I-90 trail extension to 6th Avenue S.)
  - S. Royal Brougham Way (up to the new pedestrian structure associated with the SR 519 Phase 2 project).
- **Striping sharrows** (pavement markings designating bicyclists use of the roadway)
  - 6th Ave. S. from Airport Way S. to S. Jackson St. and S. Washington St. to Yesler Way
  - 7th Avenue S. from S. Dearborn Street to S. Jackson Street
  - Yesler Way from Alaskan Way S. to 2nd Avenue and from 3rd Avenue to 8th Avenue
  - S. King Street from 5th Avenue S. to Rainier Avenue S.
  - 4th Avenue S. (from S. Jackson Street to Yesler Way)
  - S. Jackson Street (from Alaskan Way S. to 5th Avenue S.)
  - Maynard Avenue S. (from S. Dearborn Street to S. Jackson Street);

Multi-Use Path
Extending the I-90 multi-use trail from its current terminus to completion, as included in the Bicycle Master Plan would provide a better regional connection to serve additional bicycle traffic generated under the No Action and Action Alternatives.

Event Management Strategies

As the South Downtown area continues to change and more development occurs, the appropriate allocation of resources to achieve the TMP goals is the primary mitigation strategy for events. The resources could be focused on how event traffic and parking will be managed based on the expected impacts of the Alternatives. Mitigation strategies for each Alternative are dependent on the specific timing and nature of the proposed developments and capital transportation improvement projects (such as SR 519).

Mitigation strategies for event management are important for all Action Alternatives, as well as the No Action Alternative. These measures may need to be most aggressive under Alternative 3 due to more intense projected development levels assumed in the immediate area of the stadiums, compared to the other Action Alternatives.

Parking and Traffic Control
Increased development and density in the immediate vicinity of each stadium combined with added development along the major corridors providing access to the stadiums would create additional pressures on the accessibility of each venue. This would require additional revisions to traffic control depending on the nature of the parking supply changes that could occur. More resources would need to be contributed to better direct traffic to/from the events, while also providing local access to close-in areas. For example, the increased development in the South-of-Dearborn and Stadium Area would require a certain level of accessibility to be maintained. As a result of increased development density along 1st Avenue S., an

increased program of pedestrian and traffic control, along with further access restrictions, would be necessary to ensure continued efficient event traffic management. Overall, it is expected that the area and number of intersections where traffic control is provided would need to be expanded based on the increase in level of development, with Alternative 3 requiring the highest level of resources.

Parking Restrictions and Enforcement
During major events, additional parking restrictions and enforcement measures in the South-of-Dearborn and Stadium Area could be necessary given the intensity of development under the Action Alternatives. Increased signage would need to be installed to assure that appropriate parking restrictions are in place during events to accommodate the continued needs of surrounding residences and businesses. Higher levels of parking enforcement also would be desirable if issues occur that impact the adjacent businesses and/or residential areas.

Pre-Sell of Parking
Continuing and enhancing a program of pre-selling parking would help to offset impacts associated with continued development around each stadium. The pre-sold parking permits would reduce the overall traffic volumes created by the additional circulation associated with searching for parking.

Intelligent Transportation Solutions
Additional measures to mitigate the impacts to event traffic management would include potential Intelligent Transportation System (ITS) solutions such as parking guidance, variable message signs, and additional camera installations to assist with security and traffic management.

Pedestrian Safety
The City and event managers could work to provide additional traffic control measures during events to increase pedestrian safety and efficiency along the surrounding corridors such as 1st Avenue S. and 4th Avenue S. during events. Increased development in the study area would generate additional pedestrian demand, which would require more resources in place to safely direct combined event and resident pedestrian traffic.

Subsidized Transit
Additional subsidies for use of transit to/from events would help to reduce the overall impacts of increased development on event traffic and parking. This could be explored as part of the annual review and update of the TMPs.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1, 2 and 3 would accommodate additional amounts of future development within the study area which would contribute to additional travel demands and congestion along arterial corridors. The additional development would also increase traffic access and circulation in the area, reducing the efficiency of through-traffic. This added congestion would contribute to measurably poorer performance of the transportation network, in terms of slower average speed of movements along corridors and somewhat worse performance at several intersections that would experience LOS F conditions. It would also contribute to declines in bus transit efficiency and freight mobility within the study area.

PARKING

AFFECTED ENVIRONMENT

OVERVIEW

Appendix G to this Draft EIS includes a parking impact analysis that is summarized in this section. The analysis reviews on-street and off-street parking resources, focusing on the vicinities most likely to be affected by the alternatives' zoning changes and future development to the year 2030.

OFF-STREET PARKING

The surveyed off-street parking consists mainly of paid parking available to the public, though some of the lots include reserved parking for nearby uses. Most of the parking is available for hourly parking, with some available for monthly permit parking. The surveyed off-street parking serves employees, clients and customers of businesses, many of which do not have parking on their properties. Table 3-56 summarizes the parking supply and estimated utilization at the surveyed off-street parking lots. The mid-day non-event utilization for off-street parking ranges from approximately 60-90%, with the exception of the Stadium Area neighborhood. Highest utilization was observed in the Pioneer Square neighborhood, which is closest to the Downtown business district and contains a significant amount of existing office and retail land use.

Table 3-56
Surveyed Off-Street Surface Parking Supply and Utilization (2007)[1]

Neighborhood[2]	Parking Supply[3]	Parking Utilization[4]
Chinatown/Japantown	900 stalls	70%
Pioneer Square	500 stalls	90%
Stadium Area	400 stalls	10%
South of Dearborn	400 stalls	80%
Little Saigon	350 stalls	60%

Source: Field observations, March 2007
1. Survey was visual in nature, estimating the approximate supply and utilization.
2. Neighborhoods defined by DPD staff.
3. Supply is approximate and does not account for specific-use parking garages, such as the garages for Safeco Field and Qwest Field. Rounded to nearest 50.
4. Utilization is approximate and was observed during weekday mid-day hours, with no events underway at the stadiums.

- **Chinatown/Japantown**: This neighborhood's surveyed supply consists of mostly public hourly parking lots and reserved parking lots.
- **Pioneer Square**: The majority of this neighborhood's surveyed supply is in public hourly parking lots.
- **Stadium Area:** This neighborhood has fewer public hourly parking lots than other districts (excluding the stadium garages). Daytime utilization of these lots is low, but during typical stadium events the utilization is high.
- **South of Dearborn:** Most of the parking is available to the public, with some private lots dispersed through the area.
- **Little Saigon**: In this neighborhood, the off-street parking is mainly private or reserved.

ON-STREET PARKING

The on-street parking throughout the study area is highly utilized during the weekday. Types of on-street parking include: free hourly, paid hourly (including paystations and meters), and unrestricted. The most prevalent are paid hourly and free hourly, with time limitations on the free hourly ranging from 1 hour to 4 hours. In all of the neighborhoods, several 3-minute passenger loading zones are dispersed throughout the blocks, as well as 30-minute loading zones. These loading zones are more prevalent in areas where businesses are located curbside. Table 3-57 summarizes prevalent on-street parking types and observed utilization rates. At utilization rates of 80 percent and above, the public typically perceives there is no excess capacity available.

Table 3-57
Prevalent On-Street Parking Type and Observed Utilization (2007)[1]

Neighborhood[2]	Dominant Parking Type[3]	Parking Utilization[4]
Chinatown/Japantown	Paid Hourly	90%
Pioneer Square	Paid Hourly	90%
Stadium Area	Free Hourly/Unrestricted	80%
South of Dearborn	Unrestricted	90%
Little Saigon	Free Hourly/Unrestricted	80%

Source: Field observations, March 2007
1. Survey was visual in nature and did not document exact number of spaces by type, but gathered approximate utilization by type.
2. Neighborhoods defined by DPD staff.
3. Dominant parking type is based on field observation.
4. Utilization is approximate and was observed during mid-day hours.

- **Chinatown/Japantown:** This neighborhood primarily has paid hourly on-street parking, with some blocks having free hourly and unrestricted hourly parking. A few areas have dedicated bus zones. The mid-day unrestricted parking was observed to be nearly 100 percent utilized, while the other types were approximately 80 to 90 percent utilized.
- **Pioneer Square:** This neighborhood also has primarily paid hourly on-street parking, with more bus zones than Chinatown/Japantown. In addition, along certain blocks the parking is restricted during one or both of the peak commuting hours (7:00 am to 9:00 am or 4:00 pm to 6:00 pm) in order to increase travel lane capacity for peak hour demand. These restrictions occur primarily along 1st Avenue S. The mid-day utilization in this neighborhood was observed to be high, at approximately 90 to 100 percent.
- **Stadium Area:** In this neighborhood, the on-street parking is generally either free hourly or unrestricted. Bus zones along certain blocks, mainly on 1st Avenue S, reduce on-street parking supply. In addition, the parking is restricted during one or both of the peak commuting hours (7:00 am to 9:00 am or 4:00 pm to 6:00 pm) in some locations in order to increase travel lane capacity to serve peak hour demand. Mid-day parking utilization was slightly lower than other neighborhoods, at approximately 70 to 80 percent.
- **South of Dearborn:** This neighborhood has nearly all unrestricted on-street parking, with a couple of blocks having free hourly parking. The mid-day utilization is high in this area, at approximately 90 to 100 percent.
- **Little Saigon:** This neighborhood has mainly unrestricted and free hourly on-street parking, with some bus zones as well. The unrestricted parking has a high mid-day utilization, at approximately 90 to 100 percent, while the free hourly parking mid-day utilization is slightly lower, at approximately 70 to 80 percent.

ENVIRONMENTAL IMPACTS

The parking impact analysis for this programmatic EIS focuses on the potential displacement of parking that could occur with future infill development to the year 2030, and related trends that might affect how on-street and off-street parking are impacted. Future development patterns assumed for each EIS alternative were identified by DPD staff. This provides an understanding of the magnitude of parking loss that could occur and its geographic distribution among the neighborhoods. Other parking losses, such as those due to major road construction, are also described.

OFF-STREET PARKING

Because the properties available for future infill development are primarily those in surface parking uses, future construction of new buildings would displace existing parking supply. The parking utilization of those spaces that are predicted to be displaced under each of the EIS alternatives is summarized in Table 3-58. This represents the displaced demand for parking.

Table 3-58
Off-Street Study Area Parking (Currently Utilized) Potentially Displaced by Future Development[1]

Neighborhood	No-Action	Alternative 1	Alternative 2	Alternative 3
Chinatown/Japantown	360	610	610	510
Pioneer Square	410	410	270	410
Little Saigon	10	0	0	0
South of Dearborn	60	100	120	250
Stadium Area	0	20	20	20
Total	**840**	**1,140**	**1,020**	**1,190**

Source: Field observations, March 2007.
1. Numbers rounded to the nearest 10.

2030 No Action Alternative (Alt. 4)

Future development under the No-Action Alternative would displace approximately 850 utilized parking spaces, primarily affecting Pioneer Square and Chinatown/Japantown west of I-5. Some of the displaced parking demand could be satisfied in other locations such as public parking in the Stadium Area. Such parking is more likely to be used by employees who park for the entire work day and are willing to walk longer distances. Other parking users such as retail or restaurant patrons are not typically willing to walk longer distances for parking. Because on-street parking is already highly utilized in the study area, it likely could not absorb much of the displaced parking demand. Some demand could be eliminated with shifts to transit, ridesharing, or non-motorized travel modes when available parking becomes sparser and more expensive.

The Alaskan Way Viaduct replacement project's construction is also likely to eliminate a substantial amount of surface parking capacity, both on-street (approximately 220 to 650 spaces) and off-street (approximately 50 to 120 spaces). This is likely to noticeably impact parking within the study area, particularly in the Stadium Area and Pioneer Square neighborhood due to spill-over of displaced demand. The timing and final design of the Viaduct replacement are not yet determined.

2030 Action Alternatives (Alts. 1, 2, 3)

As shown in Table 3-58, the Action Alternatives would likely displace approximately 1,000 to 1,200 parking spaces by year 2030, which would be 200 to 400 more spaces than under the No-Action Alternative. This would generate additional amounts of "spill-over" demand for parking in other locations, and would probably also result in some shift to alternative modes of transportation, if available parking supply is reduced, is more difficult to find or is more expensive. The overlap of stadium facility

event-related parking demand also would influence the availability and cost of parking during days with events.

Figure 3-48 illustrates the potential loss of utilized parking in each neighborhood per Action Alternative. Alternative 1, which concentrates more development in the Chinatown/Japantown and Pioneer Square neighborhoods would result in the highest loss of parking in those neighborhoods. Alternative 2 is similar to Alternative 1 but with lesser projected parking losses by 2030 per its growth scenario. Alternative 3 could lead to higher levels of parking loss in the South-of-Dearborn area than in the other alternatives, and is indicated to have the greatest potential amount of parking spaces lost per its growth scenario.

Parking Supply for New Development

The City of Seattle has developed unique parking requirements for developments in Downtown zones. Downtown is an area roughly bordered by Denny Way on the north, the waterfront on the west, I-5 on the east and S. Dearborn Street on the south. Zoning Downtown recognizes the role the area plays as the densely developed urban core of the City, accommodating high-rise buildings, a large workforce, shopping and entertainment, and multifamily residential uses. The Downtown is well served by transit and some vehicular congestion is expected. All study neighborhoods except Little Saigon, South-of-Dearborn and part of the Stadium Area are covered by Downtown rules. Land uses within the Downtown zones are not required to provide any off-street parking and non-residential uses are limited to providing a maximum of one space per 1,000 square feet. Table 3-59 provides a comparison of Seattle City Code requirements for off-street parking with peak parking rates from the Institute of Transportation Engineers.

These requirements, along with good transit service and a free-ride zone have helped to create a low single-occupant vehicle (SOV) commute mode in central Downtown. The personal cost of parking is one of the most influential variables that influences travel mode[1]. In 2000, the SOV rate for Downtown Seattle was about 40 percent[2]. Over time, as utilized parking is displaced and if new development puts in little or no parking due to zoning limitations, a similar shift in commute mode would be anticipated if supported by expanded and improved transit service and other supportive programs. Retail and restaurant patrons would be more difficult to shift away from vehicular modes than urban office workers and residents.

2030 No Action Alternative (Alt. 4)

Due primarily to planned development projects in the Pioneer Square and the Chinatown/Japantown neighborhoods, parking supply that currently accommodates the demands generated by other uses in the neighborhoods will be lost, over time, directly displaced by infill development. Therefore, those businesses whose customers and employees currently rely on parking in those surface lots are likely to be negatively impacted.

[1] *Transportation Elasticities: How Prices and Other Factors Affect Travel Behavior*, Victoria Transport Policy Insititute (TDM Encyclopedia), March 2007.

[2] Puget Sound Trends, *Commuting to the Region's Downtown Areas*, PSRC, March 2004.

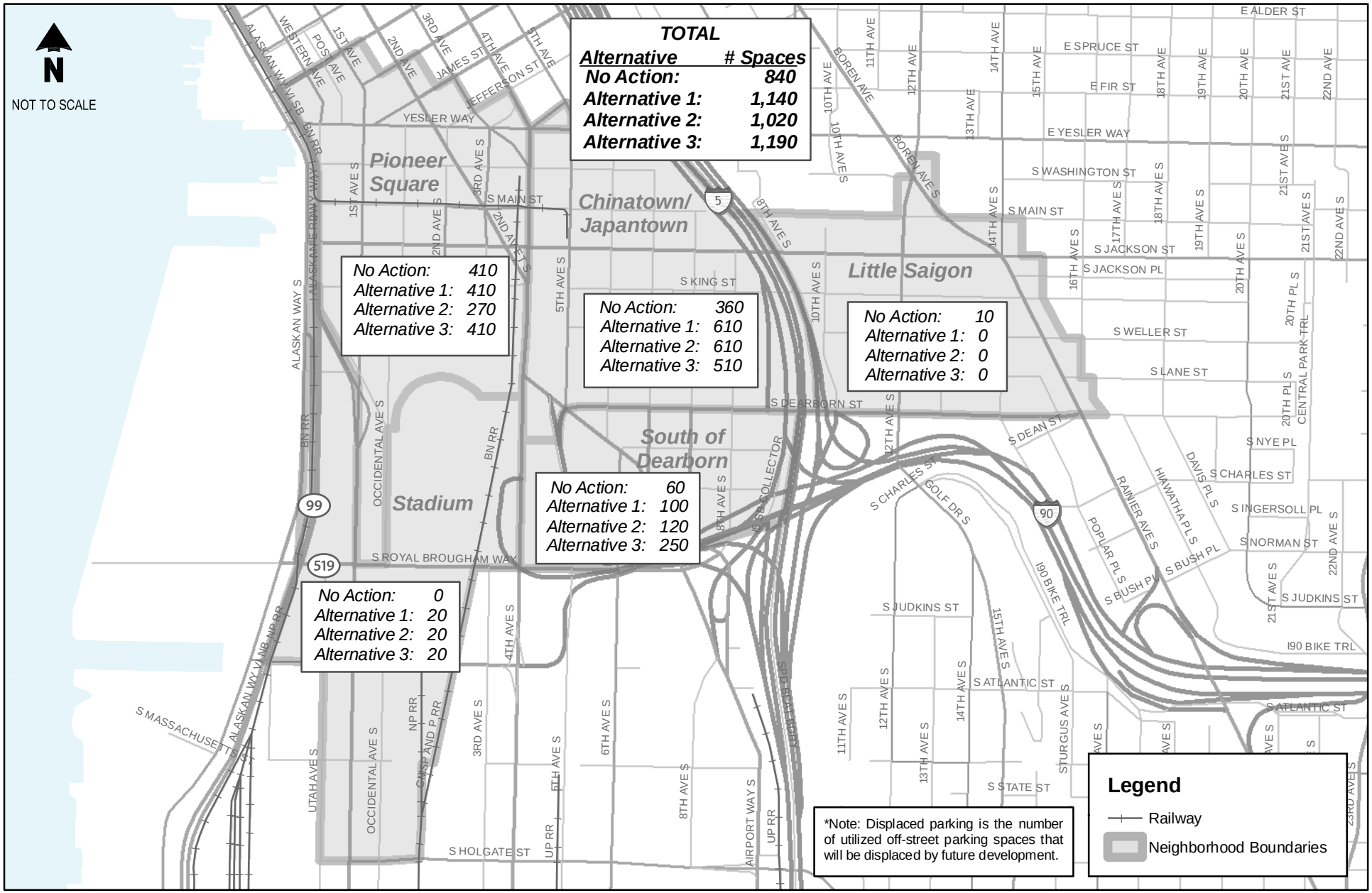


Figure 3-48

Livable South Downtown

Displaced Parking by Neighborhood - No Action & Action Alternatives

Table 3-59
Seattle Parking Code by Land Use

Land Use	Downtown Zones[1]	Other Zones[2]	ITE Peak Demand Rates
Residential (per unit)	0[3]	1.0[3]	1.0
Office (per ksf)	1.0	1.0	2.4
Hotel (per room)	0.25	0.25	0.91
Retail	1.0	2.0	2.65
Restaurant (per ksf)	1.0[4]	4.0	7.3

Source: Seattle Municipal Code and *ITE Parking Generation*, Third Edition.
1. All study zones except Little Saigon, South of Dearborn and part of the Stadium Area. Rate for hotel is standard for Seattle, as no maximum per room is specifically defined for Downtown Zones.
2. Little Saigon and South-of-Dearborn neighborhoods.
3. While the Downtown zones have no minimum or maximum requirement for residential uses, for other zones, for purposes of simplicity, one parking space per unit is assumed. Seattle code actually has varied requirements depending on the total number of units in a development, number of bedrooms in the units and income level (reductions allowed for low income housing).
4. For Chinatown/Japantown, restaurant requirements are 2 spaces per 1,000 for area over 2,500 sf.

2030 Action Alternatives (Alts. 1, 2, 3)

Under all of the Action Alternatives, the largest projected loss of utilized spaces due to development would be in the Chinatown/Japantown neighborhood, followed by the Pioneer Square neighborhood. Alternative 3 would result in some additional lost parking in the South-of-Dearborn neighborhood. Parking associated with office land use, as opposed to general commercial land use, would result in less of a disparity between parking demand and parking supply due to:

- The ability to shift office related travel modes to non-SOV alternatives compared to commercial related travel modes and;
- The disparity between the maximum requirements for off-street parking under the Land Use Code in Downtown zones and typical maximum parking demand for office and retail/restaurant land uses. In Downtown zones, non-residential uses may provide no off-street parking or up to a maximum of 1 space per 1,000 square feet. While parking demand Downtown appears to be much lower than the rates provided by ITE due to good transit service, the high cost of parking and limited parking supply, retail and restaurant parking demand are expected to generate a higher demand per square foot than office uses.

Alternative 1 has more office development identified than Alternative 3. Alternative 3 has the largest potential for non-office commercial development. Therefore, the development impacts to the availability and price of off-street parking would be more noticeable for Alternative 3 than Alternatives 1 and 2.

ON-STREET PARKING

With future infill development and other losses incurred through road construction projects, demand for on-street parking would increase. However, due to its high existing utilization, it could not satisfy much of the demand. Given these demands, it is likely that currently unrestricted on-street parking would be converted to time-restricted paid parking, to encourage frequent turn-over. High turn-over spaces are suited to addressing retail customer needs but not employee needs for the work day. This strategy works well as travel alternatives like transit or biking are less feasible for retail customers than long-term employee commuters, as long as adequate transit service and bicycle facilities are provided. This strategy is echoed in Seattle's Comprehensive Plan parking goals, parking quantity policies and parking development standards policies.

2030 No Action Alternative (Alt. 4)

Some on-street parking will be eliminated with the completion of the SR 519 Phase 2 project. Parking for approximately 100 vehicles on both sides of 3rd Avenue S., south of S. Royal Brougham Way will be eliminated by this project. The lost parking is a result of traffic being rerouted to 3rd Avenue S. to access the S. Royal Brougham Way grade-separated structure across the railroad tracks. Another 10 to 15 spaces would be lost along the west side of 1st Avenue S., north of S. Atlantic Street due to planned improvements at the S. Atlantic Street intersection.

Additional on-street parking will be eventually lost with the replacement of the Alaskan Way Viaduct. While the central waterfront portion of the viaduct is still under discussion, any Alternative will result in lost on-street and surface parking that is currently available to the public. According to the EIS for the project, approximately 220 to 650 on-street parking spaces and up to 120 off-street parking spaces would be lost. Some of these will be in the Pioneer Square neighborhood and Stadium Area. The Surface, Bypass and Tunnel alternatives result in the greatest loss, while the Rebuild and Aerial alternatives lose the least amount of parking. The City is considering aggressive parking management strategies, especially during the construction phase, to support transportation and transit speed and reliability.

The planned major projects are likely to include modifications to the management of the on-street parking where on-street parking is currently unlimited and/or free. For example, the free unrestricted and free hourly parking in the Little Saigon vicinity may convert to paid parking in order to ensure the turn-over and availability critical to new commercial needs. Other impacts to on-street parking from planned projects would depend on access, new loading zones, etc. For example, if a planned project required an additional access drive in an area that currently offers curbside parking, some of that curbside parking would be lost in the area of the new driveway and the surrounding clear zone.

2030 Action Alternatives (Alts. 1, 2, 3)

Impacts to on-street parking would include those identified in the No-Action Alternative.

Alternative 1 concentrates development within the northernmost neighborhoods. On-street parking is mostly time-limited and paid parking in the Pioneer Square and Chinatown/Japantown neighborhoods. As such, there is only a modest opportunity to improve turn-over for on-street parking by conversion of free and unlimited parking. Some conversion however, is likely in the Chinatown and Little Saigon areas.

Alternative 2 is likely to convert more free and unlimited on-street parking to paid and time-limited parking in the Little Saigon and South-of-Dearborn vicinities than under the No-Action and Alternative 1 scenarios. Alternative 2 would likely include more conversion of on-street parking to paid and time-limited parking in the Stadium Area vicinity than any of the other Alternatives.

As with the No-Action Alternative (Alternative 4), some on-street parking would be potentially lost with new development projects if access points (curb-cuts) are moved or added in an area where on-street parking is currently available. Therefore, with Alternative 1, on-street parking is at risk in the Pioneer Square and Chinatown/Japantown neighborhoods. Under Alternative 2, more on-street parking is at risk in the Little Saigon and South-of-Dearborn areas than the other neighborhoods. Under Alternative 3, more on-street parking is at risk in the Stadium Area and South-of-Dearborn than in the other areas.

In addition to the conversion of free and unlimited on-street parking to higher turnover time-limited and paid parking, or the potential loss of parking due to new or moved curb-cuts, other impacts may result from transportation-related mitigation measures that could be implemented. For example, if, as a mitigation measure, some curb-side parking is converted to a transit lane, that on-street parking would be

lost for use by the general public. The following list identifies some possible mitigation measures that have the potential to impact the supply of on-street parking:

- Pedestrian bulb-outs that are installed at intersections or mid-block crossings in order to narrow the crossing distance for pedestrians as well as make crossing pedestrians more visible to approaching traffic. They are often installed where on-street parking is provided because the curb lanes are not used for through-traffic. Bulb-outs usually increase the clear zones from the intersections and can result in the loss of one to two parking spaces on each side, depending on the existing configuration.
- Transit related modifications that take on-street parking, such as additional transit stops, or bus queue bypass lanes at intersections. The greatest potential impact from transit related mitigation would be the conversion of curb lanes to transit lanes, in which case entire block-faces of on-street parking could be lost.
- Curb lanes which currently allow parking may be converted to general purpose through-lanes for added capacity. This would have a similar impact to on-street parking as the conversion of curb-lanes to transit lanes (see above).

MITIGATION STRATEGIES

Adverse parking-related impacts could be addressed by two approaches: reducing demand, and managing the supply, that are described by the following possible mitigation strategies.

POSSIBLE MITIGATION STRATEGIES

Reduce Parking Demand

Seattle has been successful in reducing parking demand in the Downtown core area. This is a result of several factors: limited parking supply, high parking prices, extensive transit coverage, free ride transit zone, bicycle services, pedestrian connections and TDM requirements for larger employers or newer buildings. Likewise, the demand for parking within the study area could be reduced by increasing transit service, providing pedestrian and bicycle improvements, and working with employers and developers to provide aggressive TDM programs. Reduced availability of parking supply typically results in increased parking costs. The shortfall in parking and/or higher parking costs would result in more people shifting modes. Incorporating flex-cars as part of TDM measures also would help reduce resident reliance on individual cars.

Parking Management

The City could expand management measures for on-street parking in order to support commercial businesses in the area. This could be done by instituting time limitations and paid hourly parking where appropriate. Added enforcement may be required to maximize effectiveness. Neighborhoods adjacent to the study area neighborhoods under development could be monitored for impacts of spill-over parking. Time restrictions and special restricted parking zones could be needed to discourage the spread of displaced parking demand to neighboring areas.

Along with converting free on-street parking to paid parking, the City also is able to install all-day paid parking that would effectively allow commuters and employees to park on-street in an area for a fee. The City would need to look at installing a combination of all-day and short-term parking in specific areas of South Downtown, such as Chinatown/Japantown and Little Saigon, in order to best manage the on-street parking. The revenues from the on-street parking could be used to help fund area-wide parking management programs (although this would require a change in current City policy with respect to use of parking revenues).

Short-Term Parking

The City is looking at ways to enhance short-term (up to 2 to 4 hours) parking supply in Downtown, Pioneer Square and Central Waterfront buildings that is currently sold as commuter or monthly parking. This program, called the Center City Parking Program, will help to address the parking losses from the Viaduct replacement construction. The cornerstone of that mitigation program is an Electronic Parking Guidance System (see following paragraph), negotiating with Downtown building owners and major employers to convert existing off-street parking from commuter parking to short-term visitor use, and creating marketing tools that provide a consistent system for supporting short-term parking.

Dynamic Parking Signage (Electronic Parking Guidance System)

The City can install variable message signs to indicate the location of available off-street public parking. Signs could be located at off-ramps from the highway system to help drivers navigate vehicles toward public parking areas. This strategy could also reduce excess circulation associated with searching for parking, while also assisting in managing parking on event days.

Curb Lane Management

This strategy would aim at establishing standards for new developments whereby loading zones are located in alleys or side streets rather than on major streets. This would allow for additional space for on-street parking or eliminate additional on-street parking from being removed as a result of new development.

Pay Stations

The remaining parking meters in the study area could be removed and replaced with pay stations. The pay stations allow greater flexibility in the form of payment. Additionally, it is easier to collect parking revenues and manage parking conditions with the pay station technology.

Modify Development Caps to Accommodate Lost Public Parking

The City may want to consider a modification to increase the current parking caps in the Downtown zones to allow developers to provide additional short-term public parking to partially address the public parking losses. This approach could be more strongly encouraged through provision of incentives to provide such parking, or mandated by requiring provision of some of the displaced parking. Legal and financial aspects of such programs or requirements need to be explored further.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

No significant unavoidable adverse impacts are identified.

LIVABLE SOUTH DOWNTOWN PLANNING STUDY

DRAFT ENVIRONMENTAL IMPACT STATEMENT

APPENDICES

A. **Land Use—Zoning, Land Use and Development Patterns**
(Seattle DPD)

B. **Land Use—Height, Bulk, Scale and Compatibility**
(Seattle DPD)

C. **Land Use—Business and Economic Impacts. "Little Saigon & Chinatown/ International District, Impacts on Local Businesses from Proposed Land Use/Zoning Changes and Dearborn Street Mixed-Use Shopping Center**
(Strategic Economics, Trang D. Tu Consulting)

D. **"An Assessment of Real Estate and Economic Conditions in South Downtown Neighborhoods"**
(BHC Consultants, Property Counselors)

E. **"Housing Resources Evaluation and Impact Analysis"**
(Seattle DPD)

F. **"Seattle South Downtown Noise Study (ESA Adolfson)**

G. **Transportation and Parking. "Livable South Downtown Transportation Discipline Report"**
(The Transpo Group)

H. **Historic Resources. "Historic & Cultural Resources Report for the Livable South Downtown Draft EIS"**
(Beth Dodrill Consulting)

I. **Pioneer Square – Skid Road National Historic District Map and Property Information**

APPENDIX A

LAND USE—ZONING, LAND USE AND DEVELOPMENT PATTERNS

AFFECTED ENVIRONMENT

SUMMARY OF EXISTING LAND USE AND ZONING

The study area includes land south of the Downtown office core and east of Alaskan Way, including the entire Pioneer Square and Chinatown/International District neighborhoods, the northern periphery of the Greater Duwamish Manufacturing and Industrial Center (MIC), and the western periphery of the Jackson Place neighborhood at Rainier Avenue S. This diverse area is many things to many people, including: a center of historic and cultural heritage, art and tourism; a place to live and work and conduct business; an entertainment center; a transportation hub; and a corridor for commerce and industry.

Land Use Patterns

An overview of South Downtown's land use patterns begins with its neighborhoods and districts.

Pioneer Square

Pioneer Square adjoins the Downtown office core and government core, extending as far north as Columbia Street and as far south as S. Royal Brougham Way. This historic district is characterized by an extensive and varied assemblage of century-old buildings, most with brick and stone facades and distinctive architectural qualities (see the Historic and Cultural Preservation section of this chapter for additional discussion). Typical buildings range from 20 feet up to 100 feet in height. Several taller buildings are located along the 1st Avenue corridor and along S. Jackson and S. King Streets. In the Occidental Park vicinity and eastward to around 3rd Avenue S., lower-height buildings are most common, in the range of approximately 10 to 50 feet. Interspersed throughout the district are approximately 30 properties used as parking lots, garages or with other structures that are considered non-contributing to the historic district. This creates a land use pattern with numerous buildings developed to the property line, but also occasional gaps in the continuity of streetfront uses created by vacant lots.

Complementing this pattern and creating localized open space nodes are Pioneer Place Park, Occidental Park, the Occidental pedestrian mall, Fortson Square and City Hall Park. The combination of a change in street grid orientation and a continuation of 2nd Avenue Extension at an angle from the dominant Pioneer Square street grid creates several triangular blocks and triangular spaces along 2nd Avenue Extension until it intersects with 4th Avenue S. at S. Jackson Street. South of S. King Street, the northern parking lot of Qwest Field creates a large open space, bordered by Qwest Field to the south, railroad tracks and King Street Station to the east, and buildings along Occidental Avenue S. and S. King Street. Along 1st Avenue S. south of S. King Street, an architectural style and building pattern compatible with Pioneer Square extends to uses on both sides of the street for approximately two blocks and then only on the east side of 1st Avenue S. to S. Royal Brougham Way. The west side is part of the Greater Duwamish MIC.

The mix of street-level uses in Pioneer Square includes many retail businesses devoted to tourism and specialty goods, art galleries, restaurants, bars and nightclubs, and social service agencies. Upper-story uses include a variety of offices, artist live-work spaces, social services, housing and assorted commercial uses. Some upper-story floors in historic buildings may be under-utilized or vacant. Residential uses are not very visible in the mix of uses, except the Florentine Condominiums south of S. King Street and subsidized housing structures such as the Morrison and Frye Hotels on Third Avenue near the King County Courthouse. However, recent renovation or new construction is bringing an increased inventory of residential uses in some vicinities, including the Lowman Building apartments (near 1st and Cherry),

the Tashiro Kaplan Building (at Prefontaine Place), and the Quintessa Apartments near 2nd and Yesler Way. The Smith Tower is also in design and permitting for conversion to residential uses.

King Street Station provides a hub for regional commuter trains, Amtrak and other train traffic. The bus tunnel stations accessed in Pioneer Square via 3rd Avenue entrances and near Union Station at 5th Avenue S., and various surface bus stops nearby King Street Station complement this hub by providing bus and eventual light rail transit service that generates daily commuting activity in the vicinity.

Chinatown/International District

This neighborhood and historic district adjoins the Downtown office core and government center, east of Pioneer Square between approximately Yesler Way to the north and S. Charles Street to the south. Its boundaries extend from 4th Avenue S. east to Rainier Avenue S., also encompassing the Little Saigon neighborhood described later. The Chinatown and Japantown vicinities west of I-5 are characterized by a varied assemblage of buildings, many with brick and stone facades and historic architectural character, located within a north-south-east-west gridiron street system. Most of the buildings range from 10 feet to approximately 60 feet in height; in Japantown a few residential buildings range up to approximately 150 feet. The architecture and use patterns in these areas reflect the cultural heritage of the Asian American communities of Seattle, and have historically served as a business and activity center for those communities. Street-level uses include a wide variety of restaurants, customer service offices, specialty goods stores, grocers, banks, a post office, private associations and social service providers. Upper-level uses include several buildings with residential uses, others with office or service uses, private associations, and a number of buildings with vacant or under-utilized upper floors.

Physically, the land use patterns include the densest core of historic buildings within a National Register Historic District that extends approximately between S. Main Street, S. Weller Street, 5th Avenue S. and I-5. This encompasses the active east-west corridors of S. King Street and S. Jackson Street. The vicinity centered at 6th Avenue S. and S. Main Street is known as Japantown or Nihonmachi, with a collection of buildings identified as a center of Japanese-American architectural and cultural heritage. Between approximately S. Main Street and Yesler Way to the north along 6th Avenue S., the pattern of use is primarily in apartment buildings of varying ages and heights, interspersed with parking lots, and other uses such as the Nippon Kan Theater commercial building. In this same vicinity between 4th and 5th Avenue S. is a lightly developed vicinity including surface parking lots that is a transitional area between Pioneer Square, Downtown and this neighborhood. A new Emergency Operations Center and fire station, under construction, will occupy one of the blocks in this vicinity.

At the west perimeter of the Chinatown neighborhood south of S. Jackson Street, a series of large office buildings and Union Station form an employment center and a physical “edge” that is penetrated by a few pedestrian walkways most notably at S. Weller Street, connecting to the Weller Street Bridge west of 4th Avenue S.

South of S. Weller Street in the Chinatown neighborhood, the character of development includes a mix of newer residential/mixed-use buildings, parking lots and utilitarian single-use buildings, as well as the Uwajimaya mixed-use grocery/retail and apartment complex. Compared to Pioneer Square, the Chinatown/Japantown neighborhood as a whole is less densely developed, and includes more parking lots and vacant or lightly developed properties in its land use mix.

Little Saigon and Jackson Place

This neighborhood, east of I-5, is the easternmost extension of the Chinatown/International District neighborhood and the Downtown Urban Center. It is characterized by a varied mixture of predominantly commercial buildings, ranging from warehouses and poultry processing, to grocery stores, small

businesses, social service agencies, small office buildings, churches, and the mixed-use Pacific Rim Center. Most of the buildings range from approximately 10 to 30 feet in height. Physically, this vicinity is characterized by its long east-west blocks, the intersecting S. Jackson Street and 12th Avenue S. corridors, and a terraced topography bounded by upslopes north of S. Jackson Street and downslopes south of S. Lane Street.

Little Saigon is identified as a key center of Vietnamese-American community business and cultural activity in Seattle. Many households take advantage of the clustering of businesses, restaurants, and nearby religious facilities to make this neighborhood a multi-stop destination, especially on weekends. In addition, this area is considered a point of entry where immigrants can find an economic foothold in the workforce and business world.

The most active business center is located at 12th Avenue S. and S. Jackson Street, with several small-scale commercial buildings providing space for numerous businesses, service providers and restaurants. Several of these uses include parking for automobiles between the street and the building. Along S. King Street is a diverse mixture of retail, warehouse, wholesale, goods and services uses, along with the historic Victorian Row Apartments. Along S. Weller Street, uses include the Leschi Center that provides services to Native Americans, and a variety of light industrial, commercial, and office uses east of 12th Avenue S. In the southeast corner of this vicinity is the Goodwill property south of S. Weller Street and west of Rainier Avenue S.

To the east of this vicinity across Rainier Avenue S. are the Jackson Place residential neighborhood and S. Jackson Street commercial corridor, to the north is the Yesler Terrace residential community and to the southeast is the continuation of the Rainier Avenue S. commercial/industrial corridor. The southeast-northwest angle of Boren Avenue S. provides an approximate northern edge to Little Saigon, connecting with Rainier Avenue S. and S. Jackson Street to form a five-way intersection. Commercial uses are located along both sides of Rainier Avenue S., and within a narrow transitional area immediately to the east of Rainier Avenue S. that is part of the Jackson Place vicinity. In this vicinity, the topography toward the east defines a transition in land use to low-density residential uses and provides territorial views for occupants. The Seattle Housing Authority is beginning to evaluate future development actions in the Yesler Terrace vicinity north of Main Street and east of I-5.

Stadium Area and "south-of-Dearborn"

These study areas lie at the northern bounds of the Greater Duwamish MIC, extending as far south as S. Holgate Street in the 1st Avenue S. vicinity and S. Royal Brougham Way elsewhere. Functionally, these vicinities serve as a transitional area between Downtown neighborhoods to the north and the industrial area to the south, accommodating a variety of industrial and commercial uses. In addition to the Qwest Field Event Center and Safeco Field complexes, the mix of industrial and commercial uses includes restaurants, warehouse/distribution, home products retail stores, wholesale, parking lots and offices. The WOSCA property extends north of Royal Brougham Way on the west side of 1st Avenue S. in this vicinity, representing the northernmost extension of the MIC. The 1st Avenue S., 4th Avenue S., S. Royal Brougham Way and Occidental Avenue S. corridors are intermittently affected by stadium and event center activities, such as 80+ baseball games a year, 10 football games a year, and numerous other regularly scheduled soccer, tradeshow and concert activities. These events bring large volumes of pedestrians and related festival-style street vending that intermittently affect traffic congestion and the efficiency of business activities.

South of S. Dearborn Street in the Airport Way S. vicinity, uses include warehouses, printing, automobile repair, City operations yard, food preparation and distribution, as well as the William Booth Center

(transitional housing), the vacant former Immigration and Naturalization Service (INS) building, and parking lots. Typical buildings in these vicinities range from 10 to 20 feet in height.

The largest nearby uses west and southwest of this vicinity are the Port of Seattle Terminal 46 container terminal and Seattle International Gateway (SIG) Railyard. These facilities provide for movement of large volumes of goods into and out of the country via container traffic by ship, truck and rail. Truck movements to and from the terminal occur via all streets in the local network, including movements that transfer goods to and from trains. A "tail track" that extends north-south near Alaskan Way allows for connection of railcars and other train movements. East of the stadiums, a Burlington Northern Santa Fe (BNSF) railyard and rail corridor serves Sound Transit, Amtrak and other rail service to/from King Street Station; at-grade rail crossings intermittently affect traffic on Royal Brougham Way and S. Holgate Street. Also adjacent to the study area at S. Atlantic Street, the Bemis Building provides live/work space for more than 30 tenants. East of 4th Avenue S. and south of S. Royal Brougham Way, the dominant uses near the study area are transportation-oriented, primarily related to the King County Metro bus base.

Zoning Patterns

Pioneer Square

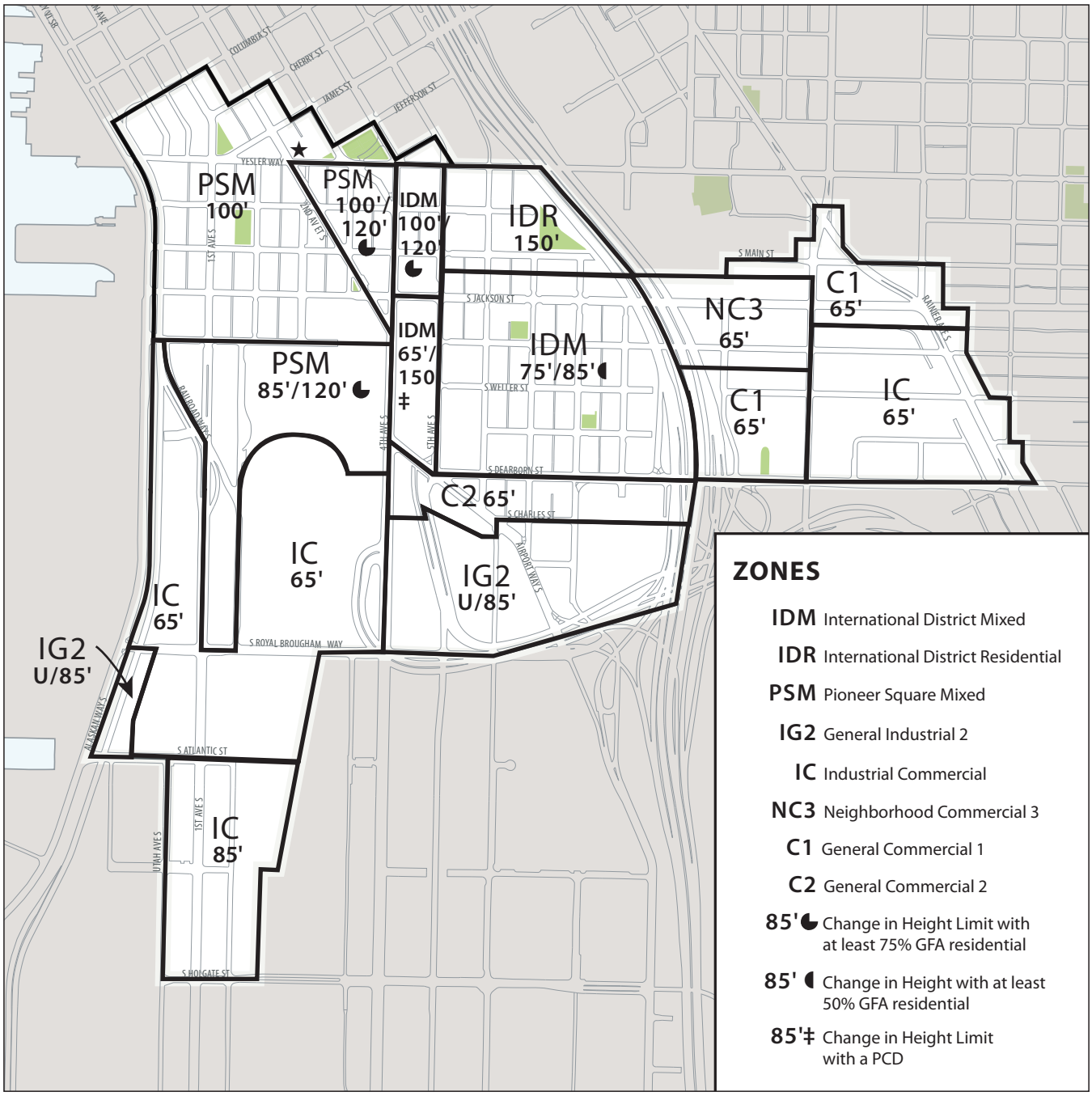
The Pioneer Square neighborhood is uniformly zoned "Pioneer Square Mixed" (PSM), denoting a Special Review District and neighborhood-specific zone regulations. The PSM zone accommodates a wide variety of uses, but prohibits several types of heavy commercial and light industrial uses. Four different height districts are present in Pioneer Square: a 100-foot district, an 85/120-foot district, a 100/120-foot district, and a 245-foot district (the latter primarily at the Smith Tower property). The 100-foot district is the most prevalent, covering most of the area between Columbia Street and S. King Street. The 100/120-foot district lies predominantly east of Second Avenue Extension south of Yesler Way. The 85/120-foot district lies south of S. King Street in the stadium vicinity, including the North Lot of Qwest Field and properties along the east side of 1st Avenue S. south to Royal Brougham Way (see Figure A-1). The maximum 120-foot height may be achieved in these areas only if 75% of the floor area of a building is in residential use.

Chinatown/I.D. West of I-5

This area is zoned "International District Mixed" (IDM) or "International District Residential" (IDR), denoting a Special Review District and neighborhood-specific zone regulations. The IDM and IDR zones accommodate a wide variety of uses, but prohibit several types of heavy commercial and light industrial uses. The IDR zone encourages residential uses. Three different height districts are present in the IDM zone: a 75/85-foot district, a 100/120-foot district, and a 150-foot district. The 75/85-foot district is the most prevalent, covering the central area between the north side of S. Jackson Street to S. Dearborn Street, and from 5th Avenue S. east to I-5. The 100/120-foot district lies north of S. Jackson Street in the 4th and 5th Avenue vicinity, adjacent to the similar height Pioneer Square zone. In both the aforementioned zones, the maximum heights may be achieved in these areas if 50% of the floor area of a building is in residential use. The 150-foot district defines the Union Station office development vicinity between 4th and 5th Avenues S., between S. Jackson Street and Airport Way S. (see Figure A-1).

Little Saigon

This area east of I-5 includes two commercial zones and one industrial zone that are unusual in their application to areas within the Downtown Urban Center. The "General Commercial 1" (C1) zone is present along S. Jackson Street east of 12th Avenue S., and also west of 12th Avenue S. on properties accessed by S. Weller Street south to S. Dearborn Street (see Figure A-1). The "Neighborhood Commercial 3" (NC3) zone is present on properties accessed by S. Jackson Street and S. King Street west of 12th Avenue S. An area-specific rule for this vicinity allows for maximized building bulk to the height



0 2 4 6 8 10
Scale in 100 Feet

N

Note: PSM zone with a 245 foot height limit at the Smith Tower shown with a ★

Figure A-1

Existing Zones

Livable South Downtown

envelope. The Industrial Commercial (IC) zone is present east of 12th Avenue S., on properties accessed by S. King Street south to S. Dearborn Street, and is also present on the east side of Rainier Avenue S.

South-of-Dearborn

This vicinity includes two zones: a "General Commercial 2" (C2) zone with an 85-foot height limit in the first block south of S. Dearborn Street (including the former INS building), and a General Industrial 2 (IG2) zone with an U/85-foot height limit, meaning industrial uses have no height limit and other non-industrial uses can reach 85 feet (refer to Figure A-1)

Stadium Area

This portion of the study area is zoned "Industrial Commercial" (IC) with a "Stadium Transition Area Overlay" zone. The IC zone category accommodates a wider variety of commercial uses than the other Industrial zones. The area north of S. Atlantic Street, including the WOSCA property, Pyramid brewery, Safeco Field and Qwest Field event center uses, is zoned IC with a 65-foot height limit. South of S. Atlantic Street to S. Holgate Street along 1st Avenue S. and Occidental Avenue S., there is an 85-foot height limit (refer to Figure A-1). This 85-foot height limit is comparable to other limits for non-industrial uses in the IG1 and IG2 zones located further south in the M&I Center. Within the Overlay, the spectator sports facilities are accommodated by other regulations that allow for heights for stadiums to be higher than 65 feet.

ENVIRONMENTAL IMPACTS

The objectives of Livable South Downtown planning are multi-layered—favoring a high-quality livable urban environment, increased housing opportunities complementary to these neighborhoods, respecting and enhancing neighborhood character and functions, encouraging appropriate economic growth, and ensuring efficient and sustainable transportation and utility systems. Urban design objectives encourage several kinds of streetscape, recreational and other improvements with amenities and aesthetic value. Not all of these potentially positive effects are included in this impact analysis, due to an emphasis in SEPA on identifying and disclosing adverse impacts.

The historic nature of the study area neighborhoods is an important aspect of the land use context. The alternatives have been defined in light of the historic values, with an intention to encourage land uses that will maintain compatibility with the existing historic neighborhood character.

The studied alternatives include zoning choices that would affect *where* infill development should occur, and *how much* growth should occur in terms of building height and density. These alternatives have been tailored to the characteristics of each subarea, with the intent of defining future development patterns that are plausible and would be compatible within the context of South Downtown. This should limit the potential for significant adverse land use and zoning impacts.

The impact discussion below discusses changes that would affect comprehensive plan designations, and land use and development pattern impacts. Further discussion about the height/bulk/scale implications of the alternatives is included in the Chapter 3 section "Land Use—Height, Bulk, Scale and Compatibility" and Appendix B to this Draft EIS. Development capacity implications of the alternatives are discussed in the Population and Employment section of Chapter 3.

POTENTIAL CHANGES AFFECTING COMPREHENSIVE PLAN DESIGNATIONS

The alternatives include proposals for amendments to the Comprehensive Plan. Such changes occur through the annual amendment process for the Comprehensive Plan. In this process, decisionmakers make choices about amendments relating to land use plans, policies and preferred future land use patterns. The following paragraphs summarize and comment on the proposed changes that would affect the Comprehensive Plan designations. Figure A-2 illustrates the areas addressed by these alternative proposals.

Stadium Area – West side of 1st Avenue S. – Alternatives 1 and 3

Under Alternatives 1 and 3, the west side of 1st Avenue S. south to Royal Brougham Way, consisting primarily of the WOSCA property, would be included in the Downtown Urban Center and removed from the Greater Duwamish Manufacturing and Industrial Center (MIC). Under both alternatives, the proposed zoning is a new "South Downtown Mixed" (SDM) zone that would accommodate commercial development in the southern two-thirds of the WOSCA property, and accommodate residential or mixed-use development in the northern third of the WOSCA property. This would represent a change in the current Comprehensive Plan's preferred future land use pattern, moving away from industrial uses and toward denser commercial and possible residential uses. Residential land use would be newly allowed on the west side of 1st Avenue S. south of Railroad Way S. (it is already permitted on the east side of 1st Avenue S. that is zoned Pioneer Square Mixed). Development density would be increased with adoption of SDM zones.

South-of-Dearborn vicinity – Alternative 3

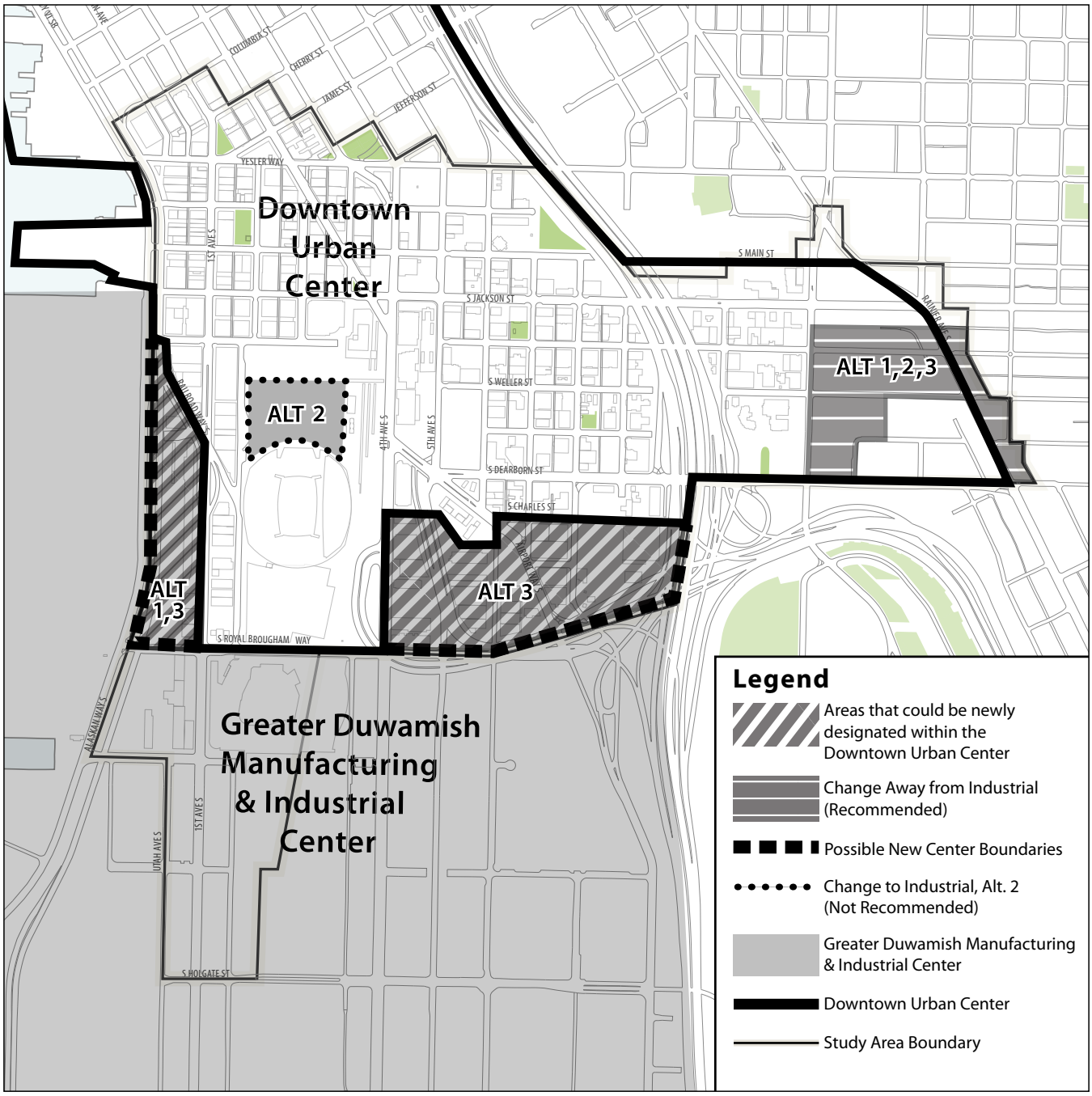
Under Alternative 3 the south-of-Dearborn vicinity would be moved into the Downtown Urban Center and removed from the Greater Duwamish MIC. Proposed zoning under Alternative 3 would be to the new SDM zone, encouraging a mix of commercial and residential development. The residential land use would be a type of use newly permitted in this vicinity, and development density would be increased through these changes.

Stadium Area, Pioneer Square – southern portion of Qwest Field north parking lot – Alternative 2

Alternative 2 includes a proposed rezone of the southern half of the Qwest Field north parking lot to Industrial Commercial, which would require a change in the comprehensive plan designation from a Downtown designation to an Industrial designation. This would also represent a change in future land use in an area currently zoned and designated within the Pioneer Square Preservation District. Such a change would alter the range of possible land uses that could occur within the Preservation District, including prohibiting residential land uses. It would also reduce density limits, given the difference between Pioneer Square and IC zones, of which the latter has a density limit of 3 FAR. Due to the extent of change in land use designation and potential future development patterns and the corresponding effects on a part of the Pioneer Square Preservation District, this proposal is interpreted as generating significant adverse land use impacts. For this reason, it is an action not likely to be included in Livable South Downtown final zoning recommendations.

Little Saigon – Vicinity east of 12th Avenue S. – all Alternatives

In 2006, the City Council approved an amendment to the Comprehensive Plan for the Goodwill property vicinity from Industrial to Commercial/Mixed Use. This leaves the balance of an area from one-half block south of S. King Street and west of 12th Avenue S., including property east of Rainier Avenue S., still within an Industrial use designation. All of the alternatives in this EIS assume a proposed change in this area from the Industrial use designation to Commercial/Mixed Use in the Comprehensive Plan. Such a change would newly accommodate residential uses and may increase the overall development density depending upon zoning choices. As of September 2007, a Comprehensive Plan amendment was proposed to reverse the 2006 changes and re-designate the Goodwill property vicinity back to and Industrial designation, but no decision had been made.



0 2 4 6 8 10
Scale in 100 Feet

N

Figure A-2

Summary Map of Alternative Changes to Comprehensive Plan Designations

Livable South Downtown

LAND USE AND DEVELOPMENT PATTERNS

This impact analysis discusses whether proposed land use and zoning under the alternatives would create conflicts due to the adjacency of zones and/or the future use and development patterns that could result from the zoning. This encompasses zoning principles such as impacts of more intensive zones on less intensive zones and similar concepts like transitions between zones. It also overlaps with the topic of compatibility, for which additional discussion is provided in the next section entitled "Land Use – Height, Bulk, Scale and Compatibility."

In general, the range of changes proposed in Alternatives 1, 2 and 3 would in most cases increase overall development capabilities within and near the historic cores of Pioneer Square and Chinatown/I.D., including a swath of property east and west of the Qwest Field vicinity extending eastward to I-5. The range of changes in Alternatives 1, 2 and 3 would also increase the capacity to grow in Little Saigon, which functions as a second core of the Chinatown/I.D. neighborhood, east of Interstate 5. The following interprets potential adverse land use impacts of future development under the alternatives' zone proposals.

Pioneer Square

Alternative 1, Pioneer Square

Within the core of Pioneer Square under Alternative 1, the potential for significant adverse land use impacts is limited due to the protections afforded by the existing PSM zone and Special Review District regulatory oversight, and the targeted nature of the recommendations toward supporting future infill development only on vacant or non-historically-contributing properties. This should, over time, encourage infill development in Pioneer Square, with new buildings that could reach as high as 130 feet within the core of this historic neighborhood. No particular preference for uses on floors above street level is assumed in this alternative. If special review processes ensure that development is architecturally designed to fit in with the historic neighborhood setting and other land use requirements are met, this type of additional development may have a positive overall impact on the neighborhood through increased numbers of residents, expanded business activity, a better-activated street environment and fewer gaps in that environment. Similarly, the current rules guiding permissible land uses in the PSM zone would likely ensure that compatible uses occur, particularly at the street level.

Qwest Field north parking lot:

Alternative 1 includes increased height limits in the PSM zone at the north parking lot of Qwest Field, to a maximum of 180 feet. It also includes floor-size restrictions and density limits that would influence overall distribution of building bulk, and other concepts that would encourage residential use. Future infill development in the north half of the north parking lot would likely consist of multifamily residential uses, retail commercial uses at ground floor, and other possible commercial uses such as hotel or office. These kinds of uses would fit into and extend the land use pattern of the Pioneer Square neighborhood without generating significant adverse land use or development pattern impacts. This conclusion is inferred due to expected conformance with Pioneer Square regulations, and a scarcity of land uses or activities that might generate significant adverse compatibility conflicts. The nearby athletic stadium and exhibition center are land uses that possess distinctive use and activity patterns, including numerous events and preparation (e.g. "staging") for those events. However, these facilities and activities would not create significant adverse land use conflicts or incompatibilities with future possible development. Staging activity could continue to occur, even if off-street area available for staging is reduced by future development in the north half of the north parking lot. This conclusion is independent of the height, bulk and scale impact analysis, which is separately discussed in the next section of this chapter.

"Over-tracks" property:
Alternative 1 includes increased height limits in the PSM zone at the "over-tracks" property west of 4th Avenue S., to a maximum of 150 feet. Expected future development would increase overall density in this vicinity above a railroad corridor. This could provide enhanced pedestrian connectivity between the Pioneer Square and Chinatown/I.D. neighborhoods. It would be consistent with a growth planning approach that locates dense employment centers and mixed uses near a primary transit hub in Downtown. No significant adverse land use compatibility or development pattern impacts are identified. These conclusions are independent of the height, bulk and scale impact analysis, which is discussed in a different section in Chapter 3 and Appendix B.

"Railroad gap" properties north of S. Jackson Street:
Alternative 1 also includes increased height limits to 180 feet for residential-oriented structures on two half-blocks on the west side of 4th Avenue S. north of S. Jackson Street, over two "gaps" (e.g., with land below street level) created by the presence of rail right-of-way roughly 15 feet below street level. This would increase the density of future development in a taller building than would be possible under current zoning. Development in this location would increase the continuity of land uses in the transition area between the Pioneer Square and Chinatown/I.D. neighborhoods. Given this effect and the probable compatibility of the residential building with street-level commercial use, this proposal is not identified as a significant adverse impact on land use and development patterns. However, due to the historic district context and the contrast between the maximum height and nearby structures, the 180-foot maximum height is identified as a significant adverse height/bulk/scale impact. See the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B for additional discussion.

Beyond 2030, further infill of the limited number of available properties in the neighborhood could occur. This would increase the number of newer buildings within the district.

Alternative 2, Pioneer Square

Within the core of Pioneer Square under Alternative 2, the potential for significant adverse land use impacts is limited due to the strength of the existing PSM zone and Special Review District regulatory oversight, and the height controls proposed in this alternative. Compared to Alternative 1, this Alternative 2 proposal increases the specificity of height controls, including but not limited to definition of an 85-foot maximum-height zone along a portion of 1st Avenue S. This is intended to allow for better tailoring of the zones to localized conditions.

Alternative 2 also assumes there would be conditions by which development on properties with non-historically-contributing uses could reach as high as 130 feet. Optionally, this alternative could encourage residential uses more than other types of uses on floors above street-level, throughout the core or only in a subset of it. This type of residential use preference over the long term could result in a Pioneer Square core or portion thereof that is more densely occupied with residents than would otherwise occur, which is interpreted as a positive impact on land use and development patterns. This outcome would depend upon whether the zoning prescriptions would provide sufficient incentive to develop new structures or rehabilitate existing buildings for primarily residential occupation. Overall, the potential for adverse land use and development pattern impacts in the core of Pioneer Square under Alternative 2 is similar to but somewhat less than Alternative 1, due to the increased ability to tailor zone boundaries and incorporate residential use preferences. Alternative 2 also has the potential for positive types of impacts from infill development, similar to those described under Alternative 1.

Qwest Field north parking lot:
Alternative 2 also includes increased height limits in the PSM zone for the north parking lot of Qwest Field, including a 150-foot height limit along S. King Street and a maximum of 240 feet further south on this property). It also includes floor-size restrictions, density limits and similar strategies that would influence overall distribution of building bulk, and other concepts that would encourage or require residential use. Floor size limitations would be expected to encourage "point towers" (buildings with towers that are relatively narrow in width) that could extend up to 240 feet. Conclusions regarding land use compatibility and lack of significant adverse land use impacts are similar to those for Alternative 1, and are independent of the height, bulk and scale impact analysis, which is discussed in Appendix B and the Land Use—Height, Bulk, Scale and Compatibility section of Chapter 3.

"Over-tracks" properties:
Alternative 2 includes increased height limits in the PSM zone at the "over-tracks" property west of 4th Avenue S., to a maximum of 180 feet. Expected future development would increase overall density in this vicinity above a railroad corridor, in a manner denser than under Alternative 1. Compared to Alternative 1, it would represent 60 additional feet of building height capability in a portion of the north parking lot, and 30 additional feet of building height capability over the railroad tracks. Similar to Alternative 1, this would provide enhanced pedestrian connectivity between the neighborhoods. It would also be consistent with a growth planning approach that locates dense employment centers and mixed uses near a primary transit hub in Downtown. No significant adverse land use compatibility or development pattern impacts are identified for this approach. These conclusions are independent of the height, bulk and scale impact analysis, which is separately discussed in the next section of this chapter.

"Railroad gap" properties north of S. Jackson Street:
For the two half-block "gap" areas over railroad right-of-way at the western edge of 4th Avenue S. north of S. Jackson Street, the Alternative 2 proposal would allow a 150-foot maximum height limit. Due to its lower maximum height limit, this would generate less potential for adverse height/bulk/scale impacts than Alternative 1 (see the Land Use—Height, Bulk, Scale and Compatibility section of Chapter 3 for additional discussion). However, due to the inclusion of the additional half-blocks to the west of the gap areas, existing historic structures including the Seattle Lighting building, the Union Hotel and a couple of other structures could be subject to increased pressure for future redevelopment. Given the sensitivity of the historic context, this is interpreted as a significant adverse land use impact. However, confining the 150-foot zoned height limit only to the railroad gap areas would likely be an effective mitigation strategy to avoid this significant impact.

Beyond 2030, the potential impacts of eventual buildout in this neighborhood would be similar to but with somewhat less potential for adverse impacts than Alternative 1.

Alternative 3, Pioneer Square

Within the core of Pioneer Square under Alternative 3, the potential for significant adverse land use impacts is limited due to the strength of the existing PSM zone and Special Review District regulatory oversight, and the height controls proposed in this alternative. Alternative 3 would maintain a 100-foot maximum height in the core PSM zone, while considering other optional regulatory strategies that could encourage building re-use and enhanced feasibility of infill development on non-historic-contributing properties. This approach could address how a building is developed or rehabilitated, but would not be expected to generate significant adverse impacts on neighborhood land use or development patterns, and has less potential for impacts than Alternatives 1 or 2.

Qwest Field north parking lot:
Regarding the north half of the north parking lot of Qwest Field, Alternative 3 would impose a maximum height limit of 150 feet with a limited set of density and bulk controls that would encourage a land use and development pattern with potential adverse impacts that are similar to but less than indicated for Alternatives 1 and 2. Future development would likely be arranged more compactly, in building forms that would be closest to present building bulk patterns in Pioneer Square. The dominant use in upper floors would most likely be residential, with commercial uses at ground floor arranged for maximum efficiency of space. Other commercial uses on upper floors are also assumed possible. These kinds of uses and new buildings would be able to fit into the land use pattern of the Pioneer Square neighborhood. Similar to conclusions for Alternatives 1 and 2, this would be an outcome not likely to generate significant adverse land use and development pattern impacts. This conclusion is independent of the height, bulk and scale impact analysis, which is separately discussed in the next section of this chapter.

"Over-tracks" properties:
Under Alternative 3, the proposed South Downtown Mixed (SDM) zone at the "over-tracks" property would allow an additional 1.5 FAR of density and 30 additional feet of building height compared to Alternative 1. This would increase overall density in this vicinity above a railroad corridor. A special review process, required for the SDM zone, would inform a number of site and building design parameters, resulting in an increased potential to achieve overall compatibility of future development with its immediate surroundings. Similar to Alternatives 1 and 2, this would provide enhanced pedestrian connectivity between the Pioneer Square and Chinatown/I.D. neighborhoods. It would also be consistent with a growth planning approach that locates dense employment centers and mixed uses near a primary transit hub in Downtown. No significant adverse land use impacts are identified for this approach. These conclusions are independent of the height, bulk and scale impact analysis, which is separately discussed in the next section of this chapter.

"Railroad gap" properties north of S. Jackson Street:
For the two half-block "gap" areas at the western edge of 4th Avenue S. north of S. Jackson Street, no change is proposed, with no potential for significant adverse impacts.

Beyond 2030, the potential impacts of eventual buildout in this neighborhood would be similar to but with somewhat less potential for adverse impacts than Alternative 1.

Alternative 4, Pioneer Square – No Action

Under the No Action Alternative, no land use impacts would occur. Gradual infill development over the ensuing decades would be expected, with existing rules and Special Review District development review continuing to define the mix of land uses and the architectural and exterior qualities of future development. This would tend to maintain the existing character of the neighborhood with minimal potential for significant adverse changes. However, it would also possibly reduce the likelihood of desirable development that would contribute to the neighborhood's character.

<u>Chinatown/Japantown, West of I-5</u>

Alternative 1, Chinatown/Japantown

Under Alternative 1, the Japantown vicinity and the southern portion of the Chinatown core (portions outside the National Register Historic District) would likely experience infill development, consisting of relatively tall new residential buildings up to 240 feet tall in Japantown, and predominantly residential buildings up to 125 feet tall in the Chinatown core. In both areas, infill is most likely to occur on existing properties used for parking lots, although some demolition of general commercial buildings could occur

in the Chinatown core south of S. Weller Street, and in Japantown along 4th and 5th Avenues. This probable infill development would likely increase density and alter the existing land use pattern of these vicinities, contributing to a denser clustering of residents in this vicinity which is part of the historic Chinatown/I.D. neighborhood and is near the Downtown office core.

In Chinatown, the optional inclusion of residential uses as a permissible street-level use south of S. Weller Street, possibly in the form of "townhouse-style" units with individual entrances, would also contribute to increased residential densities and a residentially-oriented street environment, in contrast to the "commercial core" environment in the balance of the Chinatown core that emphasizes a mix of commercial, institutional and private association uses. Choosing a preference between a more residential-oriented or commercial-oriented streetscape will appreciably affect the future character of the Chinatown core south of S. Weller Street. However, making a choice to emphasize either type of street environment is not anticipated to generate significant adverse land use impacts because either pattern would not negatively affect land use patterns or create significant incompatibilities with the rest of the historic core.

The anticipated growth and development trends under Alternative 1 should result in net positive land use impacts on the neighborhood through increased numbers of residents and expanded business activity in proximity to Downtown and transit systems, and a more activated street environment. See the other sections in Chapter 3 on Land Use—Height, Bulk, Scale, Compatibility, Economic and Business Impacts, Historic and Cultural Preservation, Population, Employment, and Housing for additional impact analysis.

Future development under Alternative 1 would not likely generate significant adverse land use or development pattern impacts on the Japantown or Chinatown vicinities. It is noted that an Alternative 1 rezone to IDM may be a less preferable choice for properties abutting the west side of 6th Avenue S., because steep topography could discourage the viability of street-level commercial uses, and an IDM zone may be less compatible than the IDR zone with the existing residential character in this hillside vicinity. This is not identified as a significant adverse land use impact, but is a reason why other zones, such as those included in Alternative 2, would likely be preferable.

Beyond 2030, additional infill development would likely continue to occur gradually on remaining available properties, increasing the density of use and activity levels. This would continue trends that are interpreted as having net positive land use impacts in this neighborhood.

Alternative 2, Chinatown/Japantown

Under Alternative 2, future infill mixed-use development would result in residential and commercial growth and increased residential densities in Japantown and Chinatown, in a manner similar to Alternative 1, but at lower densities in the Japantown vicinity.

In Japantown, the Alternative 2 proposal for a 180-foot height limit would reduce the maximum residential densities possible in this vicinity, compared to Alternative 1. Also, zoning boundaries would retain properties abutting 6th Avenue just south of Yesler Way in the IDR zone with a 180-foot height limit, recognizing a more residentially-oriented character on the hill portion of Japantown. None of these outcomes are interpreted as generating significant adverse land use impacts, and would support the net positive impacts that could occur with increased residential occupation in this area. See the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 for further discussion of impacts.

In Chinatown, the Alternative 2 proposal for a 125-foot height limit south of S. Weller Street would be the same as proposed under Alternative 1, with impacts the same as indicated for Alternative 1. The option of continuing to require non-residential uses at street level would avoid adverse impacts because it

would encourage an extension of the current street-level use character with future development, as is the intent of existing land use regulations.

In Chinatown, one difference between Alternative 1 and 2 proposals is the extension of a 125-foot height limit to the block bounded by 5th and 6th Avenues S., S. Weller Street to the south and S. King Street to the north. This block is developed in a low-density pattern, with the Publix Hotel on 5th Avenue S. the largest building. The Publix Hotel is located within the National Register Historic District, but other structures and property on this block are not within that district. The proposed higher height limit under Alternative 2 would likely encourage a denser development pattern to occur on this block, infilling in a manner that could provide a larger total floor area of uses on the block and could complement the primarily commercial character of S. King Street and 6th Avenue S. It would, however, also increase the potential scale of development in this immediate vicinity, which has existing buildings ranging from approximately 10 to 85 feet. This proposal would overlap the IDM 75'/125' zone with the National Register Historic District at the Publix Hotel property, which would not occur under Alternatives 1 or 3. Due to the combination of increased development scale and sensitivity to maintaining compatibility of development character within and adjacent to the National Register Historic District, the extension of a 125-foot height limit to this particular block adjacent to S. King Street could result in significant adverse height/bulk/scale impacts. This does not mean that height limits to 125 feet cannot be adopted for this block. However, mitigation strategies should be implemented to further influence the height, bulk and scale of future development. See the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B.

Beyond 2030, the potential adverse impacts of eventual buildout in this neighborhood would be similar to but somewhat less than those described for Alternative 1.

Alternative 3, Chinatown/Japantown

Future development under Alternative 3 would not be likely to generate significant adverse land use or development pattern impacts on the Japantown or Chinatown vicinities. Alternative 3 does not include zone changes in the Chinatown core (see Alternative 4 discussion below for future likely development pattern). Potential future development capacity in Japantown and the associated land use implications would be similar to findings for Alternative 2. See the Land Use—Height, Bulk, Scale and Compatibility and Economic and Business Impacts sections in Chapter 3 for further discussion of impacts.

Beyond 2030, the potential adverse impacts of eventual buildout in this neighborhood would be similar to those described for Alternative 1.

Alternative 4, Chinatown/Japantown – No Action

Under the No Action Alternative, no land use or zoning-related impacts would occur. A continuing trend of infill development is expected, possibly at a faster rate than in Pioneer Square. With the retained zoning height maximums of 85 feet in the Chinatown core and 120 feet in parts of Japantown, a somewhat lower density of residential and commercial uses would occur than under Alternatives 1, 2 and 3. This may result in a development pattern similar to the character of recent building construction in Chinatown south of S. Weller Street and in Japantown. The likely character of such development would have a multifamily/mixed use emphasis, serving a mix of households at different income levels, in woodframe-construction buildings to a height of about 65-85 feet that may favor exterior materials of wood, stucco, concrete and some incorporation of brick into façades. Existing land use and zoning rules and Special Review District review would positively influence the architectural and exterior qualities of future development toward maintaining general compatibility with the existing district character. However, there also could be a continuation of an observed trend toward use of economical materials and

more contemporary architectural interpretations that could over time adversely influence the visual qualities and historic character of Chinatown and Japantown. Projections of additional growth in new buildings to the year 2030 are summarized in the Chapter 3 Population and Employment section.

Little Saigon

Alternative 1, Little Saigon

Under Alternative 1, the combination of a proposed IDM zone west of 12th Avenue S. and Neighborhood Commercial 3 zoning (NC3-85' and NC3-65') east of 12th Avenue S. would influence future land use and development. West of 12th Avenue S. the IDM 75'/85' zoning comparable to the Chinatown core could increase the potential for future development of mixed-use structures, which would most likely occur in woodframe construction. Resulting architectural character probably would be similar to that demonstrated by newer buildings in the Chinatown core. At street level, future uses would be limited to the range of uses and sizes of street-level uses indicated by the IDM 75'/85' zone.

Future development could contribute to the evolution of this vicinity away from its current use mix that includes heavier commercial and industrial uses. While these trends can be interpreted as having net positive impacts on the livability of the Little Saigon vicinity, they can also be interpreted as adversely affecting the long-term availability of the existing commercial retail structures for small businesses that have emerged along the Jackson Street retail corridor. Please see the Land Use—Economic and Business Impacts section of Chapter 3 and Appendix C for further discussion of impacts.

East of 12th Avenue S., proposed rezones to NC3 zones could encourage future development along the S. Jackson Street and Rainier Avenue S. corridors, but the changes north of S. Jackson Street (from C to NC3 without an increase in zoned height) would be relatively modest, so they may not appreciably alter these properties' attractiveness for future development. This may encourage a long-term retention of the S. Jackson Street vicinity in commercial retail uses. In other areas accessed by S. King and S. Weller Streets, the rezone from IC to NC3-85' could contribute to future development that would establish a mixed-use development pattern with commercial uses at ground floor and residential uses above, and possibly some stand-alone commercial uses. Similar to the area west of 12th Avenue S., this trend can be interpreted as having net positive land use impacts on the Little Saigon vicinity, but it also can be interpreted as adversely affecting the long-term availability of existing commercial properties and structures for retail, warehouse, industrial and similar mix of businesses in this vicinity. The proposed Dearborn Street project at the Goodwill property would be accommodated under this alternative's zoning. Please see the Land Use—Economic and Business Impacts section of Chapter 3 and Appendix C for further discussion of impacts. Also see the Land Use—Height, Bulk, Scale and Compatibility section later in Chapter 3 and Appendix B.

East of Rainier Avenue S. (within the Jackson Place neighborhood), the proposed NC3 65' zones would replace primarily an Industrial Commercial 65' zone and a limited amount of Commercial 1, Commercial 2 and Lowrise 2 zones. This would be a favorable change for the sake of transition and compatibility of uses in this well-defined commercial corridor that quickly transitions to low-density residential uses uphill to the east. It would still accommodate a wide range of commercial uses but would also accommodate residential/mixed-use developments that could provide a more activated environment along this part of the Rainier Avenue S. commercial corridor. It would also update and eliminate certain zones small in area that may have had a relationship to past structures but do not relate well to current conditions. These changes are interpreted to have net positive land use and zoning impacts. No significant adverse land use impacts are identified.

Beyond 2030, several properties in this vicinity would likely remain in their current uses or could be subject to future pressures to redevelop, depending upon the strength of demand for development in this vicinity.

Alternative 2, Little Saigon

Alternative 2 includes rezones in this vicinity to a combination of Downtown Mixed Commercial zones (DMC) along S. Jackson and S. Dearborn Streets, and Downtown Mixed Residential zones (DMR/R) along S. King and S. Weller Streets. Height limits would be retained at 65 feet along S. Jackson Street, rise to 85 feet and 125 feet along S. Dearborn Street, and rise to 125 feet for residential-oriented uses along S. King and S. Weller Streets in the DMR/R zones. This Alternative 2 zoning pattern is intended to encourage relatively dense residential/mixed-use development through the heart of Little Saigon, while retaining a commercial retail function along S. Jackson Street and a somewhat intensified commercial use pattern along S. Dearborn Street. Overall impacts of projected future new development to year 2030 under Alternative 2 would be relatively similar to those under Alternative 1. However, property valuations could increase for properties along S. King, S. Weller and S. Dearborn Streets (and possibly along S. Jackson Street). This might result in two trends: an increased likelihood that future development would consist of residential/mixed use development up to 125 feet in height; and a possible retention of land in current uses until property owners perceive a market for mixed-use re-development. Much would depend upon the strength of demand for mixed-use development in this particular area. Please see the Land Use—Economic and Business Impacts section of Chapter 3 and Appendix C for further discussion.

As noted in the Chapter 3 Land Use—Height, Bulk, Scale and Compatibility section and Appendix B to the DEIS, the proposed DMR/R zoning with recommended bulk controls is not expected to generate significant adverse height/bulk/scale impacts. Similar to Alternative 1, Alternative 2 may adversely affect the long-term availability of the existing commercial retail structures and properties for small businesses. Please see the Land Use—Economic and Business Impacts section of Chapter 3 and Appendix C for further discussion of business impacts.

East of Rainier Avenue S. (in Jackson Place), the Alternative 2 rezones and identified land use implications would be the same as identified for Alternative 1. No significant adverse land use impacts are identified.

Beyond 2030, several redevelopable properties would likely still remain. Future growth could continue a trend of redevelopment favoring mixed-use development through the center of the vicinity and commercial uses along the main arterials of S. Jackson Street, S. Dearborn Street and Rainier Avenue S. This would gradually increase the density of use and overall activity levels.

Alternative 3, Little Saigon

Alternative 3 proposes a rezone of the entire Little Saigon vicinity to NC3-85' except for properties east of Rainier Avenue S and other segments along Boren Avenue S., which would be rezoned to NC3-65'. This would place most of the properties in Little Saigon on an equal footing with respect to future development potential. For the properties rezoned to NC3-85', this alternative would establish a zoning pattern that is somewhat increased in development potential compared to the existing condition but would not favor one kind of use over another or one geographic location over another for future development. This could provide the greatest flexibility for market forces and the choices of property owners to determine the future land use and development patterns of this area. While this alternative could encourage a residential/mixed use development, it is possible this would occur only in a portion of Little Saigon by the year 2030. Also see the Land Use—Height, Bulk and Scale section later in Chapter 3.

East of Rainier Avenue S. (in Jackson Place), the Alternative 3 rezones and identified land use implications would be the same as identified for Alternative 1. No significant adverse land use impacts are identified.

Beyond 2030, several redevelopable properties would likely remain. Future growth could continue a trend of redevelopment favoring residential/mixed use development, with some uncertainty about where the clustering of this development would occur. This would gradually increase the density of use and overall activity levels.

Alternative 4, Little Saigon – No Action

Under the No Action Alternative, no zoning-related impacts would occur. In the absence of zoning changes, the majority of Little Saigon would probably retain its current character—a mixture of retail commercial and service uses in its center with a broad mix of general commercial and warehouse uses in other parts of the vicinity. There could be a continued slow trend toward larger-scaled infill commercial development, with a slight probability for a different trend toward residential or mixed-use development, primarily in the vicinity between I-5 and 12th Avenue S. East of Rainier Avenue S., the Industrial Commercial zoning assumed to be retained would continue to prohibit residential uses.

South-of-Dearborn

Alternative 1, South-of-Dearborn

Under Alternative 1, the combination of proposed Industrial Commercial (IC) and International District Mixed (IDM) zones, both to 125 feet, would have varied implications for future land use and development. While an industrial zone designation would be retained in much of this area, the IC zone would alter the probable future use pattern toward a more intensive mix of structures more likely to be taller and intended for primarily commercial/office uses. Properties within the IDM zoned vicinity in the first block south of S. Dearborn Street could develop either as commercial or as mixed-use structures including housing. The long-term status of the City's Charles Street Yards would be a factor in determining the vicinity's overall acreage available for development and prospects for future development. The planned development of an automobile dealership on two blocks in the heart of this vicinity will also influence the perceived developability and functions served.

Areas along 6th Avenue S. and 4th Avenue S. would most likely experience infill commercial office development up to 125 feet on a few sites in the next 25 years, as long as such development is perceived to be financially feasible. This would increase the density of uses and activity levels in this area, and probably lead to displacement of several existing businesses, a trend which appears to be already underway. The reuse of the former INS Building is another probable occurrence that could influence future trends toward redevelopment. None of these outcomes are identified in this EIS as generating significant adverse land use and development pattern impacts. This is due to the retention of Industrial zoning and the relatively low potential for conflicting land uses in this vicinity due to existing manmade features (e.g., Interstate 90 ramps), natural topographical "edge" conditions and the prevailing surrounding land use patterns. However, please also see the evaluation of height, bulk, scale and compatibility impacts in Chapter 3 and Appendix B. Beyond 2030, probable availability of properties for future development would likely accommodate a trend toward further infill development of commercial uses.

Alternative 2, South-of-Dearborn

Under Alternative 2, the proposed IC zoning with a height limit up to 160 feet would likely result in commercial office-oriented land use and development trends similar to Alternative 1, but with greater

overall density of development and activity levels. Projected future development in the 6th Avenue S. vicinity to 2030 includes a small number of buildings up to 160 feet in height that would be more likely to displace existing uses than Alternative 1 zoning. The planned two-block auto dealership is also assumed. Similar to Alternative 1, none of these outcomes are identified in this EIS as generating significant adverse land use and development pattern impacts. This is due to the retention of Industrial zoning and the relatively low potential for conflicting land uses in this vicinity due to natural and manmade "edge" conditions and the prevailing surrounding land use patterns. However, please also see the evaluation of height, bulk, scale and compatibility impacts topics in Chapter 3 and Appendix B. Beyond 2030, fewer properties may be available for redevelopment in this vicinity than under Alternative 1.

Alternative 3, South-of-Dearborn

Under Alternative 3, proposed "South Downtown Mixed" (SDM) zoning could result in future development up to 160 feet in height that would likely include residential and commercial office uses concentrated along 6th Avenue S. The planned two-block auto dealership near Airport Way S. is also assumed to be present. In this area, Alternative 3 could achieve the greatest overall density of development and activity levels among the EIS alternatives. Due to the emphasis of SDM zoning on achieving enhanced public spaces and amenities, the overall urban design quality of sidewalks and outdoor areas could be higher than under other alternatives, potentially helping to establish a more pedestrian-friendly identity for this vicinity and improved connections to the Chinatown core to the north. As noted under Alternative 1, the status of the Charles Street Yards would make a difference in determining the overall acreage available for development and the area's prospects for future development as a mixed-use environment. Beyond 2030, property availability for redevelopment in this vicinity would be similar to that under Alternative 2.

A choice by City decisionmakers to move this vicinity into the Downtown Urban Center and out of the Manufacturing and Industrial Center would represent a significant shift in the preferred land use pattern expressed in the Comprehensive Plan. However, the predicted land use and development patterns identified in this EIS are not likely to generate significant adverse impacts. Several trends have the potential for net positive effects on land use and development patterns, through evolution of an enhanced mixed use district adjacent to Chinatown/I.D. Adverse impacts would include increased proximity of residents to the City's Charles Street Yards and a potential increase in noise complaints due to that facility's operations, and increased density of non-industrial uses along freight routes in that immediate vicinity. These are interpreted as adverse but not significant adverse land use impacts. Other potential for land use conflicts with industrial areas to the south is already mitigated by existing manmade and topographical edge conditions and the predominant presence of low-density transit base uses nearby to the south—meaning a low potential for industrial land use-related conflicts. Please also see the evaluation of height, bulk, scale and compatibility impacts topics in Chapter 3 and Appendix B to the DEIS.

Alternative 4, South-of-Dearborn – No Action

Under the No Action Alternative, no zoning-related impacts would occur. In the absence of zoning changes, this vicinity could continue to experience a trend away from small-scale commercial and industrial uses, toward denser commercial uses. A planned automobile dealership on two blocks is assumed, as is reuse of the former INS Building. This could encourage additional gradual infill of commercial uses over time, but likely at densities lower than under other alternatives. Beyond 2030, this vicinity could still have properties available for additional future development.

Stadium Area

Alternative 1, Stadium Area

The Stadium Area's zoning (including the Stadium Transition Area Overlay) establishes it as a transitional area where both industrial and commercial uses are accommodated. A choice by City decisionmakers to move this vicinity into the Downtown Urban Center and out of the Manufacturing and Industrial Center would represent a significant shift in the Comprehensive Plan's preferred land use pattern. This action would not in itself generate significant adverse land use impacts, given the transitional nature of the area and its proximity to Downtown.

Under Alternative 1, the expected future land use and development patterns could be altered. Alternative 1 zoning would accommodate residential uses in taller, denser buildings in the northern portion of the WOSCA property, north of approximately S. Dearborn Street if extended, where they are not currently allowed. It would allow taller, denser commercial buildings (to 100 feet in height) in the balance of the WOSCA property. It would also accommodate taller (although not denser) future development over the railroad tracks just east of Qwest Field in the 4th Avenue S. corridor north of S. Royal Brougham Way. This zoning would likely encourage future infill development along the west side of 1st Avenue S., and both sides of 4th Avenue S. Please see the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B for further discussion.

The potential for residential uses on the WOSCA property as a consequence of the Alternative 1 zoning would generate a probable significant adverse compatibility-related impact, due to the proximity of these uses to Port facilities to the west. These facilities, which are essential to the regional economy, generate activities at any time of day and lighting levels that could adversely affect residential uses. Conversely, residential uses could be disruptive to Port activity through potential complaints and litigation by residents on spillover impacts from Port activity. The primary strategies for avoiding such impacts under Alternative 1 would be to either prohibit residential uses in the relevant zone, or constrict their location and orientation to shield them from adverse exposure to Port facilities.

The SDM zone would include a special review process that would positively influence characteristics such as the layout of buildings, public spaces and access to/from large properties. This would encourage land use patterns to be compatible with adjacent streets and properties, compared to other zoning options.

Within the IC-zoned area that includes 4th Avenue S. under Alternative 1, potential future development of commercial uses on the east side of Qwest Field (west side of 4th Avenue S.) over railroad tracks would extend the commercial character of land uses in this vicinity at the edge of the Downtown Urban Center. On the east side of 4th Avenue S., a rezone from IG2 to IC would increase the probability of commercial office uses and the probable commercial density of use in that vicinity just outside the Downtown Urban Center. Within the context of the Greater Duwamish MIC, the change affecting the east side of 4th Avenue S. is interpreted to be an "adverse" land use impact but not a "significant adverse" impact. It would diminish the probability of future industrial uses, even as it retained the vicinity in an Industrial zone.

With assumed future development in the north half of the Qwest Field north parking lot, new residential/ mixed-use buildings would be present adjacent to the remaining parking lot and plaza adjacent to the stadium. The stadium/event center-related activities in this area include not only event parking but also periodic activities related to staging of trade shows and other events, resulting in intermittent movement of materials, vehicles and equipment into and out of that vicinity according to event schedules. No significant adverse land use impacts are identified due to these adjacencies. Existing practices, plus the availability of various areas around the Qwest Field complex (including streets), suggest an ability for

staging activities to be conducted effectively without significant disruption from future possible uses and occupants directly to the north. Other use-related topics, such as ensuring desired amounts of parking in the north parking lot vicinity or defining how the edges of new buildings would meet the adjacent parking lot can be resolved through site-specific design processes and, possibly, agreements among the property owners. These would not generate significant adverse land use impacts. See the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B for further discussion.

On the "Pyramid Brewery block" (located between S. Royal Brougham Way, 1st Avenue S., S. Atlantic Street and railroad right-of-way), the Alternative 1 proposal to increase the height limit from 65 feet to 85 feet would accommodate taller forms of future development, but would not increase the permissible density of development. Please see the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B for further discussion of height/bulk/scale impacts.

In portions of the study area south of S. Atlantic Street, retention in IC zoning and Stadium Area Overlay District at the current height limit of 85 feet means there is no change in the expected land use and development pattern and no associated potential for significant adverse land use impacts.

Through 2030, projected growth includes the WOSCA property, the Home Plate Parking property (the block at the southwest corner of 1st Avenue S./S. Atlantic Street), north half of the Qwest Field north parking lot, the "over-tracks" property and possibly other properties along 1st Avenue S. Beyond 2030, continuation of redevelopment or infill development trends could occur. This could result in a gradual increase in intensity of land use in the Stadium Transition Area and gradual replacement of current industrial uses with commercial uses, some oriented toward athletic stadium users and some toward commercial or office uses.

Alternative 2, Stadium Area

Under Alternative 2, an emphasis on infill commercial uses toward the eastern part of the study area would result in a lesser potential for change in the height and density of development along the 1st Avenue S. corridor than under Alternative 1, and a greater potential for intensified height and density along the 4th Avenue S. corridor and in the north parking lot of Qwest Field. Alternative 2's proposal for IC zoning in all locations south of Pioneer Square is compatible with existing zoning patterns at the northern edge of the Manufacturing & Industrial Center.

Along the west side of 1st Avenue S. in the northern two-thirds of the WOSCA property, height limits would be raised to 85 and 100 feet but the IC zone would be retained with no increase in the permissible density of development. No significant adverse land use impacts would be associated with these changes (please also see the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B for discussion of height/bulk/scale impacts).

At the Qwest Field north parking lot under Alternative 2, no significant adverse land use impacts are identified due to the adjacencies of PSM zoning with a 240-foot maximum height limit and a possible IC-zoned parking/staging area in the south half of the north parking lot. Existing practices, plus the availability of spaces around the Qwest Field complex (including streets), suggest that staging activities can be conducted effectively without significant disruption from future uses and occupants directly to the north. Other use-related issues, such as ensuring adequate parking in the north parking lot or defining how the edges of new buildings would meet the adjacent parking lot can be resolved through site-specific design processes and, possibly, agreements among the property owners. These would not generate significant adverse land use impacts. See the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B for further discussion of height/bulk/scale impacts.

Alternative 2 would avoid the potentially significant adverse land use conflicts described for residential uses on the west side of 1st Avenue S. in Alternative 1. On the "Pyramid Brewery block" and the southern one-third of the WOSCA property, the proposed retention of IC 65' zoning and no increase in density allowances would mean there is no associated potential for significant adverse land use or development pattern impacts.

Under Alternative 2, the potential for increased commercial density of use and building height along the 4th Avenue S. corridor would be relatively greater than under Alternative 1, due to increased height limits and density limits. On property over or near the railroad tracks (west of 4th Avenue S.), the combination of 180- and 240-foot height limits might result in the location of greater building bulk toward the vicinity south of Airport Way. On properties east of 4th Avenue S., the IC zone with a height limit of 160 feet additionally could encourage development that is relatively denser than would occur under Alternative 1 zoning. Similar to Alternative 1, within the context of the Greater Duwamish MIC this change is interpreted to be an "adverse" land use impact but not a "significant adverse" impact. It would diminish the probability of future industrial uses, even though the industrial zone would be retained.

In portions of the study area south of S. Atlantic Street, retention of IC zoning and the Stadium Area Overlay District at the current height limit of 85 feet means there is no change in the expected land use and development pattern and no associated potential for significant adverse land use impacts.

Through 2030, projected growth includes development at the WOSCA property, the Home Plate Parking property and possibly other properties along 1st Avenue S., similar to Alternative 1. However, the building heights on the WOSCA property would be lower than under Alternative 1, tailored to the 65-, 85- and 100-foot height limits prescribed in Alternative 2. Beyond 2030, continuation of redevelopment or infill development trends could occur.

Alternative 3, Stadium Area

A choice by City decisionmakers to move this vicinity into the Downtown Urban Center and out of the Manufacturing and Industrial Center would represent a significant shift in the preferred land use pattern expressed in the Comprehensive Plan. This action would not in itself generate significant adverse land use impacts, given the transitional nature of the area and its proximity to Downtown.

Similar to Alternative 1, the potential for residential uses on the WOSCA property as a consequence of the Alternative 3 zoning would generate a probable significant adverse compatibility-related impact, due to the proximity of these uses to Port facilities to the west. The primary strategies for avoiding such impacts under Alternative 3 would be to either prohibit residential uses in the relevant zone, or constrict their location and orientation to shield them from adverse exposure to Port facilities.

Under Alternative 3, an emphasis on balancing possible infill commercial development across the study area would result in:

- a somewhat lower potential for change in the height and density of development along the 1st Avenue S. corridor than under Alternative 1,
- a possibly more compact area of intensified development along 4th Avenue S. than under Alternative 1, and
- a possibly more compact building form in the north parking lot of Qwest Field, limited to 150 feet maximum height, which would be 30 feet lower in maximum height than Alternative 1.

For both the WOSCA property and the northern approximate two-thirds of the "over-tracks" property, the Alternative 3 zoning proposal is for SDM zoning, which would include a special review process that would positively influence the layout of buildings, public spaces and access to/from large properties. Also, properties on the east side of 4th Avenue S. would be included in an SDM zone with a 160-foot height limit. This SDM zone would encourage land use patterns compatible with adjacent streets and properties, compared to other zoning options.

Regarding properties on both sides of the 4th Avenue S. corridor, Alternative 3 rezones would extend and intensify the commercial character of land uses in this vicinity. Compared to Alternative 1, the higher zoned height limit and somewhat larger area rezoned to South Downtown Mixed (SDM) could result in a greater concentration of future development over the railroad tracks.

Similarly, a rezone to SDM east of 4th Avenue S. (which includes the entire south-of-Dearborn vicinity) would increase the probable density of future commercial use of this vicinity and would also introduce the possibility of new residential development as well. This type of change would be the result of a conscious choice by decision-makers to alter the future land use designations in this vicinity away from industrial uses and toward a mix of uses. This would represent a significant change from the land use patterns advocated by the Greater Duwamish MIC Plan. However, staff's analysis concludes that no significant adverse land use conflicts or compatibility impacts are identified for this Alternative 3 proposal, due to:

- the natural and manmade "edge" conditions in this vicinity that buffer this vicinity from the rest of the Greater Duwamish MIC;
- the scarcity of substantive conflicts with surrounding land uses; and
- the ability to accommodate development without probable significant impairments to freight and general traffic in the south-of-Dearborn vicinity.

Similar to Alternative 1, no significant adverse land use impacts are identified due to adjacencies of PSM zoning with up to a 150-foot maximum height limit and the probable continued parking/staging area in the south half of the Qwest Field north parking lot.

On the "Pyramid Brewery block" (located between Royal Brougham Way, 1st Avenue S., S. Atlantic Street and railroad right-of-way), no significant adverse land use/development pattern impacts are identified—the same as Alternative 1, because the proposal is the same. It would increase the height limit from 65 feet to 85 feet, accommodating taller forms of future development, but not increasing the permissible density of development. Please see the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B for further discussion.

In portions of the study area south of S. Atlantic Street, retention of IC zoning and the Stadium Area Overlay District at the current height limit of 85 feet avoids the potential for significant adverse impacts, except for one land use proposal included in Alternative 3—a change that would accommodate hotel (lodging) as a permissible use in newly-developed structures in the Stadium Area Overlay District. This use had been contemplated during the adoption of the Greater Duwamish MIC plan, but was eliminated during the adoption process for that plan. Hotels likely would be perceived as a viable land use for future development, which could contribute to an increased pace of redevelopment of the Stadium Area Overlay District with hotel and other commercial uses. Also, hotels could be relatively incompatible with industrial uses in this vicinity, as well as the area's function as a transportation crossroads for freight, event and commuter traffic, and relatively high noise levels generated by rail systems and other activities. Alternative 3's inclusion of hotels as a permissible use in the Stadium Area Overlay District would therefore represent a probable significant adverse compatibility-related impact.

Through 2030, projected growth would likely include the WOSCA property, Home Plate Parking property, the north half of the Qwest Field north parking lot, the "over-tracks" property and possibly other properties along 1st Avenue S. Comparatively, this development could be somewhat lesser on the WOSCA property and somewhat greater on the "over-tracks" property than projected under Alternative 1.

Alternative 4, Stadium Area – No Action

Under the No Action Alternative, no zone changes would occur and no zoning-related impacts would occur. In the absence of zoning changes, this vicinity could experience a gradual trend toward increased commercial development and reduced presence of industrial uses. This might include development on larger parcels such as the WOSCA property, but existing low-density use patterns might otherwise continue on such parcels indefinitely. Construction staging demands for SR 99 highway construction could mean an occupation of some parcels for several years. In the projected growth scenario to 2030 for Alternative 4, the planned commercial building on the Home Plate Parking property is assumed to be built as well as possibly other new commercial buildings. The development in the north parking lot of Qwest Field is also anticipated to occur in this Alternative. Please also see the Land Use—Height, Bulk, Scale and Compatibility section in Chapter 3 and Appendix B.

MITIGATION STRATEGIES

Alternatives 1 and 3

Stadium Area

- Significant adverse land use impacts generated by the potential location of residential uses west of 1st Avenue S. could be mitigated by strictly limiting the location and orientation of residential uses such that they are effectively screened from exposure to significant light/noise impacts from Port facilities to the west, and/or constructed using materials and construction techniques that will ensure adequate attenuation of noise.

Alternative 2

Pioneer Square

- Confining a proposed 150-foot zoned height limit only to the "railroad gap" properties on the west side of 4th Avenue S. north of S. Jackson Street would avoid increasing development pressures on other historic-contributing properties just to the west in the 3rd Avenue corridor.

Alternative 2

Chinatown/I.D.

- See the mitigation strategy proposed in Chapter 3 of the Draft EIS with respect to height, bulk and scale impacts at the block bounded by 5th and 6th Avenues S. and S. King and S. Weller Streets.

Alternative 3

Stadium Area

- If lodging uses are allowed in locations south of S. Royal Brougham Way in the study area, additional controls should be identified to maintain compatibility with existing industrial uses in

the affected area, minimize impacts to on-street traffic flows and minimize exposure to significant noise sources including rail yards, railroad tracks, highways and port facilities.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

With implementation of mitigation strategies to address the identified significant adverse land use impacts for the alternatives, no significant unavoidable adverse impacts are expected to occur.

APPENDIX B

LAND USE—HEIGHT, BULK, SCALE AND COMPATIBILITY

AFFECTED ENVIRONMENT

HEIGHT, BULK AND SCALE

"Height, bulk and scale" relates to the size of buildings and their relationship to surrounding properties. The City's environmental policies recognize that physical characteristics of buildings affect the character of neighborhoods. The policies also recognize an interest in addressing building height, bulk and scale to maintain smooth transitions from one zone to another. Refer to the Land Use Zoning and Development Patterns section in DEIS Chapter 3 for additional discussion of land use and compatibility impacts.

Pioneer Square

Pioneer Square's dominant pattern consists of buildings built abutting all property lines including alleys. This contributes to a continuity of street-level uses adjacent to public sidewalks and creates street corridors that are well-defined by the buildings on both sides of the street. This is most evident along 1st Avenue S., portions of 2nd and 3rd Avenue north of Yesler Way, and in the vicinity of S. Jackson Street and S. King Street, where the height of the buildings averages roughly 70-90 feet. Near Occidental Park and eastward to approximately 3rd Avenue, the predominant building scale is somewhat lower, in the range of 10 to 50 feet. However, several taller buildings such as the Frye Hotel, Smith Tower and King Street Station's clock tower create a variety of heights. The intermittent presence of vacant properties or parking lots provides some visual relief in portions of this area, but also creates gaps in the continuity of streetfront uses.

A distinctive aspect of Pioneer Square architecture is floor-to-floor heights that are larger than 10 feet. Heights of street-level spaces range up to roughly 15 feet in some areas. The appearance of fewer, taller floors, distinctive architectural treatments and diverse window shapes combine to moderate the appearance of buildings. Distinctive historic architecture and building materials also lend a grace and visual interest to a viewer's perception of the urban environment.

The northernmost portion of Pioneer Square is adjacent to the Downtown core, which includes larger-scale buildings nearby. In addition, the sloping streets of James, Cherry and Columbia Streets results in an east-west street environment that includes few ground-level uses and adjacent buildings that are higher in elevation. These factors contribute to a transitional environment in building height, bulk and scale between Pioneer Square and Downtown.

Chinatown/I.D.

In Chinatown, both sides of S. King Street west of I-5 feature historic buildings ranging from 3 to 6 stories, approximately 30 to 70 feet in height. Other buildings in the immediate vicinity of S. Jackson and S. King Streets contribute to a pattern of continuous street-level uses and buildings with similar height, bulk and scale. The primary exception is the old Uwajimaya grocery site near 6th Avenue S. and S. King Street which includes a large parking lot and low-scale building. Most of the buildings in this area include Asian-influenced and/or historic architectural design features, many with brick facades, distinctive parapets and signage that help define the area's visual character.

In the vicinity south of S. Weller Street, typical buildings are smaller than those along S. King Street. The development pattern south of S. Weller Street includes numerous parking lots and buildings that widely vary in age, size and architectural design quality. The Uwajimaya mixed-use development is the

largest structure in this area, filling much of a city block to a height to 85 feet. A few relatively new residential and mixed-use buildings are also present, generally in the range of 5 to 7 stories. However, one-to-two story buildings and parking lots are the most common building pattern in this area.

Japantown has a somewhat different development pattern than Chinatown. A portion of Japantown is in the National Register Historic District. Several low- to moderate-scaled buildings along Main Street and 6th Avenue S are historic-contributing to the district. In addition, this immediate vicinity includes two senior apartment towers up to approximately 150 feet in height. A variety of other residential buildings on the hill south of Yesler Way are generally in the range of 70 feet. In addition, an office building and the Downtowner Apartments, both at approximately 100 feet in height, are present between 4th and 5th Avenues near S. Jackson Street. Throughout this area, parking lots and one-story buildings are interspersed, contributing to a varied character in land use, building height, bulk and scale, but also adding to a sense of "missing teeth," breaking the continuity of the district.

Little Saigon

Little Saigon is located east of Interstate 5. The pattern of building height, bulk and scale in Little Saigon is lower than in most other areas in the Downtown Urban Center. Most buildings in this vicinity are 10 to 30 feet tall. Several feature parking lots located between the building and the sidewalk. These are generally single-purpose retail buildings or multi-tenant strip shopping centers. However, several other buildings are built to the property line. Vacant lots are also present on S. Jackson and S. King Streets, and a few single-family residences remain. The tallest buildings in this area are the Pacific Rim Center at approximately 65 feet, an office building on S. Weller Street at approximately 60 feet, and a retail center near 12th Avenue S. and S. Jackson Street, at approximately 40 to 50 feet. Along Rainier Avenue S., the commercial buildings are generally one or two stories. East of Rainier Avenue S., a few commercial-oriented buildings sit behind and above the Rainier Avenue-abutting buildings. Further east, the pattern immediately transitions to low-density single-family residences. Southeast of Rainier Avenue S./S. Dearborn Street, newer multistory apartment residences are located behind and slightly above the low-density commercial uses along Rainier Avenue S.

South-of-Dearborn

This longtime industrial area is composed of low-scale buildings including one-to-two story warehouses, up to four-story commercial buildings, and the former INS Building which is roughly 50 feet in height. Many buildings extend to property lines, with parking lots interspersed. These characteristics contribute to an environment that is well-defined at the sidewalk edge in some places, but also relatively open to light and air. At the eastern and southern perimeters, I-5 and the I-90 ramps provide a visual boundary that separates the area from Beacon Hill to the east and from the rest of the Duwamish industrial area to the south. The Charles Street Yard, home to several City operations, is located in the eastern portion of this vicinity adjacent to I-5.

Stadium Area

Building heights in the Stadium area cover a range that reflects a diverse mixture of low- and moderate-scale building types, from 1-2 story structures to buildings up to 80 feet in height, some of which are located within Pioneer Square zoning. Building patterns generally reflect the transitional nature of this vicinity. Along 1st Avenue S., typical buildings are typically lower to the south, with an increasing presence of buildings in the 50-80 foot range further to the north, in proximity to Pioneer Square neighborhood boundaries. In the middle of this transitional area along 1st Avenue S., the new Silver Cloud Hotel (in Pioneer Square zoning) reaches a height of approximately 85 feet. Along 4th Avenue S. just north of Royal Brougham Way, the building heights range up to 40-60 feet. North of Airport Way S., the typical scale on the east side of 4th Avenue S. ranges up to approximately 150 feet. In addition, this

vicinity includes the Qwest Field and Safeco Field complexes that are over 260 feet in height, tall and massive structures that reflect a larger scale of development and define street corridor spaces along 1st Avenue S., Occidental Avenue S., 4th Avenue S., and S. Royal Brougham Way. Safeco Field's massing includes concourse areas that are scaled at approximately 65 feet along 1st Avenue S., reflecting the approximate proportions of other buildings in this corridor. A multi-story parking garage and large plaza associated with Safeco Field contribute to the streetscape character of Occidental Avenue S. one block south of Edgar Martinez Way (S. Atlantic Street). A proposed commercial building extending the full length of the Home Plate Parking property (south of S. Atlantic Street, west of 1st Avenue S.) also is expected to contribute to a larger building scale and denser presence of building bulk in this vicinity. However, at present, large segments of the 1st Avenue S. streetfront remain in groups of relatively low-scaled structures conforming to the long north-south rectangular blocks in this vicinity. This includes the low-scaled warehouse structures currently present on the WOSCA property.

One interesting height-related juxtaposition in this vicinity is the extension of Pioneer Square zoning—PSM 85'/120'—on the east side of 1st Avenue S. as far south as Royal Brougham Way. This existing zoning affords the potential for 120-foot buildings if three-quarters of the building space is in residential use. Given the availability of some vacant parcels in this vicinity, there is a possibility that future development under existing zoning would result in buildings to that 120-foot height.

COMPATIBILITY AMONG EXISTING USES

Land Use Patterns and Height Transitions

Pioneer Square

This neighborhood is completely within a City-defined historic preservation district, and most of it also is located within a National Register Historic District. Only the Pioneer Square-zoned portion on the east side of 1st Avenue S. south of Railroad Way is outside of the National Register Historic District. Land use and zoning regulations protect historic character by ensuring compatible uses and visual relationships between buildings in the National Register Historic District and City-defined historic preservation district of Pioneer Square. Special Review District regulations and standards address many detailed elements, such as how alterations, new construction, renovations of existing structures, signage changes, building relationships to the streetscape and street level uses may occur in a manner compatible with the historic district.

Actual building patterns exhibit a mix and distribution of buildings that are mostly compatible in terms of land use and heights within Pioneer Square. This is likely due to the preservation of historic buildings, a low amount of infill development, and effectiveness of existing zoning regulations. Taller buildings include the Smith Tower, which at 467 feet towers over other buildings in its vicinity, the King Street Station clock tower at 247 feet, and Qwest Field at 263 feet immediately adjacent to the Pioneer-Square zoned area.

Zoning regulations that affect height compatibility include: the zoned height limits, and a variable height limit in the PSM 100' zone, which indicates, "no structure shall exceed by more than 15 feet the height of the tallest structure on the block or the adjacent block front(s), to a maximum of 100 feet." On the whole, these rules promote similarity of new buildings to existing building heights. However, despite its intentions, the variable height limit does not preclude the possibility of variations up to 75 feet in height between buildings. Also, the variable height limits can change over time. For example, if a building on a neighboring block becomes taller through renovation or new construction, the height limit affecting a nearby block face would increase, though it could not exceed 100 feet.

Chinatown/I.D.

This neighborhood is within a City-defined historic preservation district (extending east to 12th Avenue S.), a subset of which is a National Register Historic District, located approximately between Main Street and S. Weller Street, 5th Avenue S. and I-5. As with Pioneer Square, compatibility among uses and structures is an important purpose of the land use and zoning regulations. The Special Review District regulations are comparable to Pioneer Square's, but adapted in ways that address particular aspects of the neighborhood's visual character and use patterns. Similar to Pioneer Square, the zoned height limits accommodate more building height for residential uses in peripheral areas of the neighborhood, up to 150 feet in the IDR zone. The central part of the Chinatown neighborhood is currently limited to a maximum building height of 85 feet for structures with a majority of space in residential use, and 75 feet for structures with a majority of space in non-residential uses.

These rules promote compatibility of land use and building heights. However, a few interesting implications of the current zoning patterns are noted.

- The boundary between the IDR 150' and IDM 75'/85' zones that is one-half block north of and parallel to S. Jackson Street creates a condition where maximum-height 150-foot buildings would be notably different in scale to the existing low-scale buildings along S. Jackson Street that are part of the National Register Historic District. Relatively steep up-sloping topography further contributes to this potential difference in height.
- SEPA view protection policies may be a constraining factor on the full use of the IDR 150-foot height limit along S. Main Street (east of 6th Avenue), if a building would substantially block views from the Kobe Terrace Park and Danny Woo Gardens property.
- The Chinatown/I.D. zone regulations do not regulate the scale in a manner comparative to adjacent buildings. They may allow buildings of 85 feet or 120 feet next to buildings of 10-20 feet.

Helicopter flight paths to and from Harborview Hospital are another potential influence on building height in the Japantown hill vicinity. Sufficient airspace for inbound and outbound helicopter movements is preferred by emergency service providers for emergency helicopter flightpaths to Harborview Hospital. (This airspace is not specifically mandated by federal rules.) This creates a three-dimensional area within which buildings should not intrude. This is a potential influence on height limit choices for the portion of the Japantown hill near Yesler Way and I-5.

Little Saigon

Existing land use regulations, the height limit of 65 feet, and past market forces have contributed to an existing pattern of automobile-oriented uses and low-rise building forms. The area is predominantly commercial in nature but has residential uses in some peripheral locations. Zoning accommodates a wide variety of commercial uses, some industrial uses east of 12th Avenue S. The presence of numerous under-developed and vacant parcels serves to buffer uses from each other. Topographical breaks provide natural transitions that aid in maintaining overall compatible conditions.

South-of-Dearborn

Existing land use and building patterns, along with a consistently-scaled zoned height limit of 85 feet, have contributed to good compatibility between uses. The area is undergoing change, with the introduction of retail and housing in recent years. Pacific Food Importers is an existing retail use, and a multi-block BMW dealership is proposed. The William Booth Center provides transitional housing, located at S. Charles Street/Maynard Avenue S., across the street from the General Industrial 2 zone.

Stadium Area

The range of land uses, daily activity patterns and the street environment in the stadium area influence overall compatibility. Events at Qwest Field and Safeco Field on many days create influxes of pedestrian and vehicular traffic ranging as high as 50,000-60,000 people. This can impact small and medium-sized commercial, warehouse and light industrial uses that operate in the vicinity due to parking demand, pedestrian and vehicle traffic, and street closures. Large events can increase the difficulty of Port truck and rail traffic movements on all streets in the local street network, which access the heavily used Seattle International Gateway rail yard near this vicinity. Physically, local blocks include warehouse load/unload spaces that must remain open for efficient business activity. Trucks at times are parked perpendicular to and partially blocking streets. No sidewalks are present along these block faces, which, along with increased event-related pedestrian volumes, may encourage pedestrians to walk in the street. Food vending along certain street edges such as Occidental Avenue S. near Qwest Field also occurs during events. Major streets including 1st Avenue S. and S. Atlantic Street are key commute corridors, adding to the potential for pedestrian-vehicle conflicts.

Existing zoning in the area provides some transition in zoned height limits, including 85-foot maximum heights south of S. Atlantic Street and 65-foot maximum heights north of S. Atlantic Street. These limits contrast with the 120-foot height limit present in the nearby Pioneer Square zoning on the east side of 1st Avenue S., and with the much taller presence of the athletic stadia.

Light and Glare Compatibility

Exposure of residential uses to excessive light or glare is an unfavorable condition. The level of exposure and proximity of the light source to the receivers are important factors. Glare issues can arise if reflections from glassy or shiny portions of new buildings adversely affect residents or passing motorists.

Sources of light/glare in the study area vicinity include: the athletic facilities, major highway and street arteries, port operations, and local commercial and business operations. Existing conditions are not known to create significant light/glare issues presently, except headlights from SR99 traffic passing near upper floors of Pioneer Square buildings may create unwanted light/glare for building occupants. Port facilities and athletic stadium facilities lighting contribute to illumination in the vicinity.

Shadows on Open Spaces

The City's SEPA regulations pertaining to shadow impacts are narrowly defined for Downtown. The policy background statement in SMC 25.05.675 Q recognizes that:

- access to sunlight is an amenity of public spaces;
- the Downtown land use code provides some protections against shadow impacts (through height, bulk and setback controls); but
- it is not practical to prevent shadowing at all public open spaces Downtown.

The SEPA policy defines five open spaces in Downtown where shadow impacts may be mitigated, including Freeway Park, Westlake Park/plaza, Victor Steinbrueck Park, Convention Center Park, and Kobe Terrace Park/Danny Woo Gardens (located in the Chinatown/I.D. neighborhood). Potential mitigation measures can include limiting the height and bulk of a proposed building, redesigning its profile or altering other building details, or adjusting its location on a property.

In the existing condition at Kobe Terrace/Danny Woo Gardens, there is one existing senior apartment building that reaches to approximately 150 feet in height located just southwest of the garden area. At

certain times of day and certain times of year, this building likely casts shadows on portions of the garden. The garden is located on a slope that otherwise has good southern exposure toward sunlight. Another apartment building adjacent to the north has no probable shadowing effect on the garden. Other buildings nearby to the south include a new 7-story apartment building has no influence on sunlight access at the garden due to up-sloping topography.

In other portions of the study area, existing tree canopies and the characteristics of many existing buildings create conditions at street level that are often shaded. Other areas have fewer trees and lower buildings such that shadowing is not a significant factor affecting the streetscape.

Please see other discussion of compatibility-related topics in the Environmental Health section in Chapter 3.

IMPACTS

The height and shape of buildings are two of the most direct influences on the character of an urban environment and on perceptions of compatible land use patterns. For this reason, Livable South Downtown planning emphasizes careful consideration of the height and bulk dimensions of future development. The preferred approach is to accommodate taller residentially buildings in targeted areas around the edges of core neighborhoods, and allow infill of other buildings with contextually-appropriate heights and density limits in the historic cores.

The following discussion summarizes conclusions made about the potential for significant adverse impacts with future development under the EIS alternatives. More details on the analysis leading to these conclusions are provided in Appendix B to this Draft EIS. Also, see the Land Use—Zoning, Land Use and Development Patterns section, Economic and Business Impacts section, Environmental Health and Historic and Cultural Preservation sections in Chapter 3 and Appendix A, C, F and H for other impact discussion.

HEIGHT, BULK AND SCALE

Pioneer Square

Alternative 1, Pioneer Square

The Alternative 1 zoning strategy in the core of Pioneer Square is to accommodate taller buildings, to 130 feet for residential uses, only on properties that are "vacant" (e.g., most of which are in parking lot use) or contain structures that are designated by the City as not contributing to the historic significance of the district (see Figure B-1). Given the existing zoning in areas west of the 2nd Avenue Extension that accommodates buildings up to 100 feet, the basic difference between existing maximum height limits and future maximum height limits would be 30 feet. A variable height limit also means current actual height limits are lower on some properties, in the range of 70 to 95 feet.

The Alternative 1 zoning strategy would be applicable to properties distributed intermittently within the Pioneer Square core. A number of non-historically-contributing properties are relatively close to one another. This is most apparent in the Occidental Park vicinity where four non-historic contributing properties are located within two blocks, and north of Yesler Way where up to five properties could be developed with new buildings to 130 feet. Sizes of these properties vary from less than one-quarter block to a half-block, suggesting that future buildings could be at different sizes. A February 2007 City Council adoption of a streetcar maintenance base-related provision in the Land Use Code means that at least one property immediately east of Occidental Park is already eligible for a potential building containing a mixed use streetcar facility up to 130 feet in height.

Interpreting the relative significance of adverse impacts from this proposed increase in height limit is complicated by the mixed nature of the neighborhood's actual building heights and the mixed policy indications provided by zoning and land use policies. Factors include:

- The variety and heterogeneous nature of building height patterns across the neighborhood, which suggests that there is not one simple standard that defines compatibility of building heights within the current building pattern.
- The presence of a number of historic buildings that reach substantially above the current height limits.

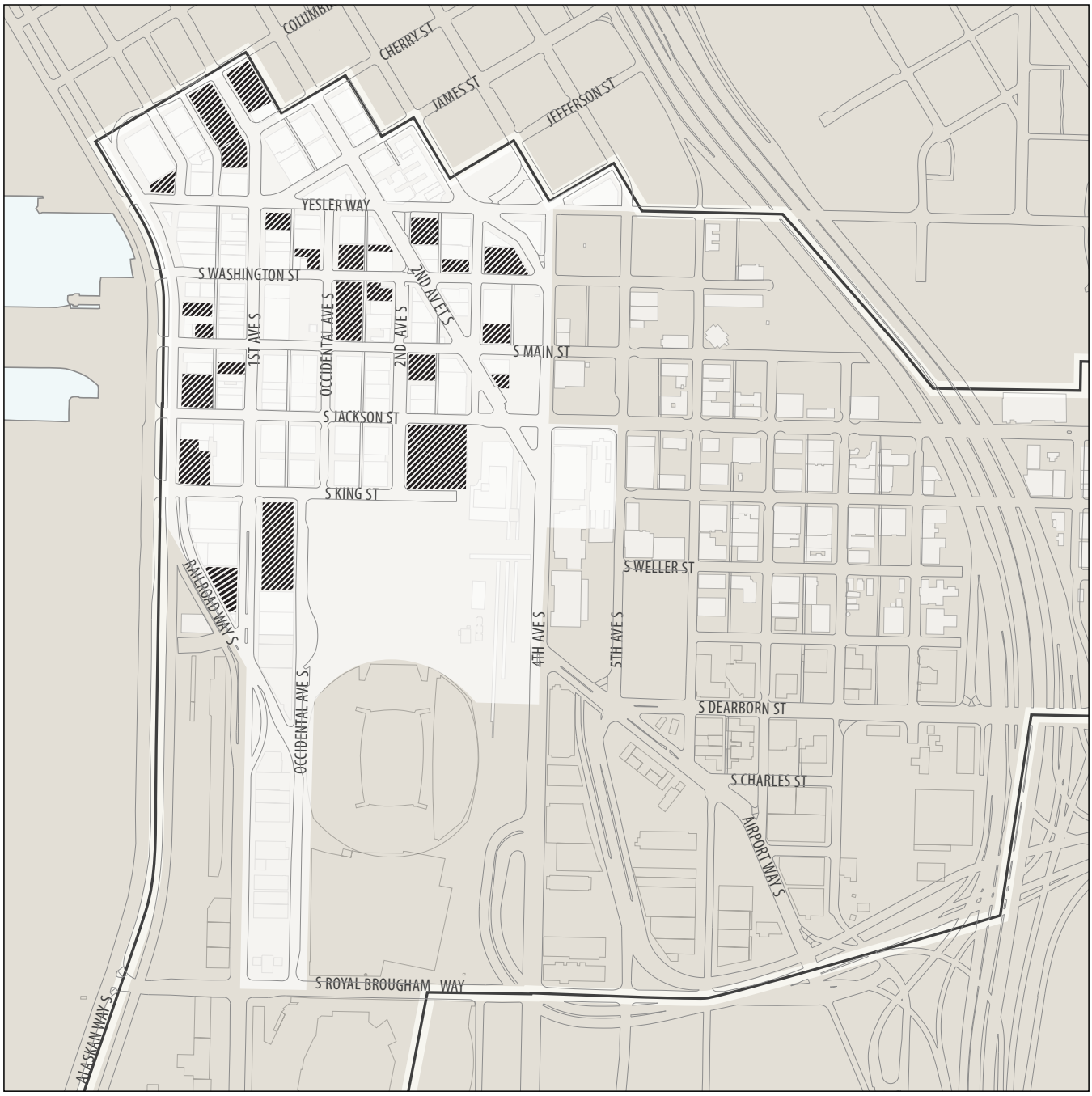


Figure B-1

Pioneer Square Non-Historic Contributing Properties

Livable South Downtown

- Existing zoning permits up to 120-foot building heights for residential-dominated buildings in two areas, east of 2nd Avenue Extension and also south of S. King Street. This supports an interpretation that building heights above 100 feet can be compatible with the neighborhood's overall historic character.
- The aforementioned February 2007 adoption of a regulation that accommodates up to a 130-foot building (if it includes a streetcar maintenance facility) in the heart of the neighborhood.
- A variable height limit sets maximum height limits within 15 feet of the maximum heights of existing nearby buildings. This does not prevent large disparities in building heights on adjacent properties and is changeable over time depending on what may happen on other nearby properties.
- The requirement that buildings must fully extend to all property lines suggests that buildings with significant mass and bulk within height limits are preferred as an important component of the neighborhood's architectural character.

Given the factors described above, height/bulk/scale conditions in the core of the Pioneer Square neighborhood can be reasonably interpreted as flexible enough to accommodate variability in building heights at least as high as 30 feet above the current zoned maximum height limit of 100 feet. This judgment is aided by the tendency of buildings that cover the full lot to obscure most of a typical building's bulk when viewed from the street. In addition, protection against significant height, bulk and scale impacts would be afforded by Preservation Board review. Therefore, under Alternative 1, no significant adverse impacts of height, bulk and scale are identified for future development on eligible sites.

Variable height limit:

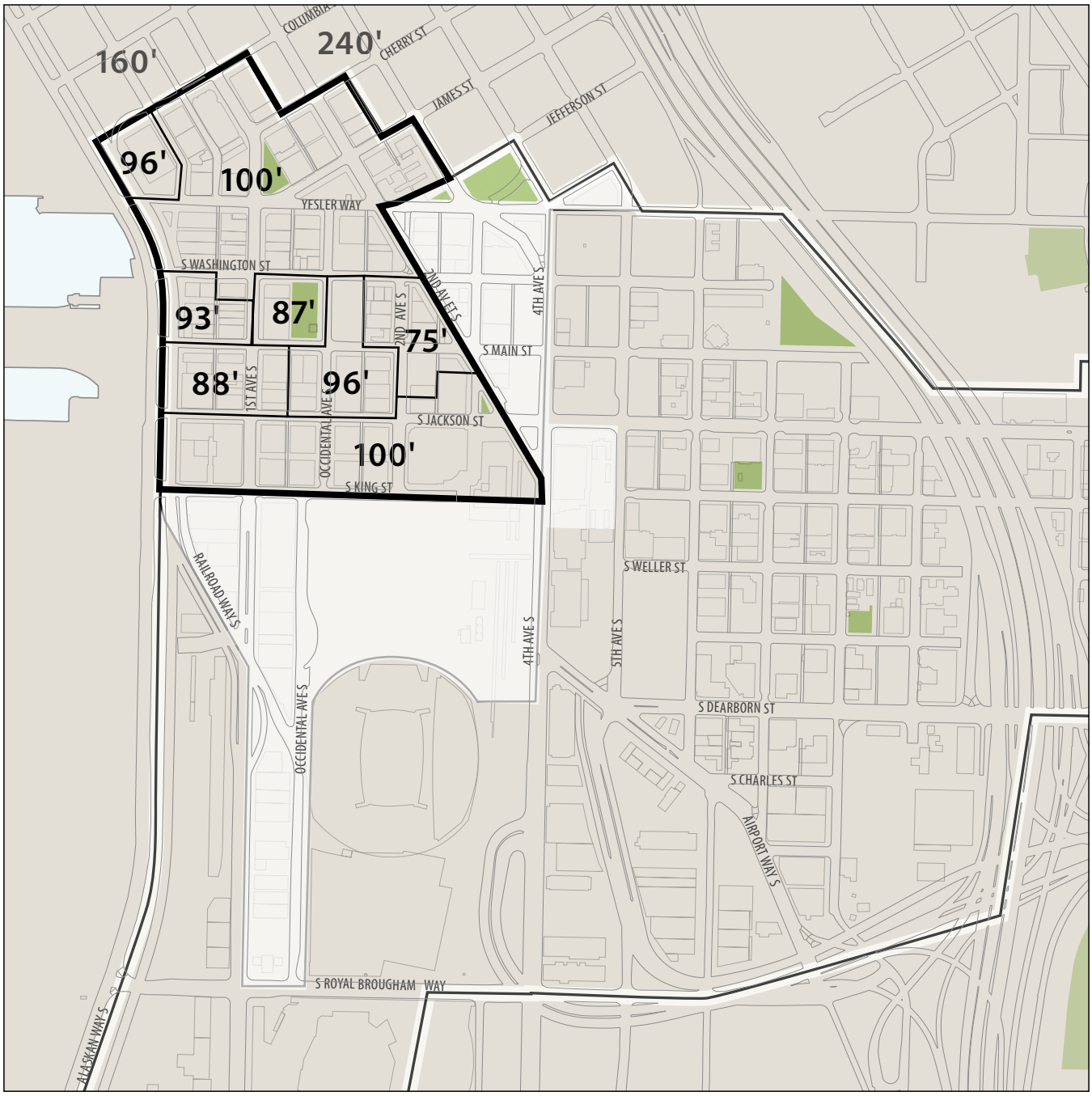
Part of the Alternative 1 zoning proposal is to discontinue the variable height limit because it would conflict in intent with other zoning strategies addressing height. The variable height limit conceptually appears beneficial. However, the standard does not guarantee predictable or equitable outcomes in its regulation of building heights. The net result of discontinuing this regulation would be the accommodation of building heights potentially reaching 130 feet on non-historically-contributing properties, and potentially reaching 100 feet on a variety of properties with historic structures, rather than the current lower estimated height limits that range from approximately 75 to 96 feet (see Figure B-2).

Qwest Field north parking lot:

At the Qwest Field north parking lot, the Alternative 1 proposal is for a maximum height limit of 180 feet, 60 feet greater than the maximum under existing zoning on these properties (see Figure B-3). Bulk-shaping provisions and residential-use preferences are proposed under Alternative 1. A future north parking lot development proposal under this alternative would result in proposed zoning height limits up to 60 to 80 feet higher than height limits that are present on adjacent properties. It would also represent a difference of roughly 80 to 100 feet from the typical heights of the tallest existing buildings in the immediate Pioneer Square vicinity. In combination, these represent moderate-to-large differences in building scale that could result in significant adverse height/bulk/scale impacts with future development, depending upon the effectiveness of required bulk controls and the final design and layout of future development. This suggests that mitigation strategies to further influence the height, bulk and scale of future development should be implemented to protect against such impacts.

"Over-tracks" property:

At the over-tracks properties south of King Street Station, the Alternative 1 proposal is for a maximum height limit of 150 feet in the PSM zone, 30 feet greater than the maximum under existing zoning, with a



0 2 4 6 8 10
Scale in 100 Feet

N

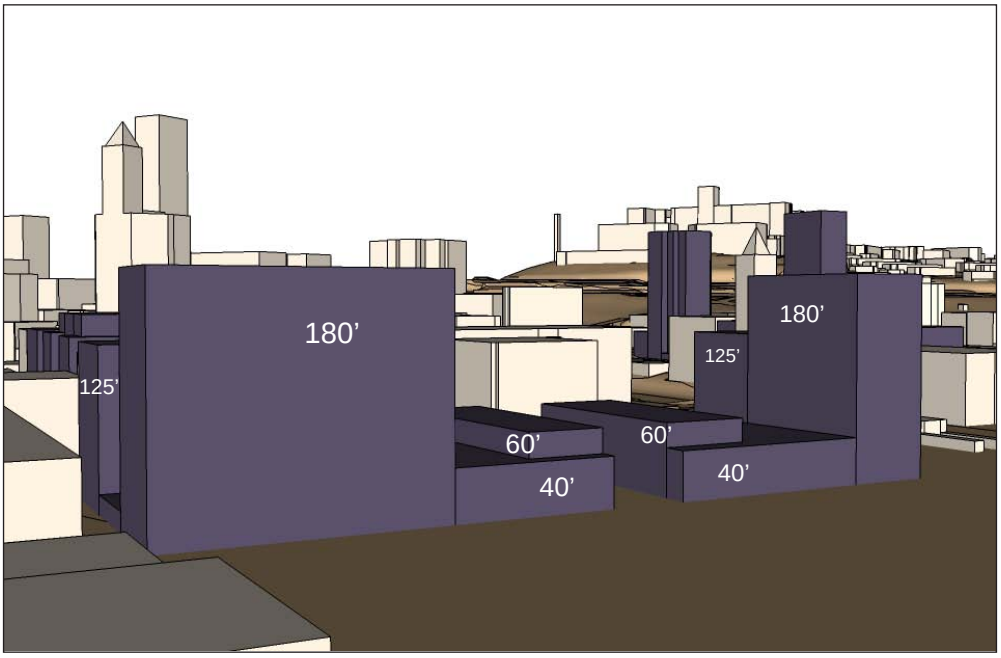
SMC 23.49.478C *In the one hundred (100) foot height district, no structure shall exceed by more than fifteen (15) feet the height of the tallest structure on the block or the adjacent block front(s), to a maximum of one hundred (100) feet.*

Figure B-2

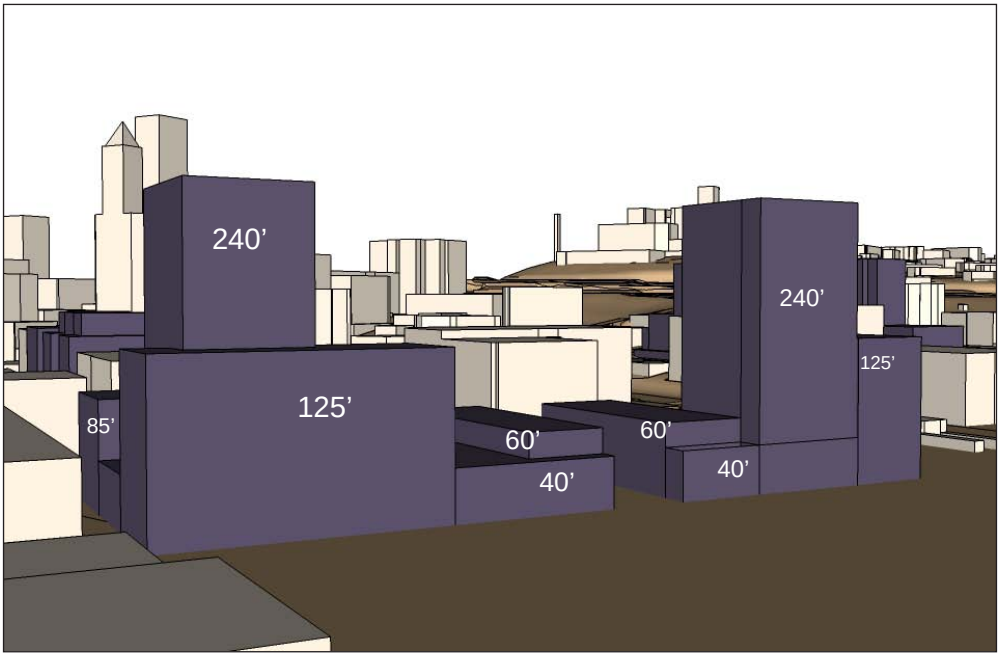
Interpreted Effect of Variable Height Limit on Pioneer Square

Livable South Downtown

Alternative 1



Alternative 2



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario. Density limits and bulk controls would influence how building bulk is arranged.

Figure B-3

Hypothetical Height and Bulk at North Parking Lot, Alternatives 1 and 2

proposed density limit of 3.5 FAR. Future development on this property could include at least two buildings up to 150 feet in height in the PSM zone. This would be the same height as existing buildings on the east side of 4th Avenue S. north of Airport Way. However, despite this comparability, significant adverse height/bulk/scale impacts could occur with future development, if future buildings are proposed with arrangements of bulk that relate poorly to the 4th Avenue S. corridor, King Street Station, Qwest Field and the Qwest Field north parking lot. This means that mitigation strategies to further influence the height, bulk and scale of future development should be implemented to protect against such impacts.

"Railroad gap" properties north of S. Jackson Street:

Alternative 1 includes increased height limits to 180 feet on two half-blocks that are located on the west side of 4th Avenue S. north of S. Jackson Street. These blocks feature two "gaps" (e.g., with no land at street level) created by the presence of rail right-of-way roughly 15 feet below street level (see Figure B-4). This alternative represents a zoned height limit that is 60 feet higher than the current height limit in this vicinity. Future structures rising to a maximum of 180 feet would present a relatively large contrast to the surrounding lower-scaled building pattern. Due to the magnitude of this difference and the sensitivity of the historic district context, significant adverse height/bulk/scale impacts could occur with future development.

Beyond 2030, future development could still be possible in the Pioneer Square neighborhood on remaining vacant or non-historically-contributing properties. Given the limited number and distributed nature of the re-developable properties, there would be only a minor potential for additional significant adverse impacts due to cumulative "build-out" of those properties.

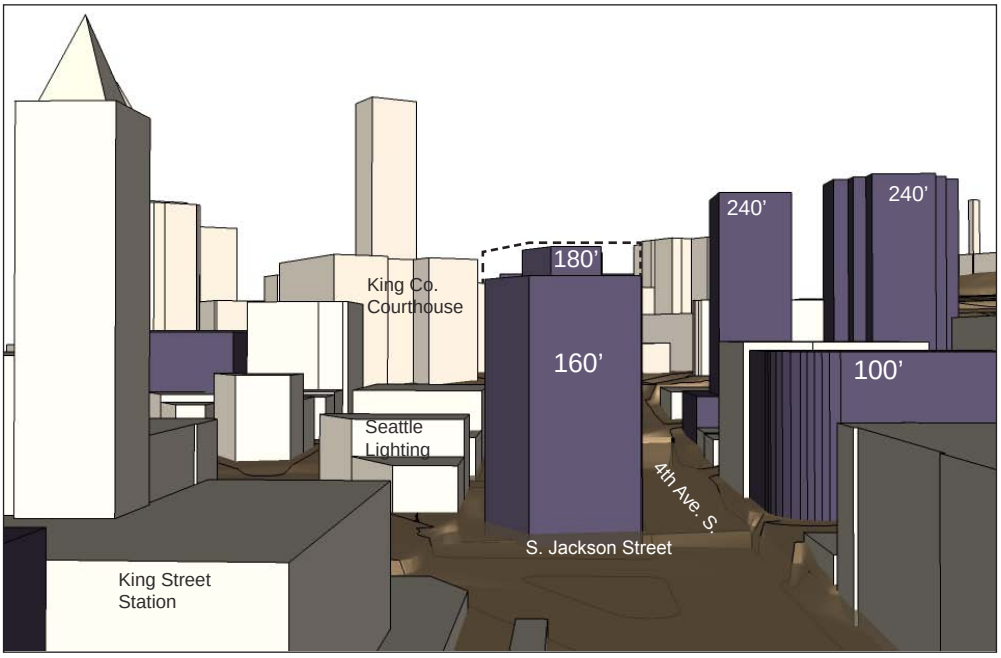
Alternative 2, Pioneer Square

The Alternative 2 zoning scenario for the core of Pioneer Square combines the strategy for non-historically contributing properties from Alternative 1 (including maximum height limits to 130 feet for eligible properties) with other subarea-specific adjustments in height limits that would result in a finer-grained pattern of zoned maximum height limits in Pioneer Square. For example, a maximum height limit of 85 feet along 1st Avenue S. between Yesler Way and S. Jackson Street is included in this alternative. This is intended to allow tailoring that would match zoned height limits with existing conditions. Future development would more closely correspond with preferences about height limits that are defined by setting the zone boundaries. This approach would result in somewhat less potential for adverse height-related impacts than would occur under Alternative 1.

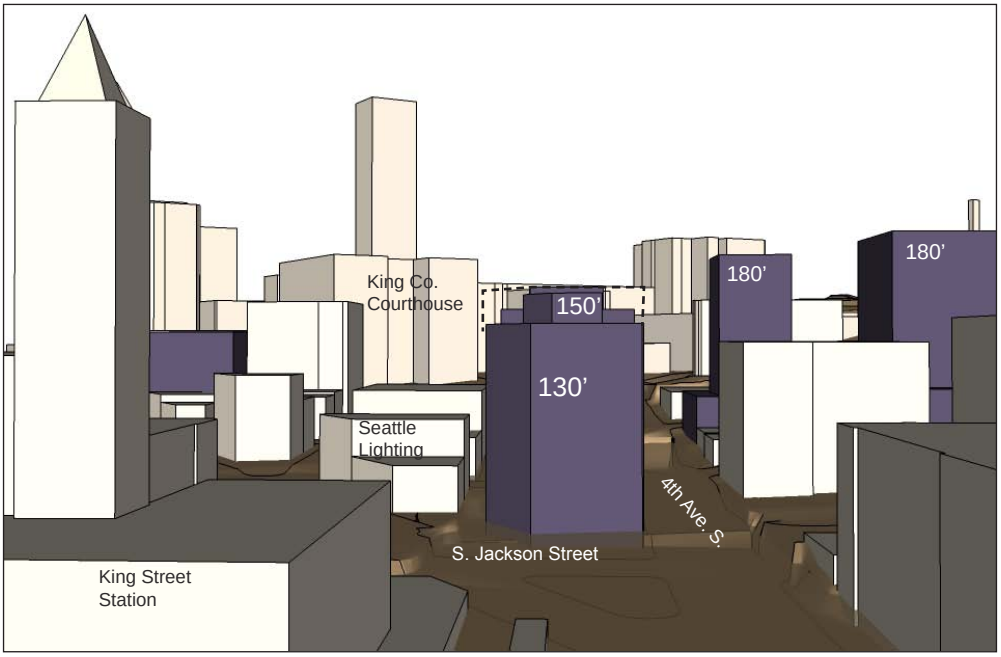
Variable height limit:

Similar to Alternative 1, the variable height limit would be discontinued under Alternative 2. Given the details of the proposal, the potential for adverse impacts would be less than under Alternative 1.

Alternative 1



Alternative 2



Note: Buildings shown represent hypothetical development. Dotted lines indicate a possible maximum “building envelope” defined by the height limit. Density limits and bulk controls would prevent filling the entire building envelope.

Figure B-4

Hypothetical Height and Bulk at “Railroad Gap” Properties North of S. Jackson Street

Qwest Field north parking lot:
Compared to Alternative 1, Alternative 2's difference in maximum scale for new buildings on the Qwest Field north parking lot (including only the north half) would be an additional 60 feet (240 feet rather than 180 feet). The maximum possible height would be possible only in the southern half of the future development site, and only for towers that would be controlled by maximum floor size limits. Given adjacent zoned height limits of 100 and 120 feet, the maximum difference in height limits from nearby PSM zones would be 100 to 120 feet. The proposed height limits would also represent a difference of up to 140 to 160 feet from the typical heights of the tallest existing buildings in the immediate Pioneer Square vicinity (refer to Figure B-3). These comparisons illustrate the large differences in building scale, which, depending on final design of future developments, could result in significant adverse height and scale impacts. Mitigation strategies to further influence the height, bulk and scale of future development should be implemented to protect against such impacts.

"Over-tracks" property:
On the PSM-zoned portion of the "over-tracks" property, the scale of buildings could reach 30 feet higher than would occur under Alternative 1 (180 feet rather than 150 feet). Density limits for commercial uses would be 4 FAR—0.5 FAR greater than under Alternative 1. A proposed IC zone allowing for up to 240-foot development with a 5 FAR density limit would be present in the southern portion of this over-tracks property. Probable future development could include four or five buildings along the west side of 4th Avenue S. south to Royal Brougham Way. This would contribute to the further increase in overall building height, bulk and scale in this vicinity. This means that Alternative 2 would generate the greatest overall difference in height/bulk/scale compared to existing conditions. Based on a worst-case scenario of poor building design and siting decisions in future development, and insufficient bulk controls, significant adverse height/bulk/scale impacts could occur under Alternative 2 on the "over-tracks" property. Such impacts could be avoided if sufficient mitigation strategies are implemented to positively influence the bulk, scale and siting of future new structures.

"Railroad gap" properties north of S. Jackson Street:
The Alternative 2 proposal defines a 150-foot maximum height limit for the two half-block "gap" areas over railroad right-of-way at the western edge of 4th Avenue S. north of S. Jackson Street. This height limit would extend to the adjacent half-blocks that currently include the Seattle Lighting and Union Hotel buildings, among others. The 150-foot height limit is 30 feet higher than the current height limit in this vicinity. Potential 150-foot building heights would be a moderately large contrast to the surrounding lower-scaled existing pattern of building heights that ranges primarily between 20 and 50 feet in height. The westward extension of this zone under Alternative 2 also creates the possibility of future buildings to 150 feet in height on the east side of 3rd Avenue S. or on the Seattle Lighting property. This additional development potential, compared to Alternative 1, results in increased amounts of future development and increased potential for total building bulk that would contrast with nearby historic properties in Pioneer Square, such as the Union Gospel Mission. This could result in significant adverse height/bulk/scale impacts given the sensitivity of the historic context. However, limiting the 150-foot zoned height limit only to the "railroad gap" properties would avoid these significant adverse impacts due to the retention of existing height limits on properties with historically contributing structures, a building scale that is closer to what is permitted in the adjacent Pioneer Square Mixed zone, and also due to the transitional nature of the "railroad gap" areas to the Japantown vicinity properties.

Beyond 2030, the potential for additional growth and related impacts would be similar to Alternative 1, except there could conceivably still be potential for additional development on the over-tracks, north parking lot or Pioneer Square properties near 3rd Avenue S. (as described in the paragraph above) over the long-term.

Alternative 3, Pioneer Square

The Alternative 3 zoning strategy in the core of Pioneer Square is to maintain a 100-foot maximum height in the core PSM zone, while considering other optional regulatory strategies that could encourage reuse and enhanced feasibility of infill development. This approach is not expected to generate significant adverse height, bulk or scale impacts due to its similarity to existing maximum height limits.

Variable height limit:
Similar to Alternative 1, the variable height limit would be discontinued under Alternative 3. Given the proposed maximum height limits that are lower than would occur for Alternative 1 and 2, the potential for adverse impacts would be less than under Alternative 1 and 2.

Qwest Field north parking lot:
Compared to Alternative 1, Alternative 3's difference in maximum scale of a new building on the north half of the Qwest Field north parking lot would be a reduction of 30 feet (150 feet rather than 180 feet). Given adjacent zoned height limits of 100 and 120 feet, the difference in maximum height limits from nearby PSM zones would be 30 to 50 feet (see Figure B-5). This difference is interpreted to represent a minor increase in building height and scale—somewhat higher than the predominant Pioneer Square height and scale context. Of all the alternatives, this approach could result in building forms closest to the prevailing Pioneer Square building forms, with bulk extending to the edge of blocks in some places. Therefore, "adverse" but not "significant adverse" height/bulk/scale impacts could occur with future development under Alternative 3, lesser impacts than identified for Alternative 1.

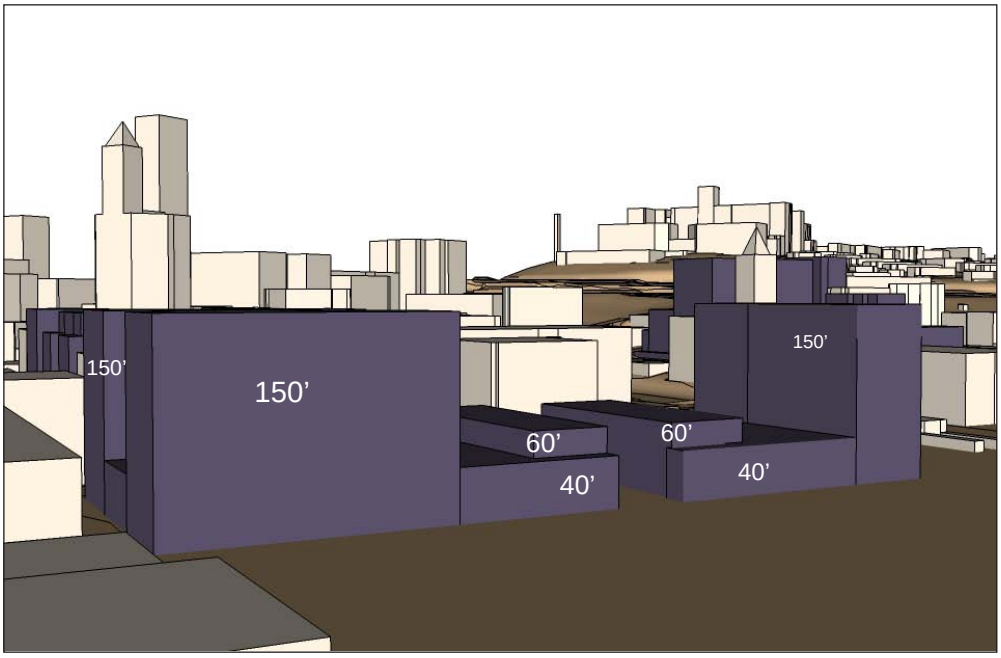
"Over-tracks" property:
At the "over-tracks" property, the Alternative 3 proposal is for a "South Downtown Mixed" zone with a maximum height limit of 180 feet. This is 60 feet greater than the maximum under existing zoning, and 30 feet greater than under Alternative 1. The density limits for commercial uses would be 5 FAR—1.5 FAR greater than under Alternative 1. Based on higher height and density limits, Alternative 3 has a greater overall potential for height/bulk/scale impacts than either Alternative 1 or 2. Based on a worst-case scenario of poor design, siting and shaping of building bulk, significant adverse height/bulk/scale impacts could occur with future development under Alternative 3. However, the special review process that would be mandated by the SDM zone in Alternative 3 would have a positive influence on building bulk and scale and the achievement of urban design objectives for that property. To ensure that significant adverse impacts are mitigated, the Mitigation Strategies discussion later in this section indicates a need for the proposed SDM zone to sufficiently address the shaping of building height, bulk and scale in future development.

"Railroad gap" properties north of S. Jackson Street:
For the two half-block "gap" areas over railroad right-of-way at the western edge of 4th Avenue S. north of S. Jackson Street, Alternative 3 does not propose changes to this vicinity. This means there is no potential for significant adverse height/bulk/scale impacts under Alternative 3 in this vicinity.

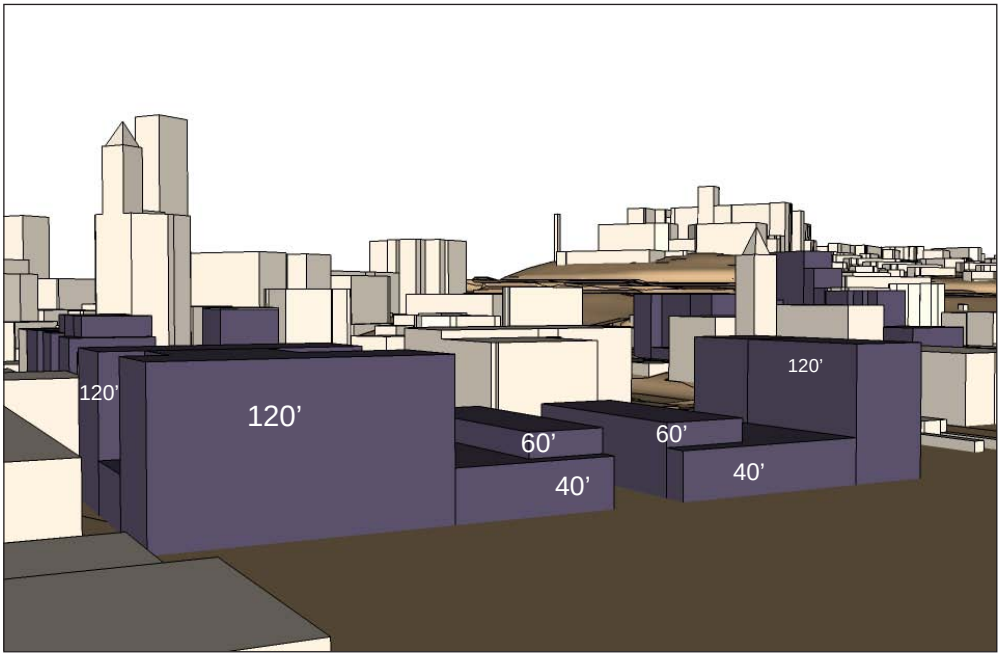
Alternative 4, Pioneer Square – No Action

Under Alternative 4, with no regulatory changes there would be no potential for significant adverse height/bulk/scale impacts. Future development, including in the Qwest Field north parking lot, would be assumed to occur according to the existing zoned height limits and other provisions of the Land Use Code.

Alternative 3



Alternative 4



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario. Density limits and bulk controls would influence how building bulk is arranged.

Figure B-5

Hypothetical Height and Bulk at North Parking Lot, Alternatives 3 and 4

Chinatown/I.D. West of I-5

Alternative 1, Chinatown/Japantown

Japantown

In the Japantown vicinity, the Alternative 1 proposal for IDM zoning with a maximum height limit of up to 240 feet is 120 feet greater than the existing IDM zoning and 90 feet greater than the existing IDR zoning near 6th Avenue S. The Alternative 1 proposal includes provisions that would shape the bulk of future development in this vicinity. These include setbacks above a building elevation of 45 feet, and floor size limits for upper building tiers. This level of change would represent a large increase in building height and scale—higher than the existing Japantown height and scale context which is in the range of approximately 30 to 150 feet. But these judgments alone do not necessitate a finding of significant adverse height, bulk and scale impacts—the effect of the height limits in relation to the physical context also needs to be considered.

The hilly topography in this vicinity would help to moderate the perceived scale of future development. Buildings located in lower properties along 4th and 5th Avenues would not appear as tall as those located in higher elevations (see Figure B-6). As suggested by Figure B-6, the presence of 240-foot buildings higher on the hill along 6th Avenue would present a relatively large visual contrast due to the total combined elevation of the hill and the building—a situation that could result in significant adverse impacts of height, bulk and scale with future development. Such impacts could be avoided if sufficient height and bulk controls are implemented to influence the bulk, scale and siting of future new structures.

The northeastern-most corner of a 240-foot building on a vacant lot adjacent to 6th/Yesler Way could potentially intrude into the edge of airspace preferred to be used for helicopter access to the Harborview Hospital helipad. This type of height/bulk impact could be avoided through future building design. The airspace needed for helipad was identified by emergency service providers. The identified three-dimensional airspace is not specifically mandated by federal rules, nor is the hospital helipad designated as an essential airport facility. This is best characterized as a "potential adverse height-related impact" that could be avoided through design of future development if this zone was implemented in this vicinity.

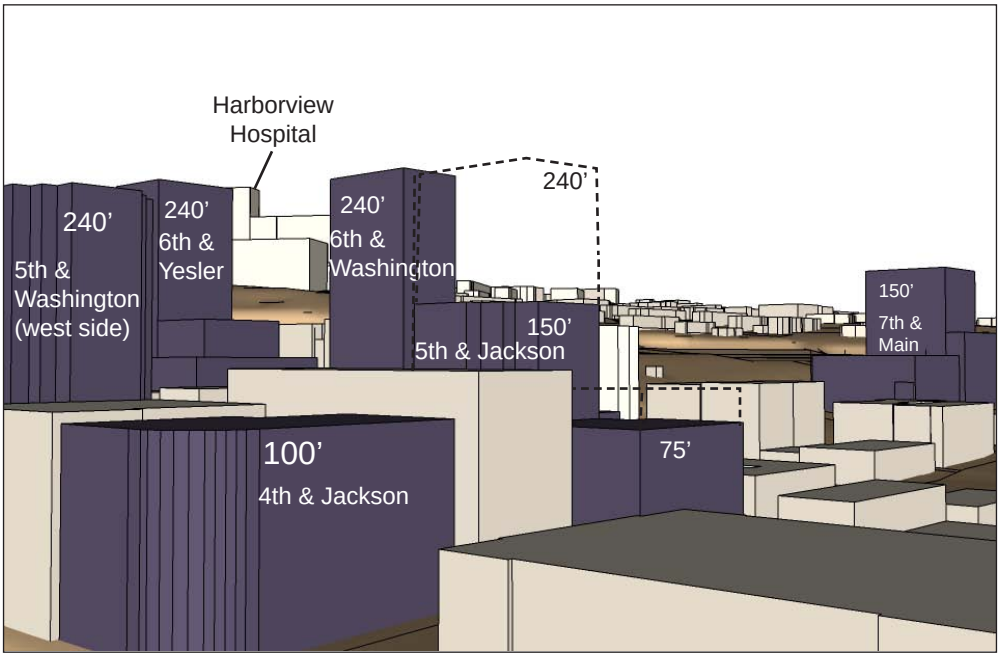
However, in other areas of the Japantown vicinity, no significant adverse height/bulk/scale impacts are identified if building bulk control provisions recommended as part of Alternative 1 are implemented. Future development at a 240-foot scale could fit into the existing flatter topography and built environment without significant adverse impacts, due in part to its proximity to the Downtown office core immediately to the north across Yesler Way. This conclusion also covers the potential development site at the northeast corner of 5th Avenue S./S. Jackson Street. Despite the relatively tall 240-foot maximum height that would contrast with the scale of other existing buildings nearby (including the cluster of Japantown landmark buildings to the northeast), the topography and the positive influence of recommended bulk controls (such as probable upper-level setbacks along S. Jackson Street) would help future development at this location to avoid significant adverse height/bulk/scale impacts.

Beyond 2030, future development on remaining properties would likely tend to reinforce a 150- to 240-foot building scale with an increased residential presence.

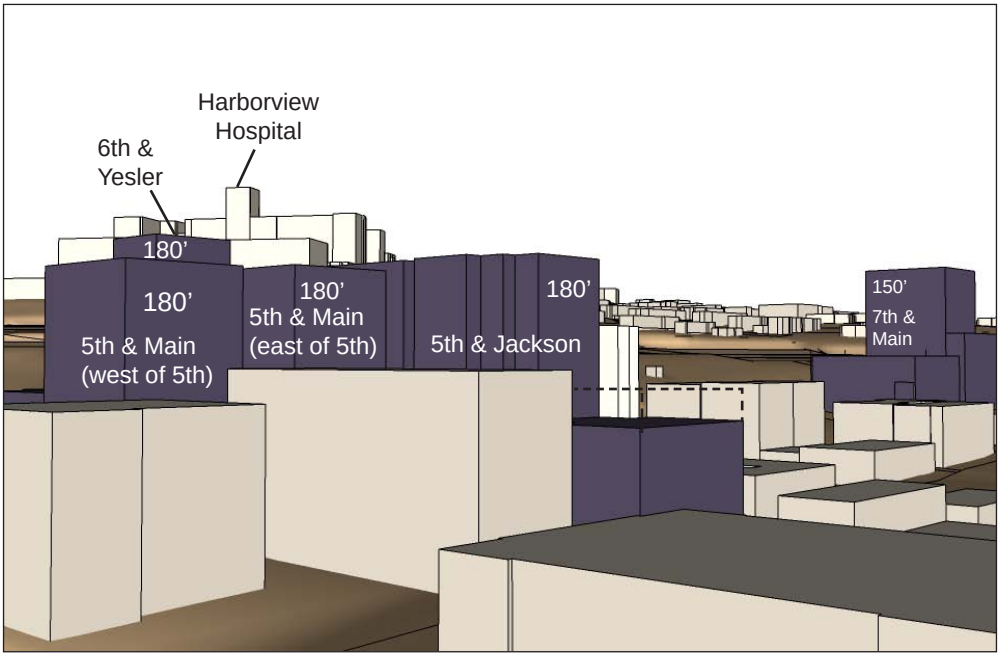
Chinatown

In the Chinatown vicinity south of S. Weller Street, the Alternative 1 proposal is for IDM zoning with a maximum height limit of up to 125 feet, 40 feet greater than the existing IDM zoning (see Figure B-7). The Alternative 1 proposal also includes provisions that would shape the bulk of future development in this vicinity – likely including coverage limits or 15-foot setbacks at a building elevation of 45 feet. This level of change is interpreted to represent a moderate increase in building height and scale—it is higher

Alternative 1



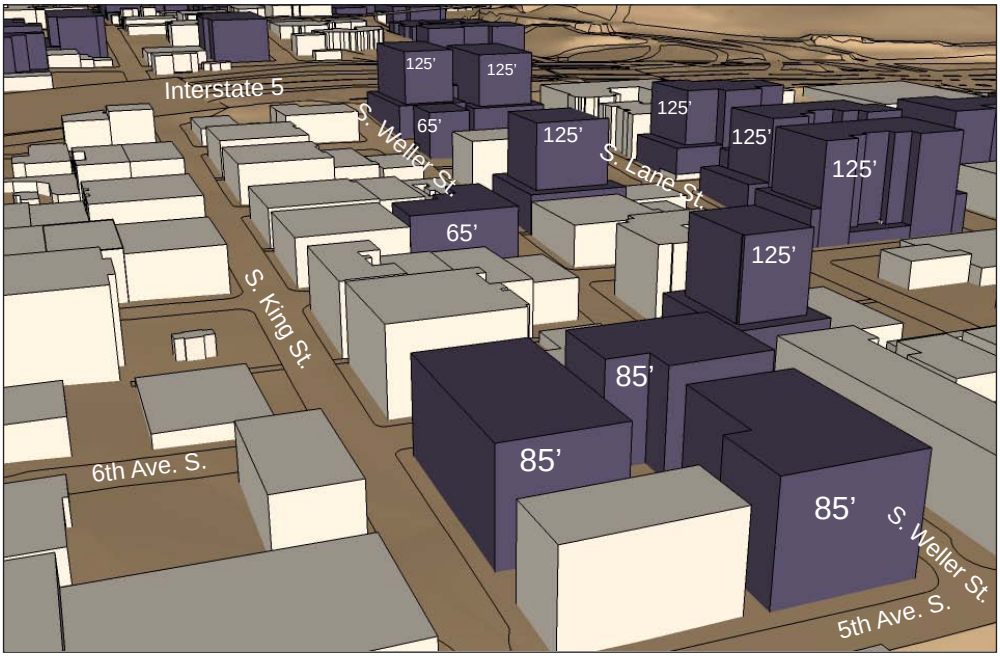
Alternative 2



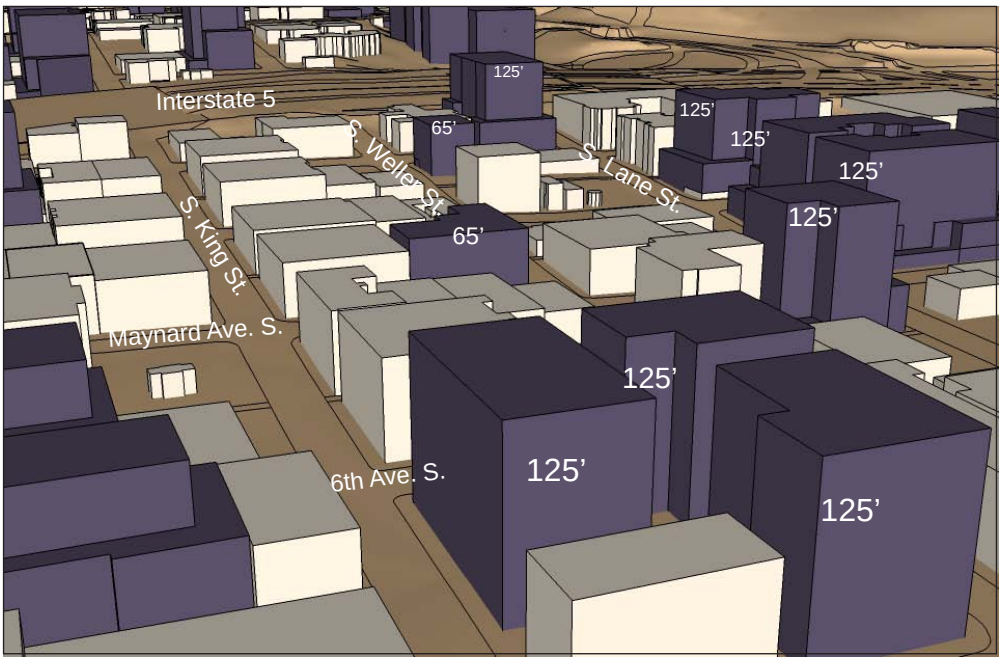
Note: Hypothetical buildings shown, per the EIS growth scenario, except one additional building shown at 6th & Yesler. Dotted lines show a possible maximum “building envelope” only at 5th & Jackson, for illustrative purposes.

Figure B-6
Hypothetical Height and Bulk of Future Development, Japantown, Alternatives 1 and 2, Looking Northeast Across S. Jackson Street

Alternative 1



Alternative 2



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure B-7

Hypothetical Height and Bulk of Future Development, Chinatown, Alternatives 1 and 2

than the predominant Chinatown height and scale context, but is not considered a "high-rise" scale. As with the other areas, the impact analysis also needs to consider the effect of the height limits in relation to the physical context.

The area south of S. Weller Street features newer multifamily residential and mixed-use buildings up to 75-85 feet in height. This area is also less densely developed than the National Register Historic District area to the north. Only two or three quarter-block properties south of S. Weller Street are likely to experience future development under the 125-foot zoning. This would limit the potential for direct adverse impacts of building height, bulk and scale across the street toward the adjacent National Register Historic District north of S. Weller Street (see Figure B-8). One historic building located south of S. Weller Street is not included in the rezone. To the south, other proposed zones would have maximum height limits of up to 125 feet. To the west, the existing IDM zone has a 150-foot height limit. To the east, I-5 forms a definitive edge that is elevated above ground level. These factors suggest that the proposed 40-foot increase in the maximum height of buildings can be accommodated without significant adverse height/bulk/scale impacts in this vicinity. This conclusion is further supported by the possibility of upper-level setbacks or coverage limits, and the possible accommodation of residential uses at street-level. All of these factors would help moderate potential height, bulk and scale impacts.

Beyond 2030, future development on remaining properties would tend to reinforce a 125-foot building scale with an increased residential presence.

Alternative 2, Chinatown/Japantown

Japantown

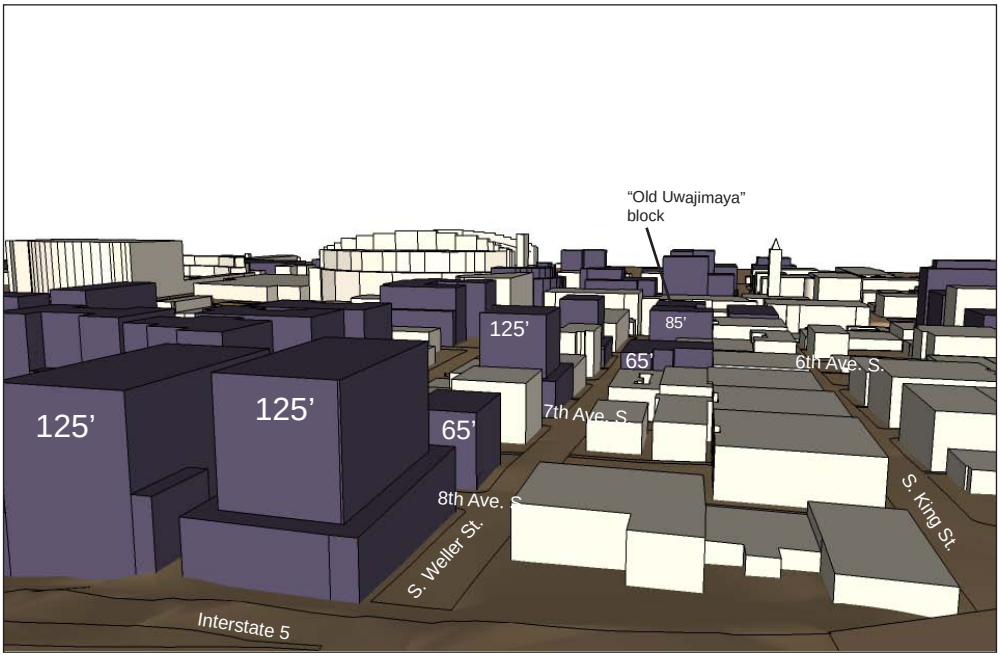
In the Japantown vicinity, the Alternative 2 proposal for IDM zoning with a maximum height limit of up to 180 feet is 60 feet greater than the existing IDM zoning and 30 feet greater than the existing IDR zoning near 6th Avenue S. The Alternative 2 proposal in Japantown includes provisions that would shape the bulk of future development in this vicinity. These include setbacks at building elevations of 45 feet and floor size limits for upper floors. This level of change is interpreted to represent a moderate increase in building height and scale. Under Alternative 2 in Japantown, perceptions of relative building bulk would be moderated compared to Alternative 1. The hilly topography in this vicinity would assist in moderating the scale of future development near 4th and 5th Avenues. Further, buildings to 180 feet higher on the hill would have less visual contrast of heights than the 240-foot buildings proposed under Alternative 1. Also, potential intrusion into preferred helicopter airspace identified for Alternative 1 would be avoided. Therefore, no significant adverse height/bulk/scale impacts are identified if the recommended bulk control provisions are implemented. This conclusion also applies to the potential development site at the northeast corner of 5th Avenue S./S. Jackson Street, where the lower maximum heights would reduce the potential for adverse height/bulk/scale impacts compared to Alternative 1.

Beyond 2030, future development on remaining properties would tend to reinforce a relatively moderate 150 to 180-foot building scale with an increased residential presence.

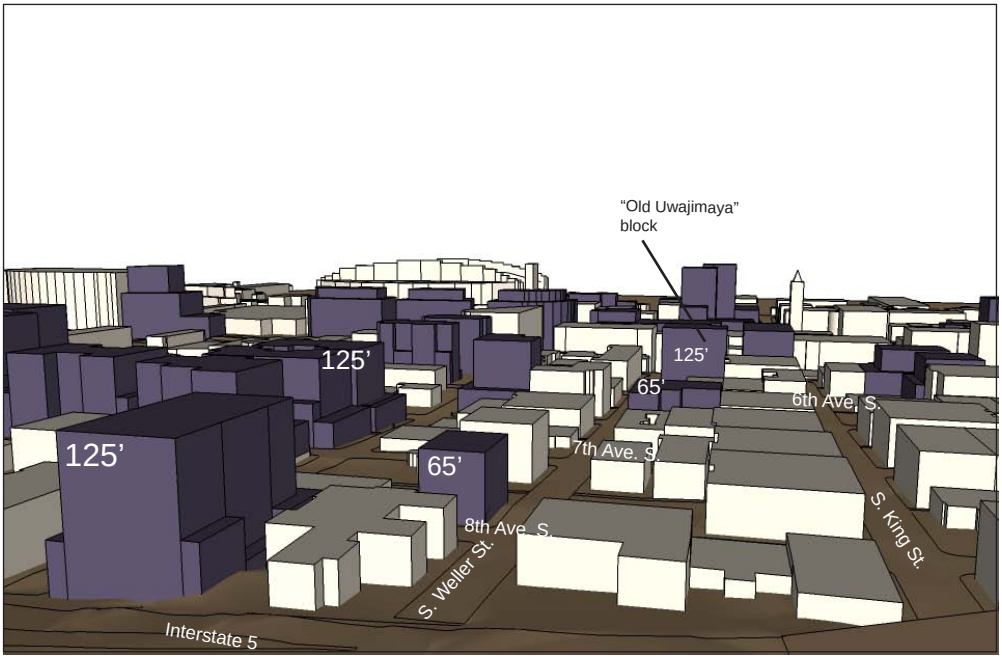
Chinatown

In Chinatown, the Alternative 2 proposal for a 125-foot height limit south of S. Weller Street would be the same as proposed under Alternative 1, with impacts the same as indicated for Alternative 1. One difference between Alternative 1 and 2 proposals is the extension of a 125-foot height limit to the block bounded by 5th and 6th Avenues S., S. Weller Street to the south and S. King Street to the north. The immediate area includes one-to-two story buildings, and several five-to-seven story buildings. In this context, future development to 125 feet would present a large contrast to the existing building pattern. Due to the combination of increased development scale and the sensitivity to maintaining compatibility of

Alternative 1



Alternative 2



Note: Hypothetical buildings shown, per the EIS growth scenario, except additional buildings shown on sites abutting S. Weller Street (Alt. 1) and on "old Uwajimaya" block (Alt. 2), for illustrative purposes.

Figure B-8

View west from Interstate 5 at S. Weller St.

development character within and adjacent to the National Register Historic District, the extension of a 125-foot height limit to this particular block could result in significant adverse height/bulk/scale impacts with future development, depending on the design and siting of new buildings. Mitigation strategies should be implemented to further influence the height, bulk and scale of future development to protect against such impacts.

Beyond 2030, to the extent that vacant or underdeveloped properties would remain, additional future development could occur.

Alternative 3, Chinatown/Japantown

Japantown

In the Japantown vicinity, the Alternative 3 proposal is for IDM zoning with a maximum height limit of up to 180 feet, 60 feet greater than the existing IDM zoning and 30 feet greater than the existing IDR zoning near 6th Avenue S. This Alternative 3 proposal in Japantown, nearly the same as proposed under Alternative 2, would represent a moderate increase in building height and scale. Other conclusions about impacts would be the same as reached for Alternative 2, except that a reduced area within the 180-foot zone would slightly reduce overall impact potential.

Beyond 2030, future development on remaining properties would tend to reinforce a relatively moderate 150 to 180-foot building scale with an increased residential presence.

Chinatown

In the Chinatown vicinity, the Alternative 3 proposal is for no change in the existing IDM zoning with an 85-foot height limit for residential-oriented buildings. This would result in no potential for significant adverse height/bulk/scale impacts.

Alternative 4, Chinatown/Japantown – No Action

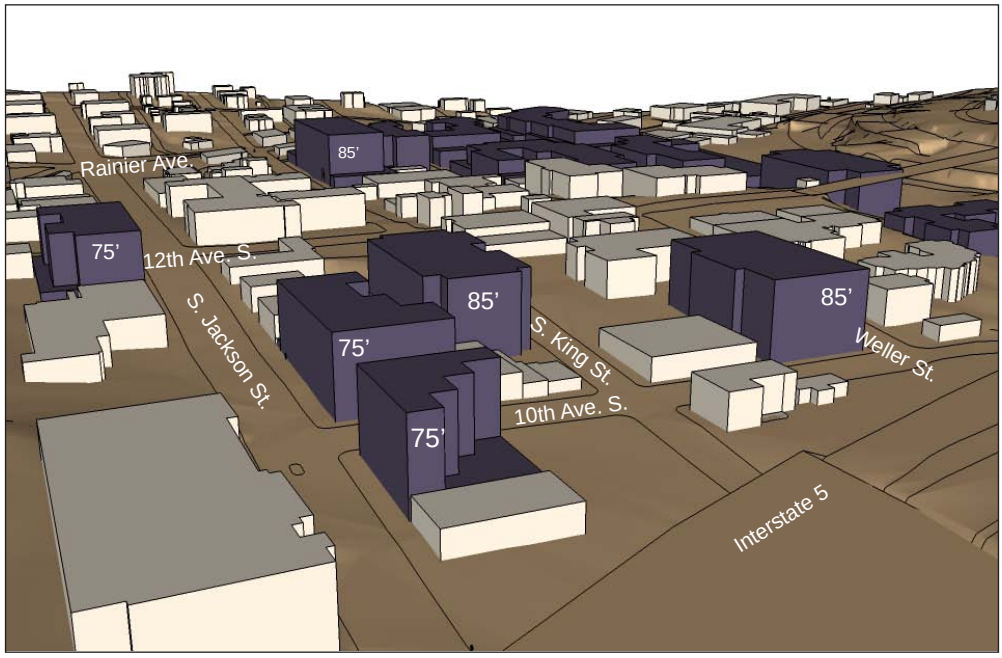
In the Japantown and Chinatown vicinities, no changes in the zoning would mean no potential for significant adverse height/bulk/scale impacts.

Little Saigon

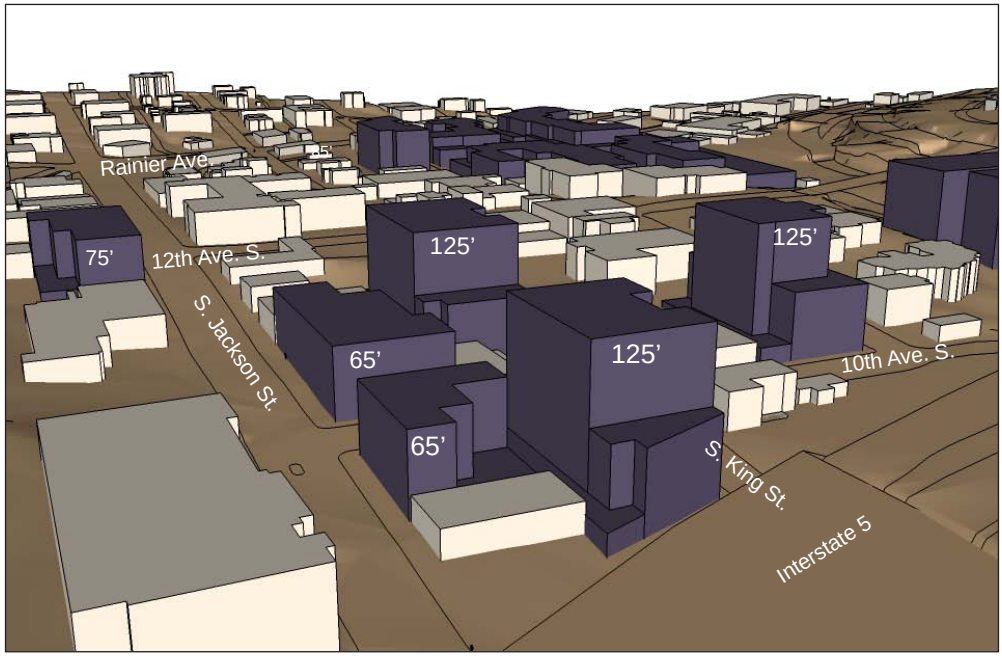
Alternative 1, Little Saigon

In the Little Saigon area, the Alternative 1 proposal is for IDM and NC3 zoning, both with a maximum height limit of up to 85 feet, 20 feet greater than the existing C, NC and IC zoning (see Figure B-9). East of Rainier Avenue S. and also north of S. Jackson Street (east of 12th Avenue S.), the proposed NC3 65' zone would represent no change in maximum height limits and only a modest increase in permissible density. These proposals represent a minor increase in building height and scale. The probable outcome would be an additional one or two floors of building height. The vicinity's stepped and sloping topography further moderates the potential effects of the increase in building height. These height limits would provide for good transitions to adjacent zones with no significant impact concerns. These factors combine to indicate that no significant adverse height/bulk/scale impacts are expected under Alternative 1. Beyond 2030, additional gradual infill development up to 85 feet in height would be expected to occur in this vicinity, or 65 feet in portions along S. Jackson Street and Rainier Avenue S., with minimal potential for significant adverse height/bulk/scale impacts.

Alternative 1



Alternative 2



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure B-9

Hypothetical Height and Bulk of Future Development, Little Saigon, Alternatives 1 and 2

Alternative 2, Little Saigon

In the Little Saigon vicinity, the Alternative 2 proposal is for Downtown Mixed Commercial (DMC) and Downtown Mixed Residential (DMR/R) zones. The DMC zones would have a height limit of 65 or 85 feet, and the DMR/R zone would have a height limit of up to 125 feet, which would be 60 feet higher than the current zoning (see Figure B-9). Other areas east of Rainier Avenue S. would be in NC3 zoning with a 65-foot height limit, meaning no change in height limits from the existing zoning. The Alternative 2 proposal also includes provisions that would shape the bulk of future development in this vicinity – such as coverage limits and/or 15-foot setbacks at building elevation of 45 feet. The level of change anticipated with the DMR/R zone represents a somewhat larger increase in building scale with surrounding zones and existing buildings than zoning under Alternatives 1 and 3. However, the recommended bulk controls included in Alternative 2, as well as the design review process, would help future development to avoid significant adverse height/bulk/scale impacts by moderating the effects of height and bulk.

At 85 feet, the height limit for the S. Dearborn Street corridor would not result in significant adverse height/bulk/scale impacts. This increase of 20 feet over current height limits would be moderated by the sloping topography of this vicinity. An area of 125-foot height limits just east of I-5 along S. Dearborn Street would similarly be moderated by sloping topography and the presence of nearby bridges, with no significant adverse impacts expected.

Other portions of Little Saigon, including the Jackson Street corridor and the east side of Rainier Avenue S. would have no potential to experience height, bulk and scale impacts due to the lack of change in the zoned height limits and limited changes (if any) in permissible building bulk.

Alternative 3, Little Saigon

In the Little Saigon vicinity, the Alternative 3 proposal is for NC3 zoning with a maximum height of 85 feet, 20 feet greater than the existing zones. The 85-foot height limit would extend over the full length of the S. Jackson Street corridor in this area, slightly greater than the heights presented in Alternative 1. Similar to Alternative 1 conclusions, this level of change would represent a minor increase in building height and scale (see Figure B-10). Other assessment of impacts under Alternative 1 also applies to Alternative 3, with a conclusion of no significant adverse height/bulk/scale impacts. This alternative would, however, result in slightly greater potential for increased building bulk in the vicinity, due to the inclusion of properties north of S. Jackson Street in the 85-foot height limit.

Alternative 4, Little Saigon – No Action

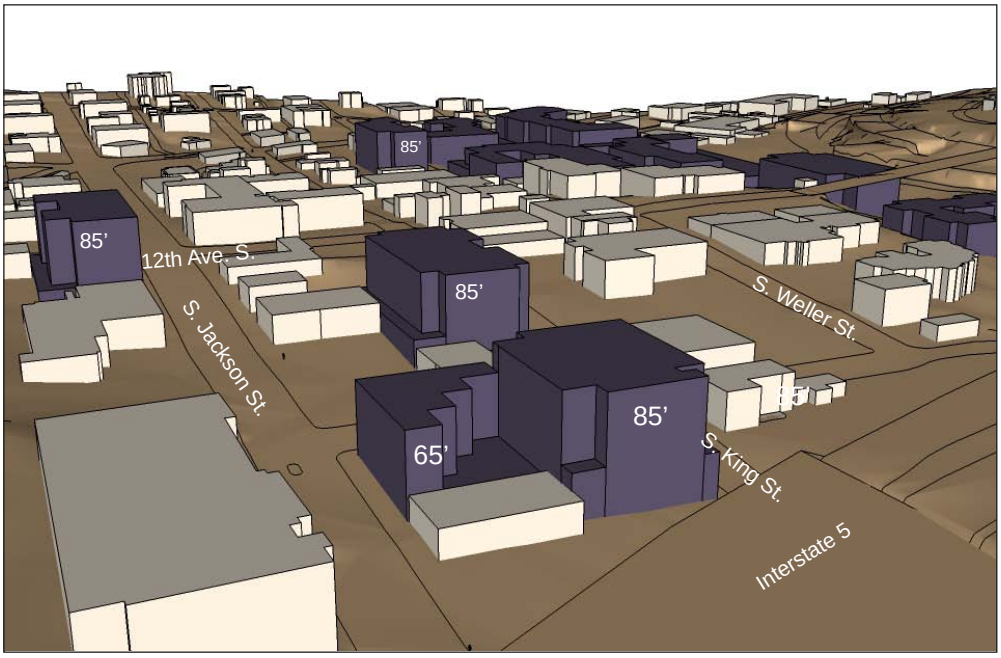
In this vicinity, no changes from existing zoning would mean no potential for significant adverse height/bulk/scale impacts (see Figure B-10).

South-of-Dearborn

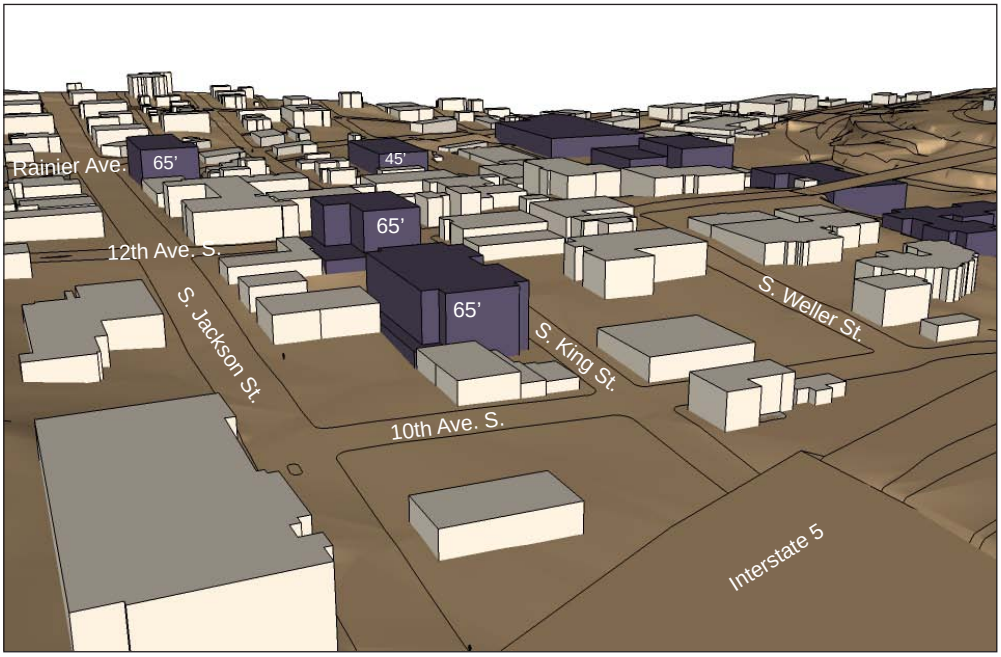
Alternative 1, South-of-Dearborn

The height, bulk and scale implications of future development in this area are influenced by the height and density regulations and property ownership patterns along 6th Avenue S. The Alternative 1 proposal includes an increase in allowable height of 40 feet, from 85 feet to 125 feet, and a change from a General Industrial zone to an Industrial Commercial zone. Alternative 1 zoning would allow increased density in commercial uses from 2.5 FAR to 3 FAR. Assuming commercial office uses would be favored, Alternative 1 zoning may result in the development of fewer but taller buildings that consolidate development capacity from many properties into a single large commercial office project. Smaller sites

Alternative 3



Alternative 4



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure B-10

Hypothetical Height and Bulk of Future Development, Little Saigon, Alternatives 3 and 4

undergoing redevelopment might see future commercial buildings at 40 to 70 feet in height that fill most of the property with the allowable 3 FAR.

This alternative would not result in 100 percent coverage of all properties with 125-foot buildings. A pattern of future new buildings distributed between existing buildings and/or with adjacent open spaces is more likely. Figure B-11 illustrates a possible development scenario with two 125-foot buildings located along 6th Avenue S. south of Airport Way. This scenario, which predicts an amount of development to the year 2030, uses two-thirds of the development capacity of the single-ownership properties along 6th Avenue S. The resulting mix of future commercial buildings to 125 feet, while it would likely contribute to "adverse" height and bulk impacts, would not likely result in "significant adverse" height, bulk and scale impacts. This conclusion relates to the amount of total amount of building bulk and height that would be possible in future development.

With a proposed IDM 125' zone immediately north of this area, no adverse impacts would be identified for transitions between zones at the edges of this vicinity. Other nearby edges include elevated freeway ramps that would help moderate the perceived building scale, as would the topography that gradually slopes down to the south.

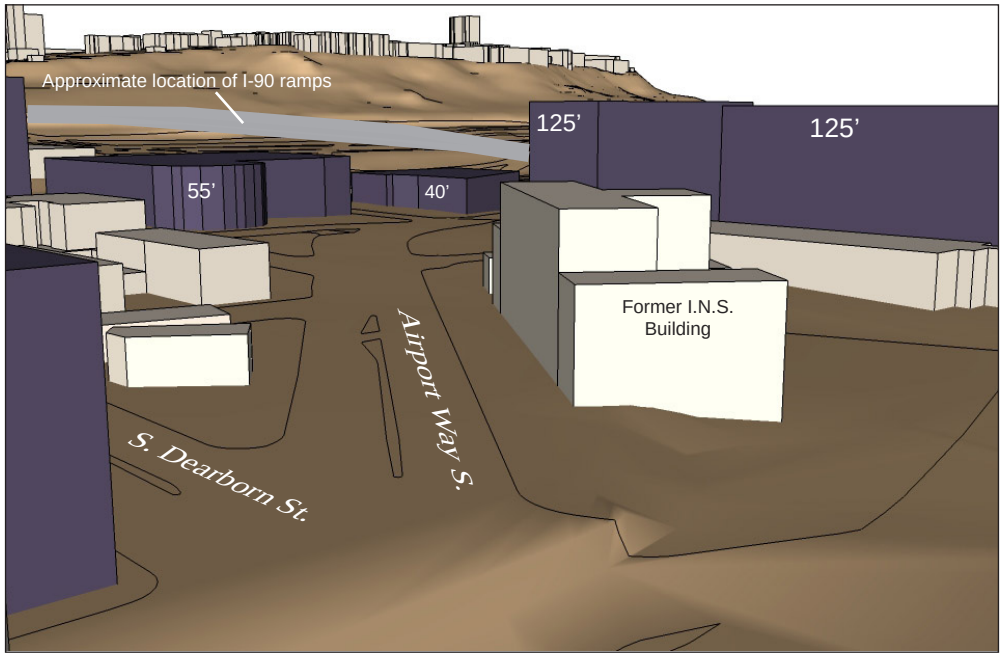
Beyond 2030, there would not be many other developable properties unless the Charles Street Yards became available for future development. Other than an estimated one-third of the development capacity retained on the 6th Avenue S. single-ownership properties, few opportunities for future additional buildings would exist in the area immediately south of Chinatown. However, property on the east edge of 4th Avenue S. also could be attractive for future development, with similar influences on building height and bulk as described above. This could result in another one or two buildings possibly reaching to 125 feet. Given the limited number of buildings and their relative scale, this additional development also would not be likely to result in significant adverse height, bulk and scale impacts.

Alternative 2, South-of-Dearborn

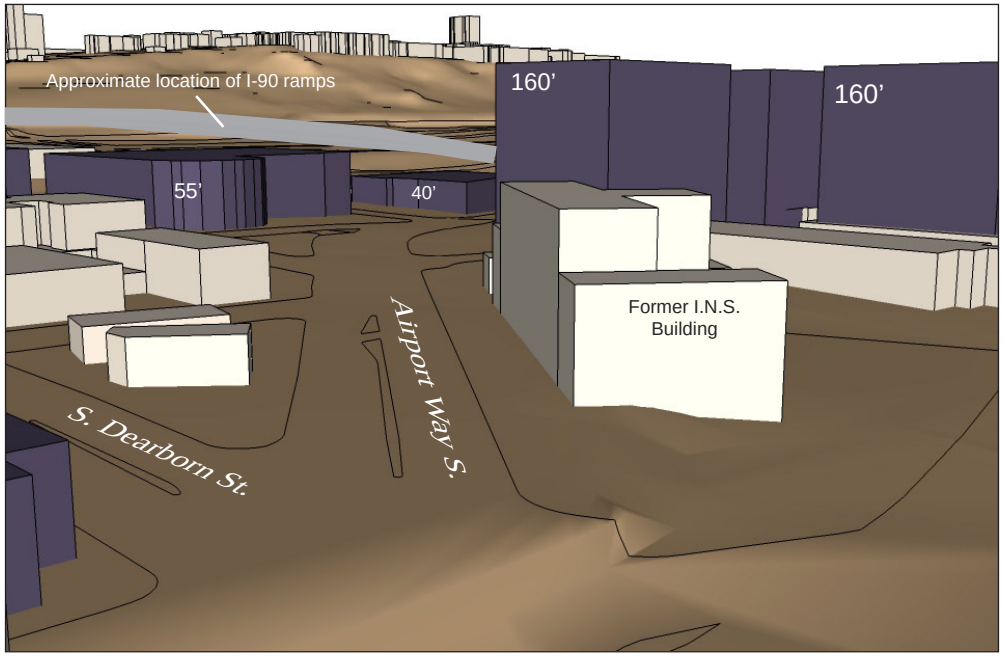
The height, bulk and scale implications of Alternative 2 are influenced by similar dynamics as discussed under Alternative 1. The Alternative 2 proposal includes an increase of 75 feet in the height limit, from 85 feet to 160 feet, and a change from a General Industrial zone to an Industrial Commercial zone. Alternative 2 also includes an increase in density limit on commercial uses from 2.5 FAR to 3 FAR. Commercial office uses would likely be the favored use for long-term development trends, with probable consolidation of development capacity from properties under single ownership to create marketable office building forms. Figure B-11 illustrates a possible development scenario with three 160-foot buildings using the full 3 FAR of development capacity on the 6th Avenue S. single-ownership properties.

As discussed for Alternative 1, this probable pattern of future development and the proposed density limits would limit the potential amount of total building bulk that could be added to this vicinity. Smaller properties, with fewer options in siting, might be designed in buildings ranging from 40 to 70 feet in height if they fully used the available 3 FAR density. Adjacent zones proposed to 125 feet or higher, and the presence of the elevated freeway ramps and downsloping topography would be factors that would moderate the perceived building scale.

Alternative 1



Alternative 2



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure B-11

Hypothetical Height and Bulk of Future Development, South-of-Dearborn, Alternatives 1 and 2

However, due to the magnitude of the proposed 160-foot building height, more discussion of the potential height, bulk and scale impacts is justified. Within typical IC zones (not including those in the Stadium Area Overlay District), design review of development proposals is not required by the City. Combined with the single-owner pattern of property ownership, this would increase the potential of a worst-case development scenario with a few relatively large and boxy buildings up to 160 feet. This would result in a building scale analogous to the Union Station offices on the east side of 4th Avenue S, likely in a cluster south of Airport Way. This future possible development pattern could result in significant adverse impacts of height, bulk and scale in this vicinity, impacts that would be greater than projected for Alternative 1. In the worst case, the visual presence of such buildings, due to bulk as well as height, could be locally dominant in views from nearby highways and views from Chinatown toward the south. For example, the building bulk could extend approximately 100-110 feet above the existing elevated I-90 ramps that pass by this vicinity. The buildings' bulk would also represent a significantly different building form and scale than is currently present in this vicinity. Mitigation strategies to further influence the height, bulk and scale of future development should be implemented to protect against such impacts.

Beyond 2030, there would not be many other developable properties unless the Charles Street Yards became available for future development. If the Charles Street Yards were developed in the future to a maximum potential, significant adverse height/bulk/scale impacts might also result. In addition, property on the east edge of 4th Avenue S. could be available for future development, with similar dynamics influencing building height and bulk as described for Alternative 1. This could result in up to two buildings up to 160 feet in height, which also could result in significant adverse height/bulk/scale impacts. However, further height, bulk and scale controls that could be incorporated through mitigation strategies, would be able to protect against such impacts.

Alternative 3, South-of-Dearborn

The height, bulk and scale implications of Alternative 3 are influenced by similar dynamics as discussed under Alternative 1, with a maximum height similar to the Alternative 2 proposal. Alternative 3 includes an increase of 75 feet in allowable height, from 85 feet to 160 feet, and a change from a General Industrial zone to a new South Downtown Mixed zone. Alternative 3 includes an increase in allowable density on commercial uses from 2.5 FAR to a maximum of 6 FAR if mixed-use development and other provisions of the SDM zone and review process are fulfilled. Less possibility exists for development that includes both commercial and residential uses within the SDM zone. The increased development capacity included in this Alternative would allow for increased numbers of buildings and increased coverage of properties. This would consist of the single-ownership properties along 6th Avenue S. Figure B-12 illustrates a possible development scenario with three 160-foot commercial buildings and an additional building complex assumed to include residential uses in approximately four 160 foot tall towers with limited floor sizes.

Based on the proposed 160-foot height limits and the near-doubling of development capacity in Alternative 3 compared to Alternatives 1 and 2, significant adverse height/bulk/scale impacts could occur in this vicinity. The proposed SDM zone would help avoid a worst-case impact scenario and would help meet urban design objectives through a mandated special review process and design review. The Mitigation Strategies discussion later in this section documents the need to address building height, bulk and scale in future development.

Future development beyond 2030 would likely generate additional significant adverse height, bulk and scale impacts, more than Alternatives 1 and 2 (including possibly along the east side of 4th Avenue S. or on the Charles Street Yards). This is due to the additional height and development capacity created by the Alternative 3 SDM zone. Such impacts could also be addressed through SDM special review and design review processes.

Alternative 4, South-of-Dearborn – No Action
In this vicinity, no changes from existing zoning would mean no potential for significant adverse height/bulk/scale impacts.

Stadium Area

The location, land uses, zoning and building patterns in the Stadium Area define its role as a transition between the Downtown Urban Center to the north and the Greater Duwamish Manufacturing and Industrial Center to the south. Building density and scale (except for the athletic stadia) gradually decreases from north to south, illustrating past development history and the greater development capacity afforded through Downtown zoning. The area's industrial and Downtown use patterns contrast most clearly along 1st Avenue S. between Railroad Way S. to the north and S. Royal Brougham Way to the south, with industrial zoning on the west side of the street (65-foot height limit), and Pioneer Square Mixed zoning on the east side of the street (120-foot height limit). The SR99 Alaskan Way Viaduct is immediately adjacent to and west, forming a fence-like edge, while the large-scale athletic stadia are nearby to the east. Also to the west are the Port of Seattle terminal facilities.

These physical patterns and features form the context for evaluation of height, bulk and scale impacts. Without considering the large scale of the athletic stadia, the conditions suggest that zoning and height/bulk limits should be graduated from lower heights and densities in the south toward higher heights and densities in the north, nearest the Pioneer Square neighborhood. However, the presence of the tall and massive stadia is a counterpoint to the scale of other existing buildings, indicating this is an area where buildings of different height, bulk and scale are able to coexist.

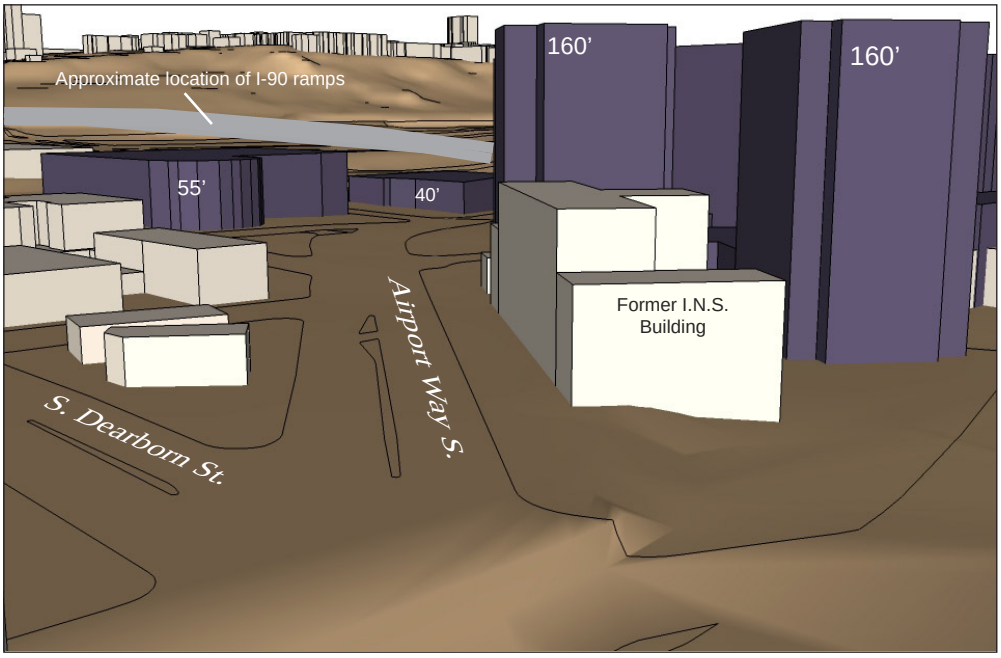
Other zoning analysis supports the retention of industrial zoning in the southern portion of the study area (south of S. Royal Brougham Way) but the accommodation of a wider range of land use possibilities in the northern portion of this 1st Avenue S. vicinity.

Alternative 1, Stadium Area

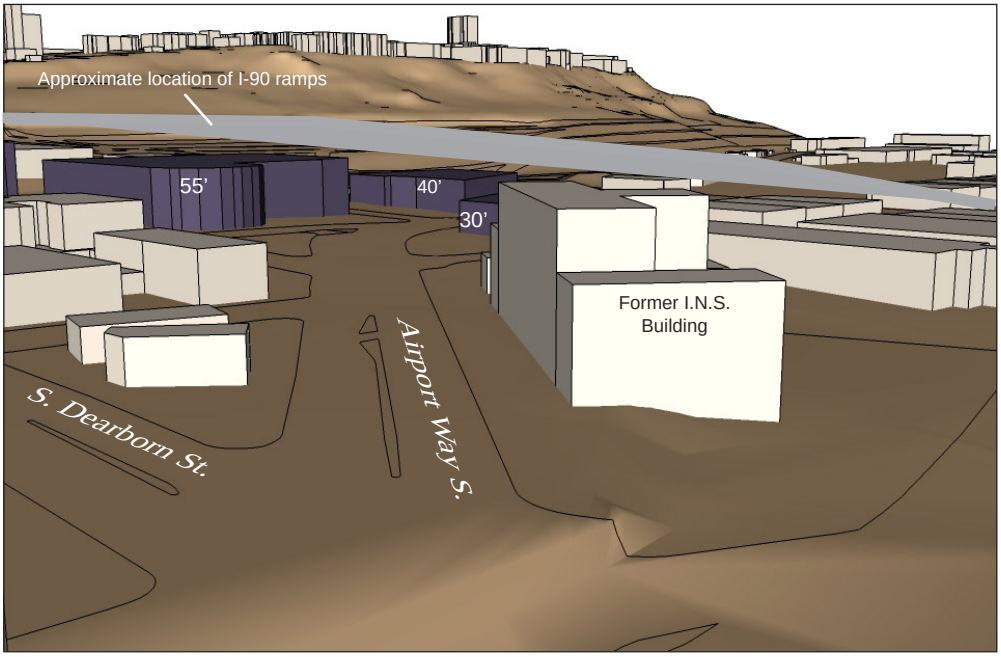
This area's orientation along a corridor and the presence of a few large properties influences potential future development. The use of the western half of the WOSCA property for SR 99 construction would also influence development, by narrowing the possible development site primarily to a 120-foot wide area along the west side of 1st Avenue S.

If not positively influenced by regulatory or design review guidance, the shape of potential future buildings could be long in the north-south dimension, potentially interrupted only by vehicle access drives. Similarly, worst case architectural designs might consist of monotonous and minimally-shaped treatments of an entire street-facing façade. Resulting buildings could be long rectangular forms with minimal architectural treatments that would not respond well to neighborhood context, and would negatively affect the pedestrian environment along 1st Avenue S. Proposed density limits would play a role in constraining total building bulk, but would not by themselves ensure that optimal arrangements of building bulk would occur in future development. Future new buildings' heights could extend to 160 feet in the northern portion of the WOSCA property, 100 feet in the southern two-thirds of the WOSCA property to Royal Brougham Way, and to 85 feet in the Pyramid Brewery block. These zoned height limits on the west side of 1st Avenue S. would be similar to height limits up to 120 feet on the east side of 1st Avenue S. north of S. Royal Brougham Way and 65 feet or 85 feet in locations south of S. Royal Brougham Way. Development at the Pyramid Brewery block, directly across the street from Safeco Field, could achieve building heights 20 feet taller than under existing conditions.

Alternative 3



Alternative 4



Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure B-12

Hypothetical Height and Bulk of Future Development, South-of-Dearborn, Alternatives 3 and 4

Alternative 1 would avoid the worst case potential outcomes through design review and a special review process mandated by the proposed South Downtown Mixed (SDM) zone. Such processes would ensure that building design treatments would include façade modulation, use of context-appropriate façade materials, shaping of building bulk, and pedestrian features along 1st Avenue S. These would improve overall design quality and help avoid potential significant adverse impacts related to height, bulk and scale on the immediate built environment. Figure B-13 illustrates a potential arrangement of building bulk under the Alternative 1 proposal. Well-defined arrangements of buildings and building bulk could improve passersby perceptions of building scale and give an improved sense of progression along a corridor, similar to the experience of passing by the existing buildings on the east side of 1st Avenue S.

The west-facing portions of future development would relate to the adjacent SR 99 highway and railroad tracks and the flat concrete surface of port facilities further west across Alaskan Way. A viaduct structure (if present) would tend to maintain a fence-like edge in close proximity to future buildings in the 1st Avenue S. corridor. Meanwhile, a non-viaduct highway or street at-grade would increase the relative exposure of future building facades toward the west. These are not interpreted as adverse height/bulk/ scale impacts, but would be relevant to design of west-facing building facades and the potential exposure to highway and/or port-related noise, light and glare sources (further discussed later in this section and in the Environmental Health section of DEIS Chapter 3).

Along the 4th Avenue S. corridor north of S. Royal Brougham Way, future development could extend up to 125 feet in height in the proposed IC zone south of approximately S. Dearborn Street on both sides of 4th Avenue S. (see Figure B-14, and refer to the Pioneer Square impact discussion about portions of 4th Avenue S.). If this occurred, it would add building bulk along the 4th Avenue S. corridor, replacing open space currently in or near the railroad corridor and replacing views of the east side of Qwest Field and toward the Downtown skyline with views of new buildings. Design review processes would contribute to shaping the appearance of buildings, which would help avoid the potential for significant adverse height/bulk/scale impacts.

Impacts at build-out beyond year 2030 might include full redevelopment of the affected properties along the 1st Avenue S. corridor, possibly including the Pyramid Brewery block as well as the WOSCA property (impacts identified above). Buildings up to 120 feet could be approved in the PSM zoned area between Occidental Avenue S. and 1st Avenue S. This would place additional building bulk in close proximity to Qwest Field.

Alternative 2, Stadium Area

The potential influences of SR 99 construction on future development are the same as identified above for Alternative 1. In the worst case, there would be potential for buildings that are long in the north-south dimension with single-themed façade treatments, minimal response to the neighborhood context, and few pedestrian amenities. Such buildings could extend to 100 feet in height in the northern portion of the WOSCA property, 85 feet in the central portion of the WOSCA property, and the existing height limit of 65 feet would be retained in the southern portion of the WOSCA property and the entire Pyramid Brewery block. Compared to Alternative 1, the reduction in scale by 60 feet in the northern portion of the vicinity would be most noticeable, while the 15 to 20-foot reduction in scale in other areas would be less noticeable to passersby. The existing density limit of 3 FAR would be retained under Alternative 2, which would contrast with changes to 4.5 or 6 FAR under Alternative 1. This means “no change” in height/bulk/scale conditions for the southern portion of the 1st Avenue S. corridor, and a limited increase in possible building heights in the northern two-thirds of the WOSCA property. This added height would provide additional vertical space to accommodate taller building layouts rather than constraining them to lower, longer building layouts. No significant adverse height/bulk/scale impacts are identified for Alternative 2.

Alternative 1

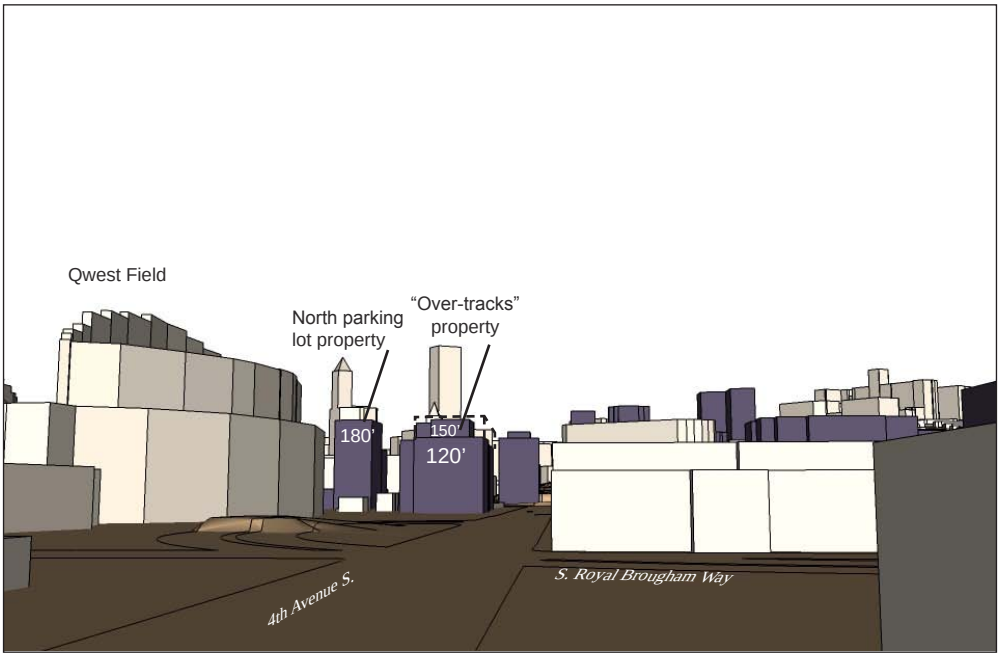
Alternative 2

Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

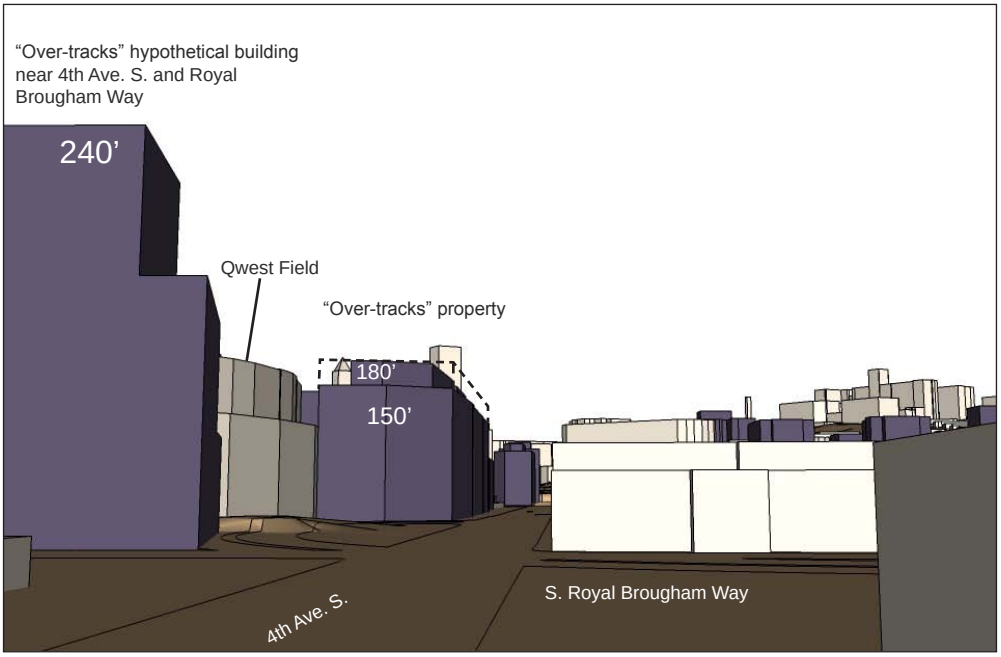
Figure B-13

Hypothetical Height and Bulk of Future Development, 1st Avenue S., Alternatives 1 and 2

Alternative 1



Alternative 2



Note: Buildings shown represent hypothetical development. Dotted lines indicate a possible maximum "building envelope" defined by the height limit. Density limits and bulk controls would prevent filling the entire building envelope.

Figure B-14

Hypothetical Height, Bulk at "Over-Tracks" Property, Looking North, Alternatives 1 and 2

Current design review processes required for future development along 1st Avenue S. would positively influence building design, making it likely that most design issues related to building height, bulk and façade treatments could be satisfactorily addressed. However, compared to the special review process proposed for Alternatives 1 and 3, there would be somewhat less certainty that public streetscapes and height/bulk building relationships would be optimally addressed to achieve a high-quality urban environment.

With lower building heights than Alternative 1, future buildings under Alternative 2 would result in somewhat less potential exposure of future building facades toward the west. Alternative 2 would not have the potential for residential uses described under Alternative 1. This would reduce the potential for highway and/or port-related adverse noise, light and glare impacts (further discussed later in this section and in the Environmental Health section of this chapter).

Along the 4th Avenue S. corridor, future development in the proposed IC zone south of S. Dearborn Street could extend up to 240 feet in height on the west side of 4th Avenue S., and up to 160 feet on the east side of 4th Avenue S. (refer to Figure B-14). Compared to Alternative 1, this scenario creates increased potential for bulkier buildings along 4th Avenue S that could be mitigated through a mandated design review process. However, based on a worst-case scenario, significant adverse height/bulk/scale impacts could occur under Alternative 2 for this portion of the "over-tracks" property. Such impacts could be avoided if mitigation strategies are implemented to influence the bulk, scale and siting of future new structures.

Impacts at build-out, beyond year 2030, would be similar to those discussed under Alternative 1.

Alternative 3, Stadium Area

The potential influences of SR 99 construction on future development are the same as identified above for Alternative 1. Worst-case impact potential related to building design, façade treatments and pedestrian environment would also be similar to Alternative 1, except that the maximum height in the northern portion of the WOSCA property would be 120 feet, 40 feet less than proposed under Alternative 1 (see Figure B-15). Given the similar proposals for South Downtown Mixed zoning north of S. Royal Brougham Way and IC 85' zoning to the south, the ability to avoid worst-case potential significant adverse height/bulk/scale impacts through design review and a special review process mandated by SDM zoning would be the same as discussed for Alternative 1. The potential exposure of west-facing portions of future buildings to highway and port activities would be similar to but slightly less than expected for Alternative 1, given lower maximum heights in the northern portion of the WOSCA property (see noise, light and glare discussion in this section and in the Environmental Health section of this chapter).

Along the 4th Avenue S. corridor, future development in the proposed IC zone south of approximately S. Plummer Street to S. Royal Brougham Way could extend up to 85 feet in height on the west side of 4th Avenue S. (see Figure B-16). Compared to Alternative 1, this alternative has lesser potential for building height and bulk on the west side of 4th Avenue S., with no potential for significant adverse height/bulk/ scale impacts.

Impacts at build-out, beyond year 2030, would be the same as those discussed under Alternative 1.

Alternative 4, Stadium Area – No Action

Under the No Action Alternative, with no changes in the regulatory environment, there would be no potential for height, bulk and scale impacts. Future potential development in the affected industrial area

Alternative 3

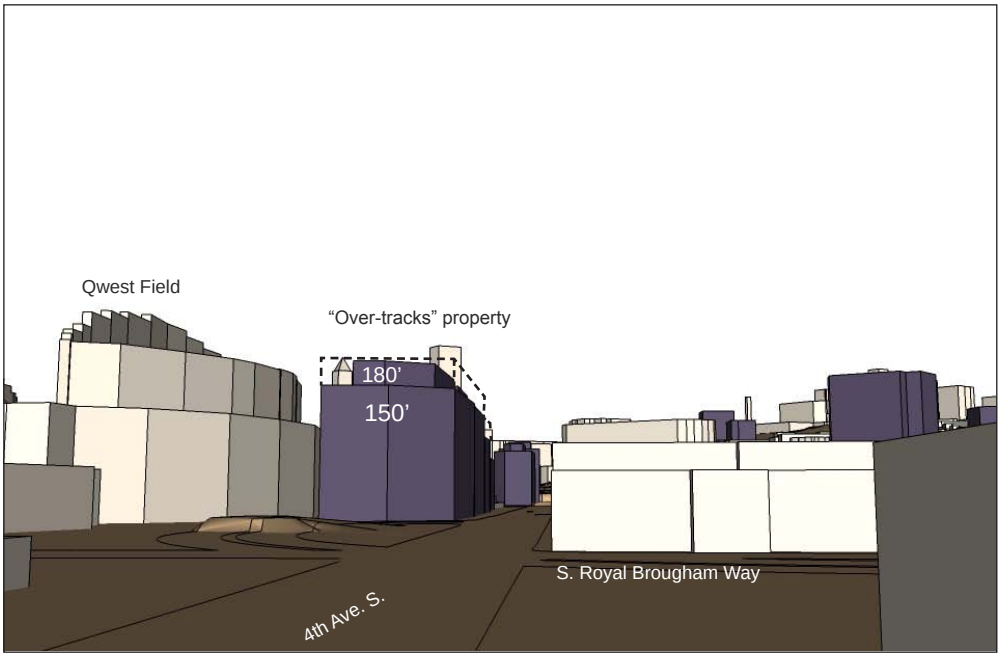
Alternative 4

Note: Buildings shown represent hypothetical development that matches the growth assumed per the EIS growth scenario.

Figure B-15

Hypothetical Height and Bulk of Future Development, 1st Avenue S., Alternatives 3 and 4

Alternative 3



Note: Buildings shown represent hypothetical development. Dotted lines indicate a possible maximum "building envelope" defined by the height limit. Density limits and bulk controls would prevent filling the entire building envelope.

Alternative 4

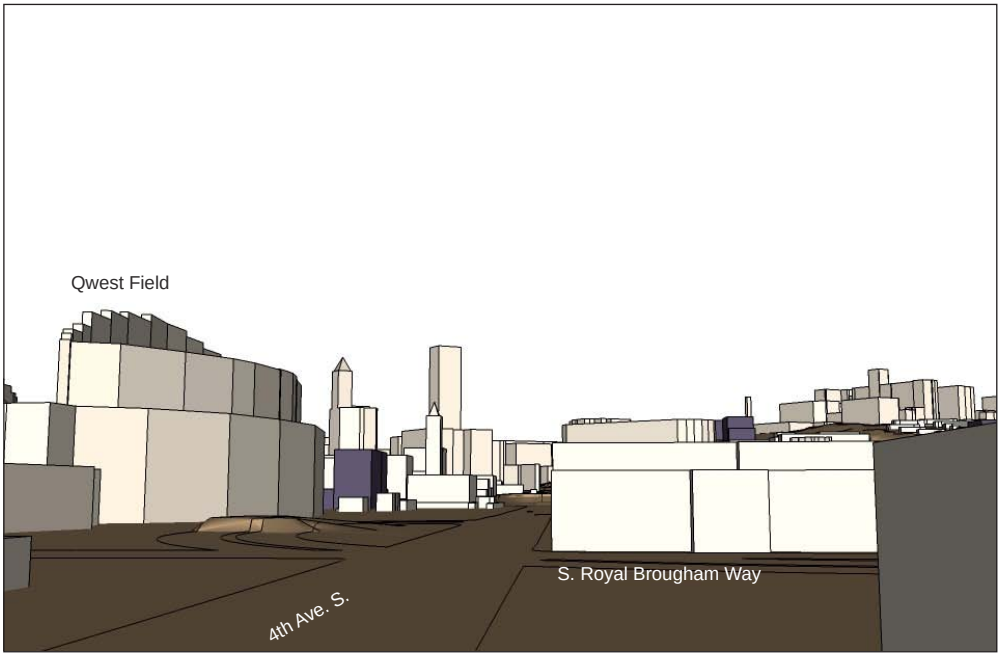


Figure B-16

Hypothetical Height, Bulk at "Over-Tracks" Property, Looking North, Alternatives 3 and 4

would be required to fit within the current requirements of IC 65' zoning, while the Pioneer Square Mixed zone on the east side of 1st Avenue S. north of S. Royal Brougham Way would continue to have 85-foot height limits for commercial structures and 120-foot height limits for residential structures. Many but perhaps not all possible future developments would undergo design review processes.

COMPATIBILITY

Land Use Patterns and Height Transitions

The evaluations of land use and height, bulk and scale impacts in Chapter 3, Appendix A and this appendix thoroughly describe several aspects of potential land use and zoning impacts that relate to compatibility. Please review those analyses for further discussion of compatibility topics.

Light, Glare and Shadows

Pioneer Square

No significant adverse light, glare or shadow impacts are identified for this vicinity under any of the alternatives. This vicinity does not contain any of the locations where shadow impacts may be mitigated in Downtown.

Chinatown/Japantown

There is minor potential for adverse glare and shadow impacts with future development in a few locations in this vicinity. However, due to the expected effectiveness of the neighborhood's special review processes, these potential impacts would not likely rise to a level of significant adverse impacts. Under any of the alternatives, new buildings in proximity to Interstate 5 could potentially be designed with glass and reflective surfaces that would generate glare in passing motorists' eyes at certain times of day. The areas where this might occur include: properties in Chinatown, Little Saigon and south-of-Dearborn nearest Interstate 5 and I-90 ramps, and the 6th/Yesler Way vicinity that is visible to southbound I-5 traffic. Adverse shadowing impacts could potentially occur on a segment of Danny Woo Gardens under any alternative if future development occurs on a property west of 6th Avenue S. and south of S. Washington Street. Also, due to proposed adjustments in the IDR 150' zone development regulations, there is a minor possibility of additional shadowing on Danny Woo Gardens if development occurs along S. Main Street. However, because the garden is already protected from adverse shadow impacts by city policy and special review processes, the potential for additional significant shadow impacts would either be avoided altogether or minimized by these future development review processes. No significant adverse light impacts are identified anywhere in this vicinity under any of the alternatives.

Little Saigon

No significant adverse light, glare or shadow impacts are identified for this vicinity under any of the alternatives. There is minor potential for adverse glare impacts, as identified in the discussion above on Chinatown/Japantown glare impacts. This vicinity does not include any identified significant shadow impact issues, nor any of the locations where shadow impacts may be mitigated in Downtown.

South-of-Dearborn

No significant adverse light, glare or shadow impacts are identified for this vicinity under any of the alternatives. There is minor potential for adverse glare impacts, as identified in the discussion above on Chinatown/Japantown glare impacts. This could potentially occur, depending upon the design of future development on properties in general proximity to Interstate 5 or the Interstate 90 highway ramps. Future design review processes on project-specific development proposals could help avoid this potential glare

impact. This vicinity, currently located outside the Downtown Urban Center, does not contain any identified significant shadow impact issues.

Stadium Area

Under Alternatives 1 and 3, future zones would allow residential uses in the northern portion of the WOSCA property. Newly allowing such residential uses in an area subject to nearby port/industrial uses' light/glare could result in adverse compatibility impacts. Port facilities, located just to the west across SR 99 and Alaskan Way, include high-volume container transfer facilities that have the potential to contribute to adverse light/glare conditions if residential uses are present in this location. Night-time lighting and activities would be of most concern, as Port lighting would contribute to illumination levels that could affect residences facing toward the west. The severity of this impact would therefore depend on how residential uses would be situated on the affected property. If shielded by other buildings, the severity of the potential impact on residential uses would be lessened.

Other adverse glare impacts from passing vehicles on SR99 would be possible along this corridor, similar to those identified in the Chinatown/Japantown discussion above, under any alternative.

No significant adverse shadow impacts are identified for this vicinity under any of the alternatives.

MITIGATION STRATEGIES

Pioneer Square

Alternatives 1 and 2

- For the Qwest Field north parking lot and "over-tracks" properties, to avoid potential significant adverse height/bulk/scale impacts, define bulk controls in greater detail for future possible development. Also, future development proposals should be evaluated according to Pioneer Square Preservation District guidelines that address building bulk.

Alternative 1

- In Pioneer Square, to mitigate potential significant adverse impacts on nearby historic-contributing structures under Alternative 1, define bulk controls in greater detail for future possible development to 180 feet on the "railroad gap" properties on the west side of 4th Avenue S. north of S. Jackson Street.

Alternative 2

- In the vicinity between 3rd and 4th Avenues S., rezones to a 150-foot maximum height could be limited only to the "railroad gap" areas abutting the west side of 4th Avenue S., to avoid direct impacts to properties with historically-contributing structures.

Alternative 3

- For the "over-tracks" property within the proposed SDM zone, the public process and subsequent design review process associated with the SDM zone should incorporate strategies to influence the arrangement of building bulk to avoid significant adverse height/bulk/scale impacts from the worst-case scenario.

Chinatown/Japantown

Alternative 1

- In the hilly vicinity along 6th Avenue south of Yesler Way, to avoid potential significant adverse height/bulk/scale impacts, define bulk controls in greater detail for future possible development, or select a lower height limit than 240 feet.

Alternative 2

- In Chinatown, for an extension of a 125-foot height limit to the block bounded by 5th and 6th Avenues S. and S. King and S. Weller Streets, which is partly within the National Register Historic District, define bulk controls, relationships to the street-level environment and strategies to maintain compatibility with historic character in greater detail.
- In Chinatown, consider avoiding rezone of properties, such as the Publix Hotel, that are currently within the National Register Historic District.

South-of-Dearborn

Alternative 2

- In order to avoid significant adverse height/bulk/scale impacts, rezones to an IC 160' zone could be avoided, the bulk control requirements applicable to future development could be specified in greater detail, and/or design review processes could be better specified.

Alternative 3

- For the South-of-Dearborn vicinity within the proposed SDM zone, the public process and subsequent design review process associated with the SDM zone should incorporate strategies to influence the arrangement of building bulk to avoid significant adverse height/bulk/scale impacts from the worst-case scenario.

Stadium Area

Alternatives 1 and 3

- For the WOSCA property vicinity within the proposed SDM zone, the public process and subsequent design review process associated with the SDM zone should incorporate strategies to influence the arrangement of building bulk to avoid significant adverse height/bulk/scale impacts from the worst-case scenario.

Alternative 2

- In order to avoid significant adverse height/bulk/scale impacts, rezones to an IC 240' zone along the west side of 4th Avenue S. north of S. Royal Brougham Way could be avoided, the bulk control requirements applicable to future development could be specified in greater detail, and/or design review processes could be better specified.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

With implementation of mitigation strategies to address the identified significant adverse height/bulk/scale impacts for the alternatives, no significant unavoidable adverse impacts are expected to occur.

Little Saigon & Chinatown/International District, Impacts on Local Businesses from Proposed LU/Zoning Changes & Dearborn Street Mixed-Use Shopping Center

DRAFT Phase I Summary: Assessment of Existing Business and Retail Real Estate Conditions

April 5, 2007
Client: City of Seattle, Department of Planning & Development

STRATEGICECONOMICS

TRANG D. TU CONSULTING

I. OVERVIEW

This report summarizes existing business and retail real estate conditions and trends in the Chinatown/International District and Little Saigon business districts of central Seattle. It is the result of the first phase of a three-phase study to evaluate the potential economic impacts of proposed zoning and land use changes on local businesses in the shopping districts, as well as the potential specific impacts of a proposed shopping center and 500-unit housing development project at the existing Goodwill site at South Dearborn Street and Rainier Avenue South. Strategic Economics and Trang D. Tu Consulting undertake this study for the City of Seattle's Department of Planning and Development (DPD) as part of DPD's Livable South Downtown planning study. The Livable South Downtown planning effort is a project of Mayor Greg Nickel's Center City Seattle strategy to create a livable, walkable 24/7 regional core within Downtown and the surrounding neighborhoods.

Phase I consisted of investigation and evaluation of the current state of businesses in the district and trends over time; methods used include both quantitative data analysis and qualitative assessment via interviews. Quantitative research included analysis of a major community-based business survey and inventory performed during the second half of 2006 and evaluation of business revenue trends by industry from 1997 to 2006, as well as property transactions between 2001 and 2006. In addition to the quantitative analyses, Phase I included qualitative assessment of business and retail market conditions in Little Saigon and the Chinatown/International District. Because significant quantitative data was already available for Chinatown/International District (results from the survey of 300+ businesses), the qualitative assessment gave relatively more emphasis to Little Saigon, where no business surveys had been conducted (other than a general inventory of types of businesses).[1]

Phase II uses the findings of Phase I, as well as additional case study, literature review, and analysis of the proposed land use and zoning changes and proposed Dearborn project to determine likely economic impacts on local businesses. Phase III includes formulation of targeted mitigation & economic development strategies to temper the potential negative impacts of the proposed changes and harness the prospective market momentum generated by new development to benefit existing local businesses.

On March 9, 2007, preliminary findings from Phase I were vetted with a small group of community stakeholders who were invited to review the results of each of the three study phases.[2] Community members involved include representatives from: Inter*Im Community Development Association, Uwajimaya, Inc., the Seattle Chinese Chamber of Commerce, the Vietnamese American Economic Development Association, and the Dearborn Street Project.

[1] Detailed information regarding methodology is found at the beginning of each section.

[2] The review group also met on January 30, 2007, with the purpose of introducing the consultant team, and presenting and obtaining input on the scope of the study.

SUMMARY OF KEY FINDINGS: CHINATOWN/INTERNATIONAL DISTRICT

The following summarizes the key findings regarding existing business and real estate conditions in Chinatown/International District:

- The Chinatown business district is both extensive and intensive; there are over 300 business and 40 non-profit organizations spread over a 10-block area with multiple clusters of businesses on Main, Jackson, King, and Weller Streets and 6th, Maynard, 7th and 8th Avenues. The mix is diverse; however, there are concentrations of business types, such as Chinese and other Asian restaurants and alternative medicine, as well as key anchors like Uwajimaya, that create specialty niches with a regional draw.

- Over the past ten years, revenues of consumer-oriented shopping district businesses have declined from $66 million to $41 million. Restaurant sales shrank by over $10 million, nearly a third of total revenues, while miscellaneous retail outlets lost over $6 million in revenues.[3] At the same time, the average tenure of existing restaurants and retailers is 12 years and 11 years, respectively, considerable life spans in volatile industries. While the long life span of these businesses is a testament to the tenacity of their owners, it also indicates that more recently, many new Asian-American owned restaurants and retailers have not been choosing to locate in Chinatown. While the 79 existing restaurants and 58 retailers are a regional attraction and major asset to the district, the 10-year declining trend in revenues and the growth of other Asian-American business districts poses a risk to the on-going health of Chinatown's traditional businesses.

- Commercial lease rates vary widely reflecting the diversity of age and condition of space in the district. Approximately ¼ of surveyed businesses pay less than $1.00 per square foot per month, while 1/3 pay $1.00 - $1.50, ¼ pay $1.50 - $2.00 and the remainder over $2.00. On average, retailers and consumer service providers currently pay less than enough to rent to occupy space in new storefronts created by new mixed-use development and driven by housing or office. Existing restaurants on average pay the approximate minimum amenity rent ($1.50/SF/Month); however, additional losses in restaurant revenues could undermine this.

- Service sector business revenues almost tripled between 1997 and 2006, growing from $88 million to $242 million. This growth was driven by business, legal and professional services business revenues and reflects the southward expansion of Downtown office users. The growing day-time office worker population provides the shopping district's restaurants with lunch-time customers and could provide daily- or weekly-needs retailers with new local patrons, but also complicates the district's identity as a regional specialty shopping district. The health services sector also grew modestly, but steadily, during this time period.

- Chinatown's businesses have diverse market orientations. Approximately two-thirds have a customer base that is city-wide, regional or extra-regional; this includes restaurants that serve Downtown workers at lunch-time. The remaining third of businesses serve residents of Chinatown and adjacent neighborhoods. The customer base also shifts from being more local during the week to more regional on the weekend. The majority of businesses serve customers of all ethnicities; approximately 1 in 5 serves a pan-Asian customer base and another 1 in 5 serve a specifically Chinese and Chinese-American, or Japanese-American clientele.

[3] Uwajimaya's revenues were likely not included in the sales data. While this negatively skews the retail trend, it also makes the state of other area retailers more clear.

SUMMARY OF KEY FINDINGS: LITTLE SAIGON

The following summarizes the key findings regarding existing business and retail real estate conditions in Little Saigon:

- Little Saigon is a specialty ethnic shopping district comprised of approximately 175 businesses and 25 non-profit organizations strongly clustered on S Jackson Street and 12th Avenue S. While there are some industrial and wholesale businesses on S. King and S. Weller Streets, retail, restaurant, personal services and small office uses, the mainstays of the district, are found on S. Jackson Street.

- In contrast to Chinatown, the district has a growing retail sector; total retail revenues grew modestly but steadily from $22 million in 1997 to $32.8 million in 2006. Retail growth was led by the expansion of groceries and specialty groceries in the area; by 2006, there were approximately 12 food stores in Little Saigon. The restaurant sub-sector, comprised of 35 restaurants, 24 of which are Vietnamese, has also grown steadily, doubling in revenues over the past 10 years. Other sizable retail and personal service clusters, including jewelry (12 outlets) and hair and nail salons (19 outlets), grew steadily in total revenues from 1997 to the early 2000s, but then began to decline. This is related both to larger economic shifts as well as the rise of other less central and less expensive commercial districts as attractive locations for Vietnamese-American businesses and customers. It may also relate to businesses undercutting each other due to increased competition.

- Retail lease rates are approximately $1.50 to $2.00 per square foot per month. This range of lease rates is both higher and tighter than Chinatown and correlates to the more limited types of space available (largely one and two-story strip commercial) and its more recent development. The business inventory found a high rate of vacancy (19 percent), but these vacancies were found mostly in the mixed industrial and residential blocks off of S. Jackson Street and do not reflect demand for retail and office space in the heart of the district.

- The customer base varies both ethnically and geographically by the type of business, a business' degree of media exposure, and the proprietor's intentions regarding target market. Restaurants are split between those that have intentionally targeted a more mass market through non-traditional ambience or family orientation versus older establishments that have continued to serve a largely Vietnamese-American clientele. Supermarkets are similarly split, while jewelers, nail salons and professional office users are more focused on the regional Vietnamese-American market, and Asian-American market. Some businesses observed that their customer base has become increasingly varied over time, given media exposure, and that the regional Vietnamese-American clientele is now focused on weekends, similar to Chinatown's regional weekend draw.

- Most businesses interviewed choose their Little Saigon location due to the low rents, proximity to other Vietnamese-American enterprises and desire to serve a Vietnamese-American clientele. The majority of those interviewed wished to expand their businesses and preferred to remain within Little Saigon and several expressed the desire to own and develop property in the area. Interest in expansion varied according to family and financial resources, the proprietor's level of business experience, strategic planning skills and formal training, as well as their attitude toward risk. These factors frequently correlated with the owner's age and degree of assimilation.

II. CHINATOWN/INTERNATIONAL DISTRICT: EXISTING BUSINESS CONDITIONS & TRENDS

The following section summarizes existing business and retail real estate market conditions in the Chinatown/International District shopping district of Seattle.[4] This includes current business mix, distribution and tenure, business revenue trends, retail real estate market conditions, customer base, and business owner characteristics. Also included is a discussion of general development trends. Key findings can be found at the conclusion of this section, beginning on page 24.

This summary is based on quantitative analysis of various pre-existing databases, as well as interviews of business and property owners, brokers and developers active or knowledgeable about Chinatown and review of previous studies and analysis conducted as part of the Livable South Downtown planning process. Database sources include an extensive business inventory and business owner survey conducted between May and December of 2006 and overseen by Rebecca Frestedt for five community-based organizations in Chinatown/ID and Little Saigon.[5] This survey included a door-to-door survey of business owners in Chinatown/ID, resulting in interviews of approximately 301 business owners, as well as a physical inventory of businesses and properties in Little Saigon. Analysis performed for the Chinatown/ID portion of this study by Strategic Economics regarding current business mix, distribution & tenure, customer base, retail market conditions and business owner characteristics are based largely on the data gathered through the door-to-door business survey, interviews with local brokers and developers and six supplemental business and property owner interviews conducted by Trang Tu.[6]

The other two pre-existing data resources used for this study include business revenues for all businesses in Chinatown/ID and Little Saigon over a ten year period, provided by the Revenue and Consumer Affairs division of the Department of Executive Administration at the City of Seattle and analyzed by Standard Industry Classification, and property transaction records over a five year period provided by First American Real Estate Solutions. Analysis of these data records forms the basis of findings regarding business revenues trends and contributes to the findings regarding general development trends in both Chinatown/ID and Little Saigon.

CURRENT BUSINESS MIX & DISTRIBUTION

Chinatown's business community includes over 300 businesses and 40 non-profit organizations.[7] The shopping district is both extensive in size and intensive in number, with significant concentrations of businesses over a 10-block core area (see **Map 1**[8], page 6). The over-all business mix is diverse, with scores of businesses in every industry category, but also has significant concentrations and specialty anchors, creating niches that give the area a regional customer draw.

[4] The Chinatown/ID shopping district is defined as the area between Yesler Way to the north, I-5 and 9th Ave. S. to the east, S. Dearborn St. to the south and 4th Ave S. south of S. Jackson St. and 5th Ave S. north of S. Jackson St. to the west.

[5] The survey was co-sponsored by the Chinatown-International Business Improvement Area, Inter*Im Community Development Association, International District Housing Alliance, Seattle Chinese Chamber of Commerce and Vietnamese American Economic Development Association. It was supported by a grant from the City of Seattle.

[6] The interviews conducted by Trang Tu in Chinatown included four property owners, one business owner, and one business/property owner; the five property owners included two for-profit owners, two non-profit owners, and one family association that owns property both in Chinatown/International District and Little Saigon.

[7] Chinatown International District and Little Saigon Neighborhood Business Survey (May – December, 2006), Rebecca Frestedt.

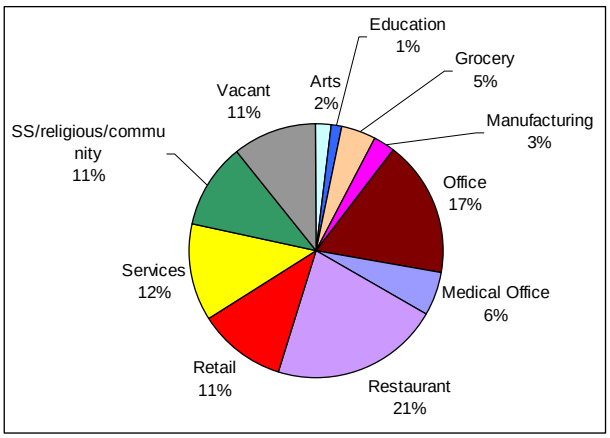
[8] All businesses may not appear on maps showing business distribution as many businesses are so clustered that they cannot all be shown.

The shopping district is made up of restaurants, retailers and personal services, in that order. There are also many professional, business and legal services firms giving the area a moderate day-time office worker population (see Business Revenues discussion, pg. 11). Finally, there are a large number of social service, religious and cultural organizations that serve both local residents and city-wide populations.

Restaurants, bakeries and cafes make up the largest business concentration in Chinatown with seventy-nine restaurants that account for 21 percent of all surveyed businesses; this is a significant cluster that makes Chinatown a mealtime destination for Downtown office workers during the week and shoppers on the weekend (**Figure** and **Table 1** below). The second significant business cluster making Chinatown a regional destination are the 15 or more Chinese medicine practitioners, acupuncturists, herbalist and herbal supplies stores in operation. Individual shopping district anchors include Uwajimaya and Kinokuniya Bookstore.

Table and Figure 1: Chinatown, Business Distribution, 2006

Business Type	Number
Restaurant	79
Retail	58
Office	63
Medical Office	21
Services	46
Arts	7
Education	5
Social services /Religious/Community Services	40
Manufacturing	10
Vacant	40

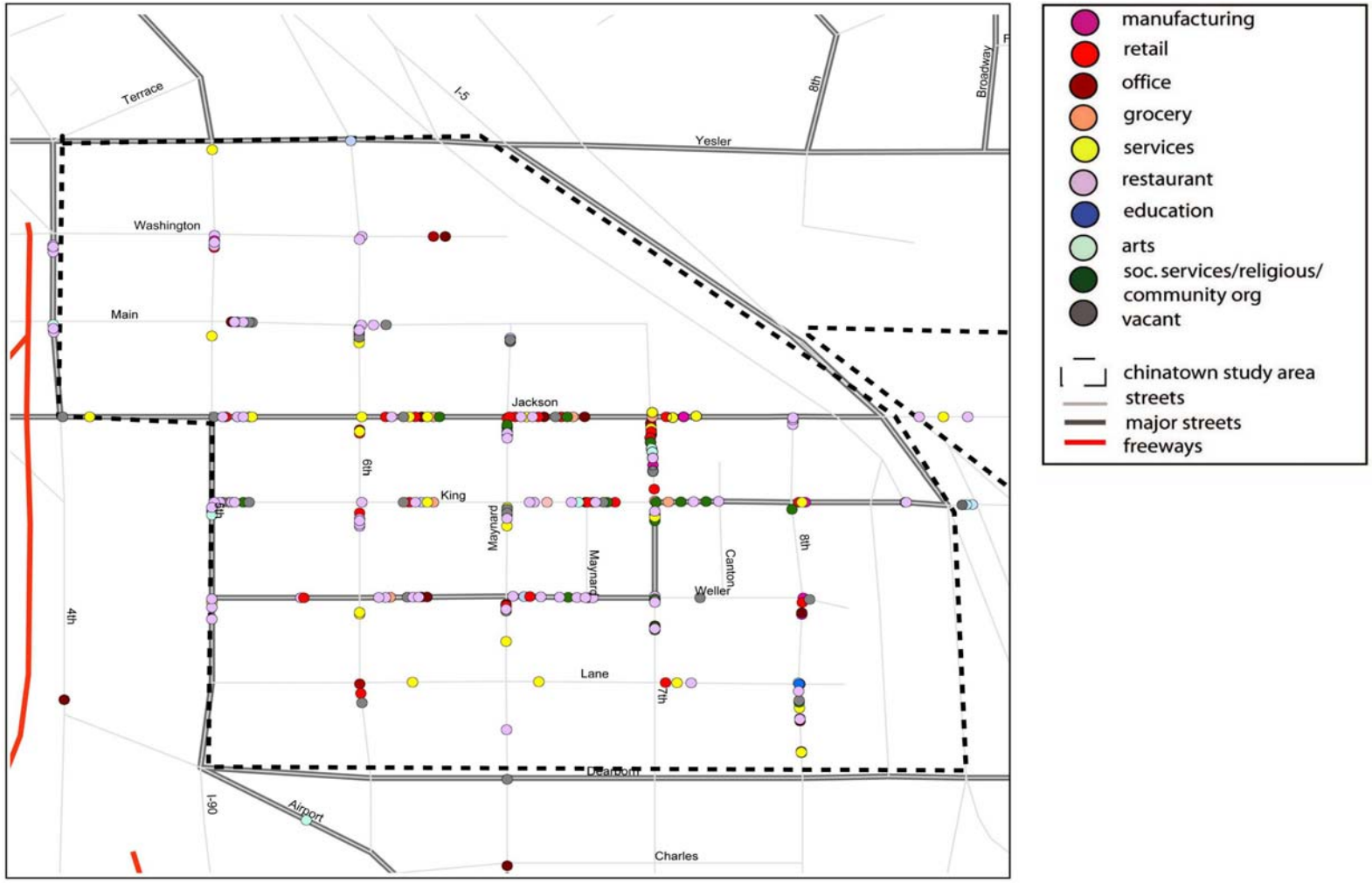


Restaurants are distributed throughout the main 10-block core of the district, with major concentrations on King and Weller (see **Map 2**, page 9). The cluster is dominated by Chinese restaurants; 34 of 79 restaurants, or 44 percent, are Chinese (see **Table 2,** below). There are also a number of Japanese, Vietnamese and other Asian restaurants and Asian bakeries, as well as a smaller number of non-Asian restaurants or bakeries.

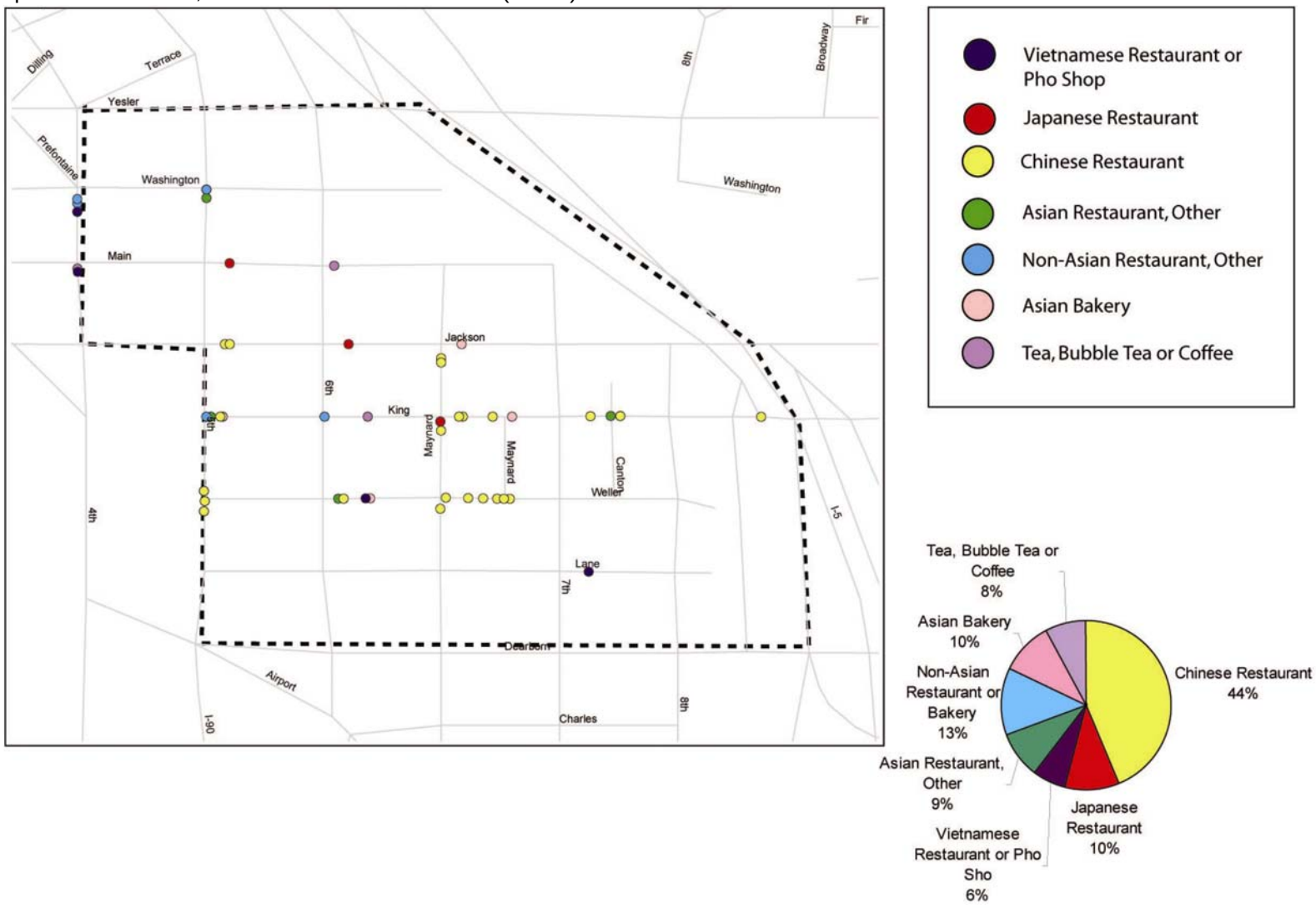
Table 2: Chinatown, Restaurant Distribution, 2006

Type of Restaurant	Number	Percentage
Chinese Restaurant	34	44%
Japanese Restaurant	8	10%
Vietnamese Restaurant or Pho Shop	5	6%
Asian Restaurant, Other	7	9%
Non-Asian Restaurant or Bakery	10	13%
Asian Bakery	8	10%
Tea, Bubble Tea or Coffee	6	8%

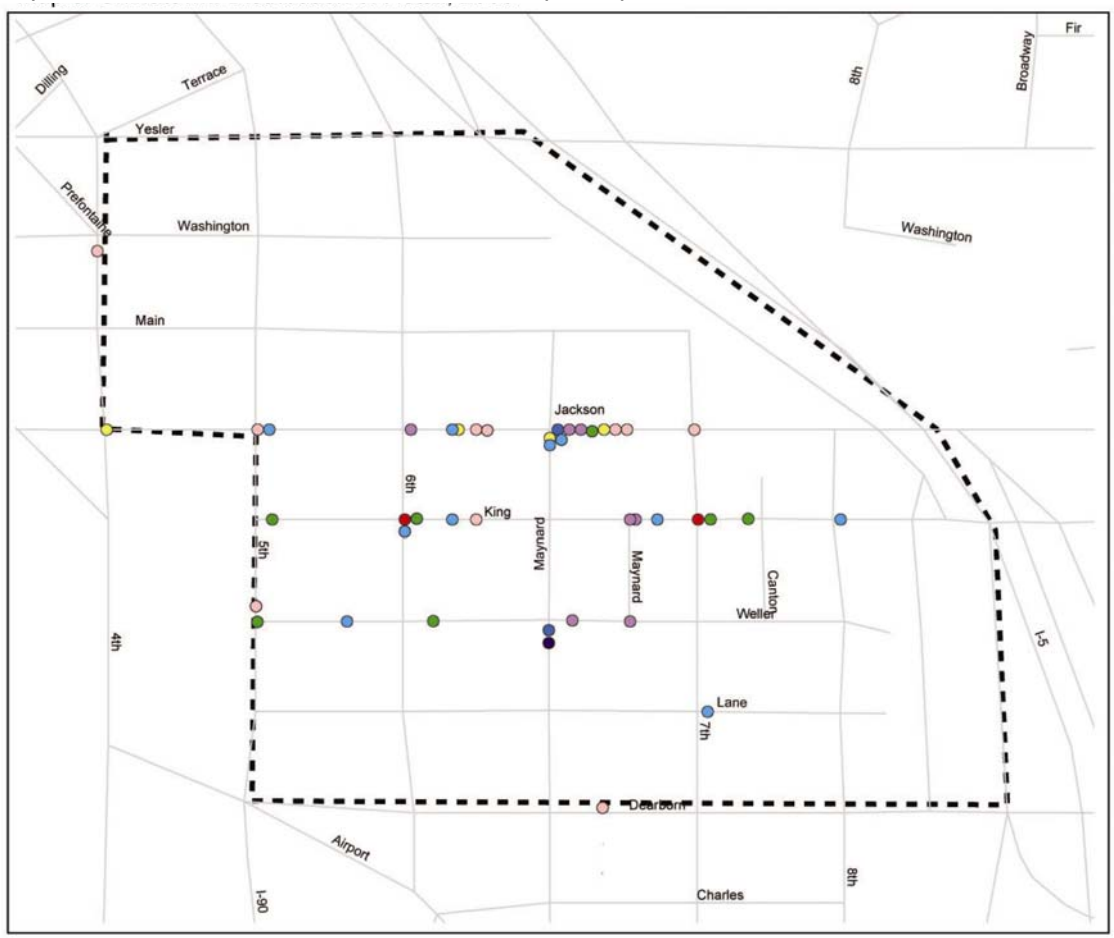
Map 1: Chinatown, Business Distribution (2006)

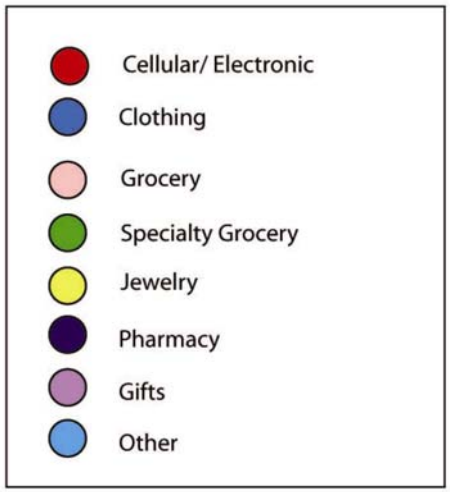


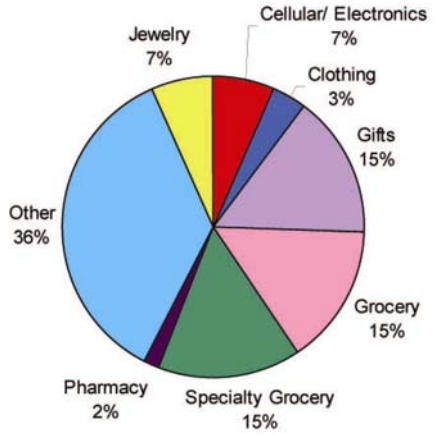
Map 2: Chinatown, Restaurant Distribution (2006)



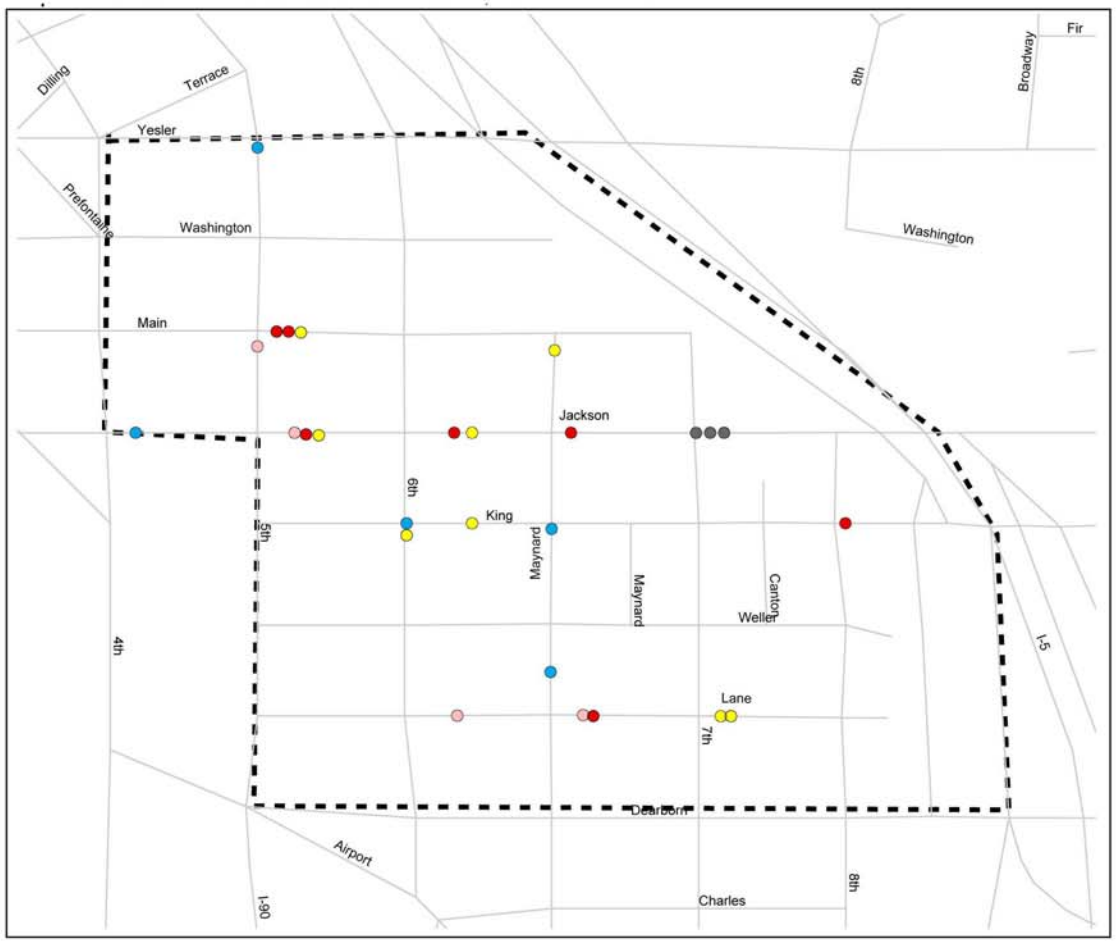
Map 3: Chinatown, Retail Distribution (2006)

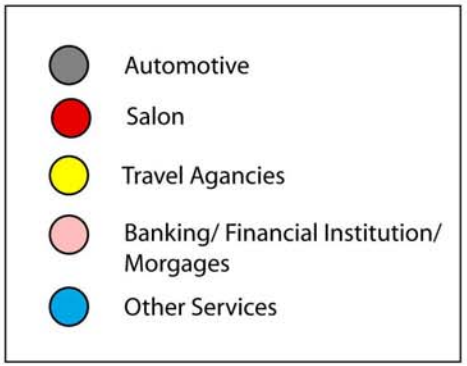


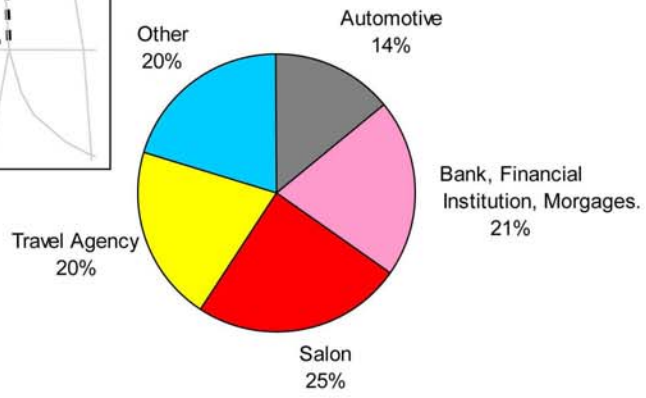




Map 4: Chinatown, Services Distribution (2006)







Retailers are concentrated on Jackson and King Streets (see **Map 3**, page 8). The retail component of the Chinatown shopping district accounts for 16 percent of all surveyed businesses, or 58 businesses (see **Table 3**, below). Concentrations exist in grocery and gift stores. The category of "Other" includes housewares, video, music, games and books.

Table 3: Chinatown, Retail Distribution, 2006

Type of Retail	Number	Percentage
Cellular/ Electronics	4	7%
Clothing	2	3%
Gifts	9	15%
Grocery	9	15%
Specialty Grocery	9	15%
Pharmacy	1	2%
Other	21	36%
Jewelry	4	7%

Chinatown's 46 consumer services businesses, comprising 12 percent of total surveyed businesses, are spread more broadly over the district (see **Map 4**, previous page). There are concentrations of services in automotive, banking, hairdressing and travel services (see **Table 4**, below). All four of these clusters serve a city-wide clientele, attracting customers from beyond the immediate residential neighborhood through agglomeration. At the same time, there are relatively few neighborhood-oriented service businesses, such as laundromats/drycleaners, shoe repair or copy services.

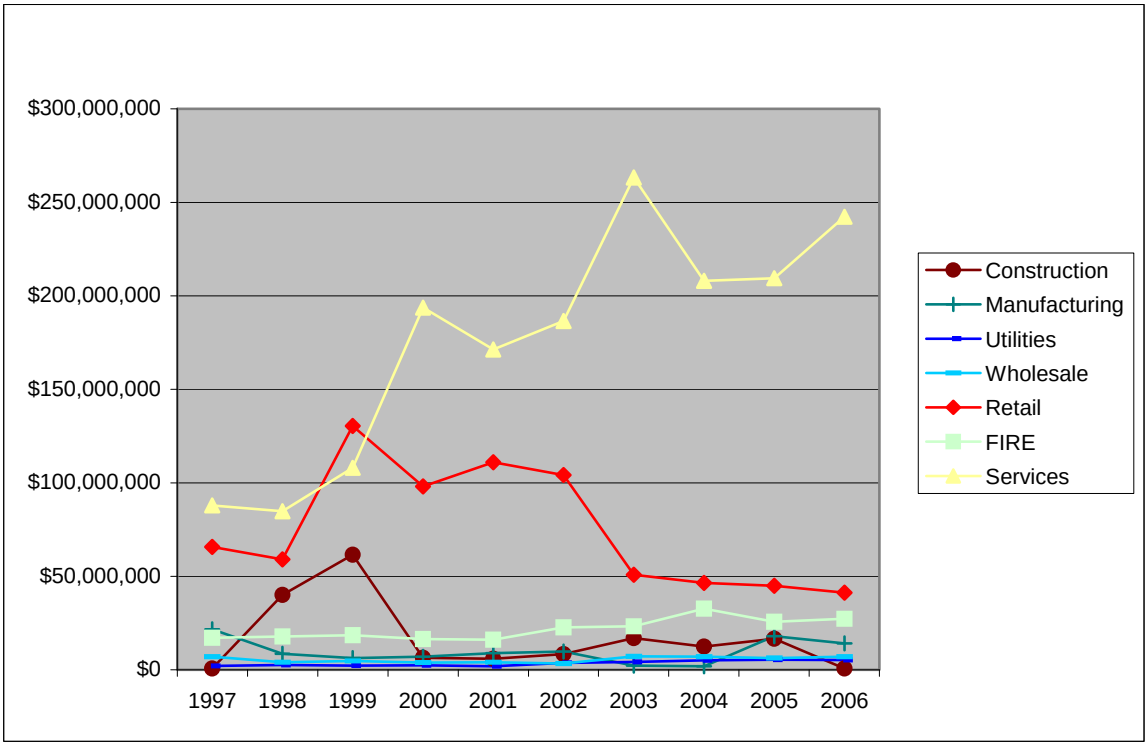
Table 4: Chinatown, Distribution of Services, 2006

Type of Service	Number	Percentage
Automotive	7	14%
Bank, Financial Institution, Morgages	10	21%
Salon	12	25%
Travel Agency	10	20%
Other	10	20%

BUSINESS REVENUES OVER TIME[9]

Total inflation-adjusted business revenues in Chinatown grew from $202.7 million in 1997 to $358.3 million in 2006, with an average 8% annual growth rate. Aside from a major period of expansion in 1999 (53%) and a decline in 2004 (15%) that reflect larger economic shifts, growth has been fairly steady over this time period. **Figure 2**, below, shows the breakdown of total business revenues by industry sector, as designated by Standard Industrial Classification; the FIRE sector includes finance, insurance, and real estate.

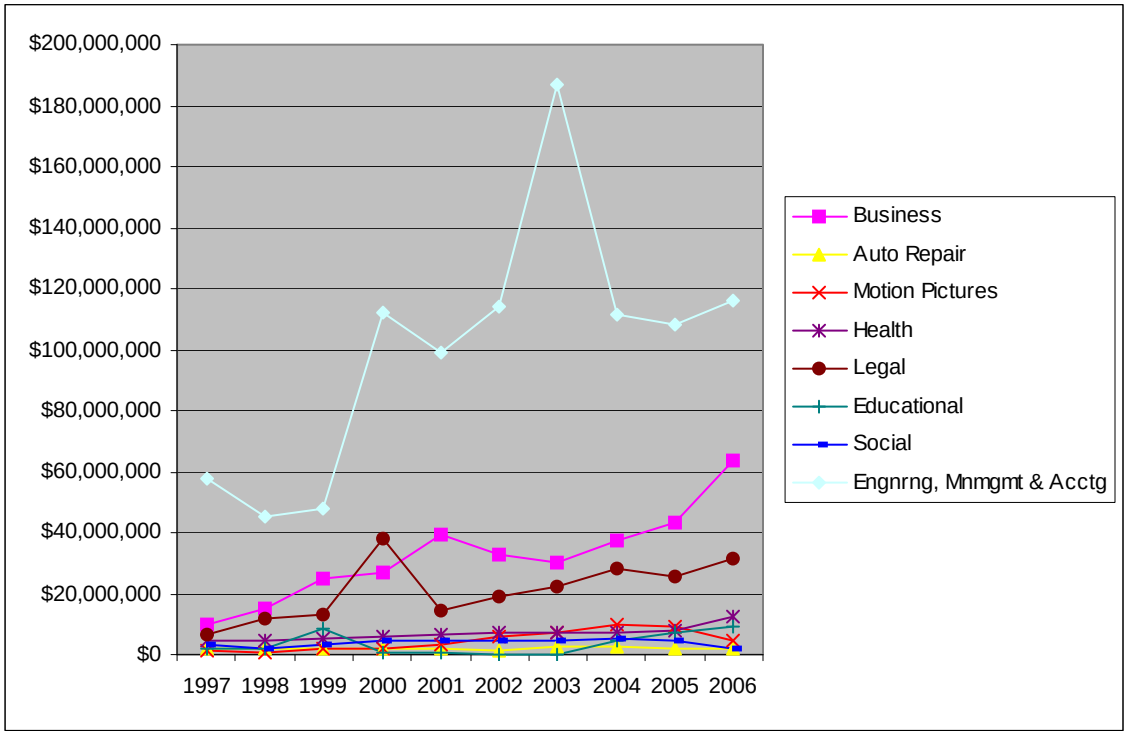
Figure 2: Chinatown: Business Revenues (1997 - 2006)



Chinatown business growth since 1996 has been fueled by the expansion of service industries, largely business and professional services. Total services revenues grew from $87.9 million in 1997 to $242.4 million in 2006 with major growth in 2000 and 2003 (see **Figure 3** below for further analysis of service revenues). Total retail revenues, the majority of sales in a shopping district, declined from $65.7 million to $41.3 million between 1997 and 2006, with a major boom between 1999 and 2002 (see **Figure 5**, page 13, for further analysis of retail revenues). Other sectors, including manufacturing, FIRE, and wholesale trade remained fairly stable over this time period. Construction firm revenues fluctuated from a high of $61.5 million in 1999 to lows of approximately $600,000 in 1997 and 2006.

[9] Underlying data was obtained from City of Seattle, Department of Executive Administration, Revenue and Consumer Affairs division and is based on information reported by businesses through business license applications and renewals. Revenues include headquarters that are reporting total sales for all outlets. All revenue figures have been adjusted for inflation to 2006 dollars, so that all dollar amounts are equivalent. Revenue trends were analyzed to the 4-digit SIC level.

Figure 4: Chinatown: Services Revenues (1997 - 2006)



As can be seen in **Figure 4**, above, service sector growth in Chinatown has been driven by expansion of business, professional and legal services. Engineering, management and accounting firm revenues grew from $57.5 million to $115.9 million during this ten-year time period, a significant and generally steady expansion despite a spike in 2003. The other two major areas of expansion were business and legal services. The strong growth of professional services reflects the growth of the central business district southward. While these professional services are not shopping district business and do not attract consumers to the area, they bring a daytime office worker population to the area that could provide lunchtime business for local restaurants, as well as a local week-day customer base for daily-needs retailers targeting a mass market.

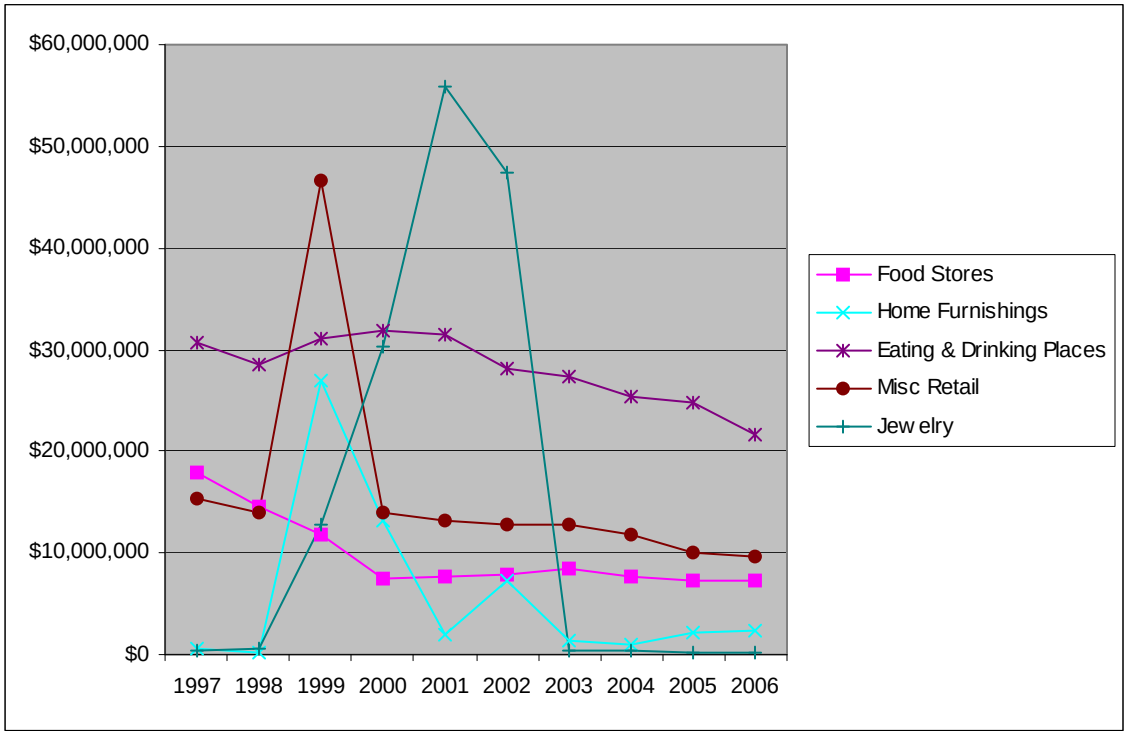
At a more modest level, the health sector also grew from $4.3 million to $12.5 million in revenues over expansion the 10-year time period; this sector includes the specialty Chinese, acupuncture, herbal and other alternative medicine practitioners and suppliers in the area.

Categories of service that had less than $1 million in sales were not broken out in **Figure 4**. This includes personal services, the main services category critical to shopping district health. Personal services revenues, which includes consumer services generally directed at walk-in traffic such as laundromats/drycleaners, salons/barber shops, and shoe repair shrank from approximately $729,000 to $540,000 between 1997 and 2006. While personal services sales fluctuated during that time period, there has been a steady decline since a ten-year high of $977,000 in 2003.

Break-down of retail revenues, see **Figure 5** below, also shows steady decline across all sub-sectors since 1996, with the exception of anomalous sales spikes in jewelry between 1999 and 2002 and miscellaneous retail and home furnishings in 1999.[10]

[10] Jewelry revenues are broken out from miscellaneous retail given the extreme trajectory of the jewelry revenue trend.

Figure 5: Chinatown, Retail Revenues (1997 - 2006)



Most significant to the health of small businesses in Chinatown, revenues of restaurants, both full and quick service, declined from a high of $31.8 million in 2000 to $21.6 million in 2006. Total food store sales also declined by approximately $10 million over the 10 year time period; however, sales have stabilized since 2000. The loss in food store sales derives almost entirely from the loss of meat and fish markets in the area; general grocery store sales grew slightly during this time period.[11] Other than the anomalous spike in sales in 1999, miscellaneous retail, which includes drugstores, gift stores, optical goods and non-store retailers, etc., also declined by more than $6 million in revenues. Only home furnishings grew modestly over the 10-year period.

The general decline of retail, restaurants and personal services, other than the Uwajimaya shopping center, coincides with the growth of other Asian specialty shopping areas that attract more recent Asian immigrant businesses, including Little Saigon and less central and less expensive locations like White Center and Rainier Ave S. These outer locations serve increasingly decentralized new immigrant populations, later generations and a local mass market that does not wish to travel to the central city for Asian food. The loss of business and rise of other districts indicates that older Chinatown/International district businesses may be at-risk.

BUSINESS TENURE

The majority of Chinatown's surveyed businesses have occupied their spaces for six years or more (see **Table 5**, below). 64 businesses, or 35 percent, have occupied their spaces for over 10 years; this is a significant proportion and relates to the historic nature of the business district and many of its businesses,

[11] While the underlying firm revenue data was unavailable to Strategic Economics, the size of revenues in the general grocery store sub-category, approximately $4.1 million in 2006, makes it likely that Uwajimaya's revenues were excluded from the data provided by the City, despite the store's address being within the geographic parameters provided. While this negatively skews the grocery sub-sector and over-all retail trends, it also makes the health of smaller businesses more apparent.

as well as the enduring strength of the Chinatown identity, despite the decline in shopping district business revenues described above.

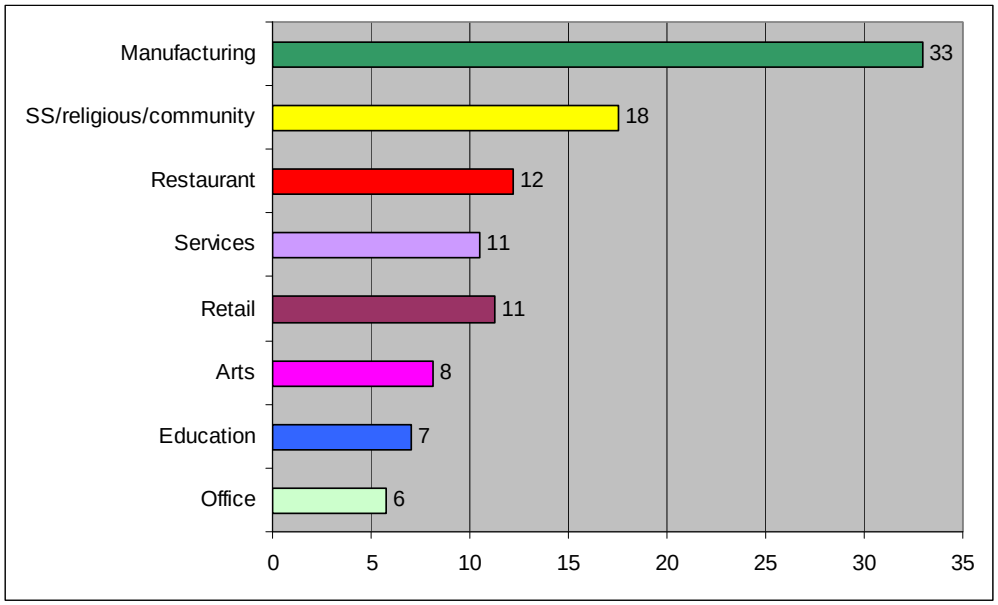
Table 5: Chinatown, Distribution of Business Tenure (2006)

Length of Tenure	Number of businesses	Percentage
0 to 5 years	77	43%
6 to 10 years	39	22%
11 to 20 years	33	18%
21 + years	31	17%

Tenure correlates with business type (see **Figure 6**, below); the average age of the business types tells us both how enduring these businesses are and when the major entrepreneurial activity within a particular economic sector took place. Manufacturing businesses have the longest average tenure of 33 years, reflecting the past economic life of the district. Social service, religious and community organizations have an average tenure of nearly 18 years, largely due to the number of long-standing family associations in the area.

Restaurants in Chinatown also have relatively long tenures, given the volatility of the restaurant industry, with an average tenure of 12 years. Given the loss in restaurant revenues over the past 10 years described previously, it is likely that many long-standing restaurants are currently struggling. While the long life span of restaurants is a testament to the tenacity of their owners, it also means that more recently, new Asian-American restaurants have not been choosing to locate in Chinatown. The shortest average tenure belongs to office uses and reflects the recent increase in professional services and other office users in the district.

Figure 6: Chinatown, Average Tenure by Business Type, 2006



RETAIL REAL ESTATE MARKET CONDITIONS

Size of Commercial Spaces

Chinatown's commercial space ranges in size from fewer than 500 square feet to over 20,000 square feet. Of the 150 businesses that responded to questions regarding size of space for the business survey, 74 percent were in spaces of 2,500 square feet or less, while 18 percent were in spaces of 2,501 to 10,000 square feet and only six percent were in spaces larger than 10,000 square feet (see **Table 6**, below). This is a large number of small spaces, and like other Chinatowns, it is a physical remainder of the shopping district's past economic activity. It also enables the area to support a large number of small businesses that would not otherwise be able to afford a central city location.

While the majority of responding businesses are in smaller spaces, a large proportion of the total commercial square footage inventory is in large spaces. Almost half of all commercial square footage is in spaces of 20,000 square feet or more, largely due to five businesses that account for 260,000 of the total 285,000 square feet in this size category: the Salvation Army, the Salvation Army Thrift Store, Trammell Crow, Henry Louie, a cookie and noodle manufacturing company, and the Union Gospel Mission. While these businesses account for much of the total space surveyed, there is also a large inventory of smaller spaces, at least 125,000 square feet, in keeping with the large number of businesses in such spaces.

Table 6: Distribution of Commercial Space by Business Size

Size of Business Space by Square Foot	Total SqFt by Size of Space	Percentage of Total SqFt	Number of Businesses	Percentage of Businesses
0 to 500	5,816	1%	18	12%
501 to 1000	41,288	7%	48	32%
1001 to 1500	32,154	6%	24	16%
1501 to 2500	46,873	8%	24	16%
2501 to 5000	53,029	9%	16	11%
5001 to 10000	89,938	15%	11	7%
10,001 to 20,000	29,481	5%	2	1%
20,000+	284,509	49%	7	5%

Vacancy

11 percent of spaces surveyed were vacant. This includes both space where tenants are being actively sought, as well as space that is not being marketed. This figure is high from a traditional commercial leasing perspective, which deals exclusively with marketed space and uses vacancy rates to measure the degree of demand in a given area. However, in Strategic Economics' experience with historic shopping districts, this is a moderate vacancy rate given typical issues with absentee or small property owners, who may not market or maintain their ground-floor storefronts.

Lease Terms

Commercial space in Chinatown leases at a wide range of rent levels (see **Table 7**, next page). While a third of businesses pay between $1.00 and $1.50 per square foot per month, a quarter pay less than $1.00 per square foot per month, another quarter pay between $1.50 and $2.00 per square foot per month, and the remainder pay over $2.00 per square foot per month. The range in rent reflects the diversity of commercial space in the area, from older historic storefronts that have not been re-invested in for many years to recently developed space improved to tenant specifications. The most desirable retail space in the district, the Uwajimaya shopping center, commands base rents of approximately $2.50 to $5.75 per square foot per month.

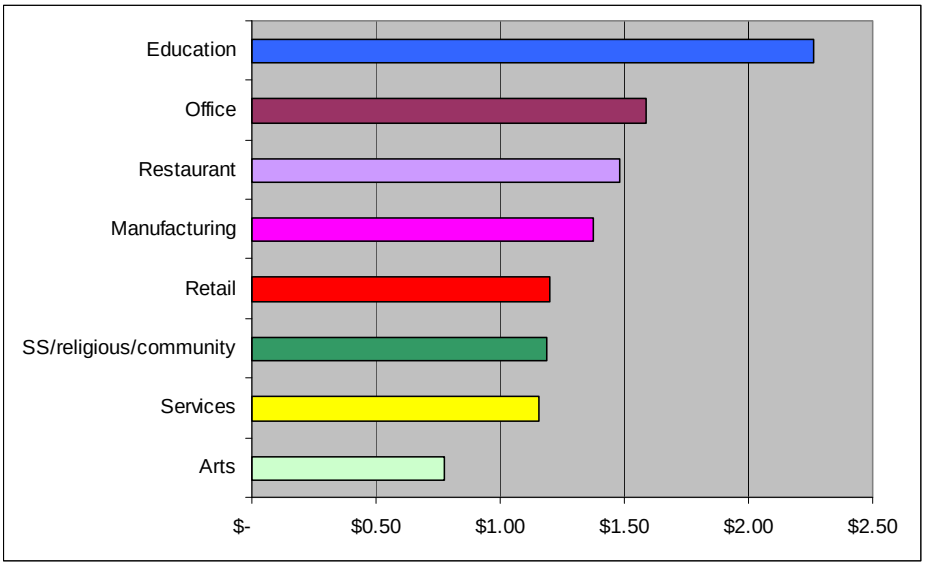
Table 7: Distribution of Rents Levels, 2006 ($/SF/Month)

Rent Per Square Foot	Number of Businesses	Percentage
<$1.00	31	25%
$1-$1.49	41	33%
$1.50-$1.99	31	25%
>$2.00	23	18%

Most leases in the area are triple net. While lease term periods vary from month-to-month to many years, the majority of businesses reporting the terms of their leases had lease periods of five to ten years.

Average rent varies by use (see **Figure 6**, below). The average rent paid by the critical shopping district use categories, restaurant, retail and personal services, are all between $1.20 and $1.50 per square foot per month. Restaurants pay, on average, more than retailers or service businesses, a likely indicator that Chinatown restaurants are doing somewhat better than the other two uses. If $1.50 is taken as a general rule of thumb minimum for businesses occupying ground-floor space in new mixed-use development driven by other uses,[12] it is much likelier that existing restaurants could locate in new storefronts created by new development, than retail or service businesses.

Figure 6: Chinatown, Average Rent Per Square Foot Per Month by Business Type[13]



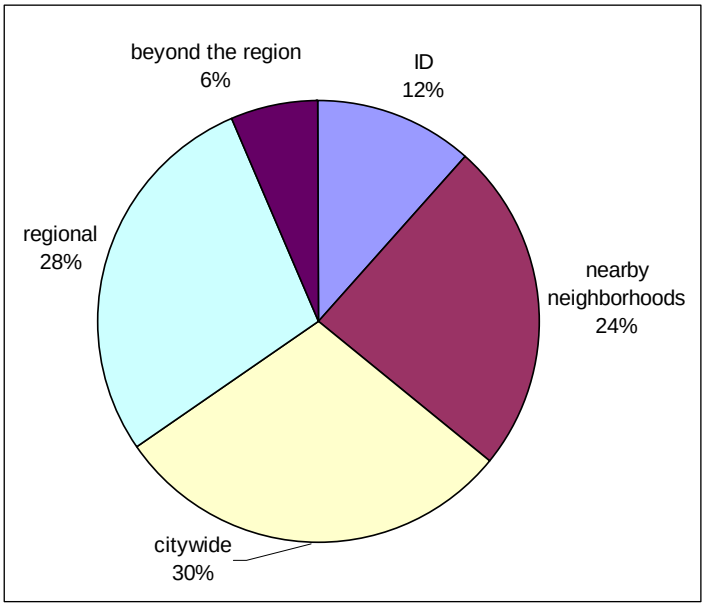
[12] This rule of thumb is based on pro forma analyses that Strategic Economics has done of mixed use projects where ground-floor uses are considered amenities to housing or office above.

[13] Education uses are skewed high by one business that is paying more than $3.00 per SF per month.

CUSTOMER BASE

Based on both responses to questions in the business survey and additional interviews with local leasing agents and business owners, the customer base for Chinatown businesses varies by business. Of the 170 businesses that responded to questions regarding customer base, approximately 2/3rds described their customer base as city-wide, regional, or beyond the regional,[14] while the remaining 1/3rd said their customers live in Chinatown/ID or in nearby neighborhoods (see **Figure 7**, below). One local leasing agent characterized the market for Chinatown businesses as city-wide or regional on the weekend, and local, whether local residents or office workers during the week.

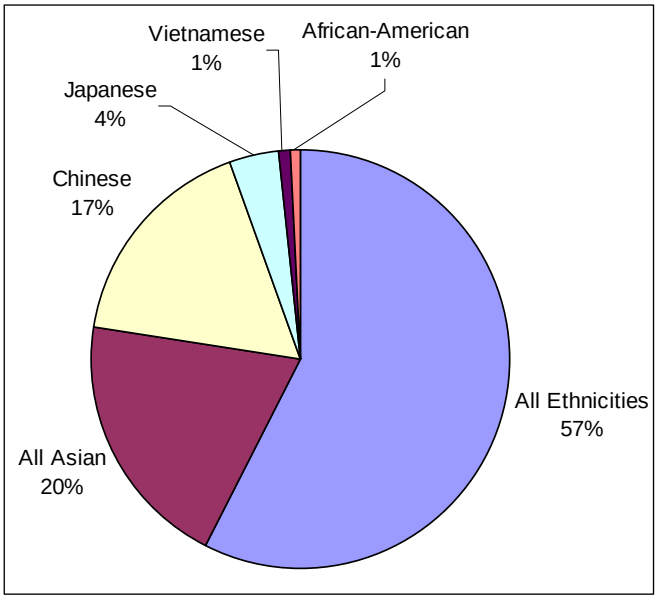
Figure 7: Chinatown, Customer Location, 2006



Chinatown businesses are also split as to the ethnicity of the customer base (see **Figure 8**, next page). Over half of the 125 businesses surveyed serve a clientele of all ethnicities. 20 percent cater to a generally Asian-American market, while 17 percent serve primarily Chinese-Americans, four percent Japanese-Americans, and one percent is Vietnamese-Americans and African-Americans.

[14] Chinatown's proximity to Downtown complicates the question of local vs. regional customer base. Restaurants catering to Downtown office workers during the workday lunch hour are likely to describe their clientele as regional, based on their residences. These are not, however, traditional regional-serving businesses, where customers are traveling some distance for specialty goods or services, rather they are part of restaurant cluster that serves Downtown.

Figure 8: Chinatown, Customer Ethnicity, 2006



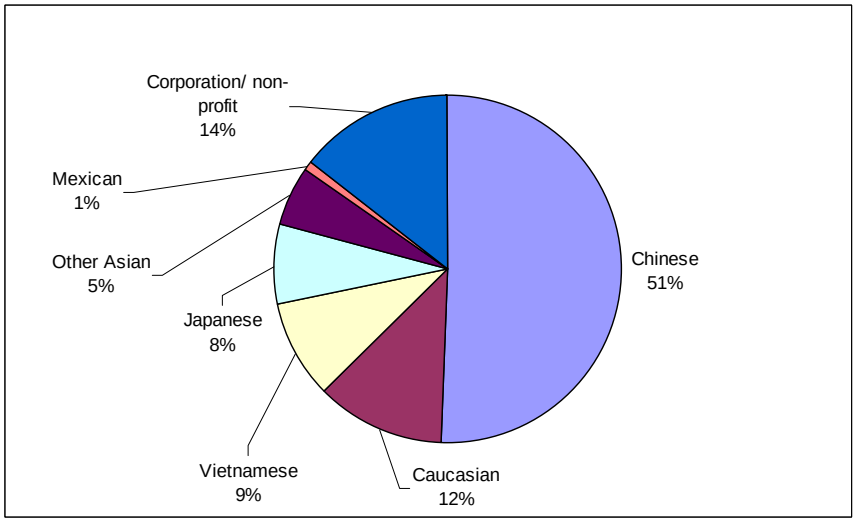
This combination of regional, local and Downtown-serving businesses that cater to either a general customer base or with special appeal for Asian-Americans underlines the mixed nature of the shopping district's current identity. While there is a strong base of businesses with a specific Chinatown appeal, whether to Asian-Americans or a general regional or city-wide clientele, there are also many businesses that serve local residents or office workers.

BUSINESS OWNER CHARACTERISTICS

Ethnicity and Language

Of the 205 respondents to questions regarding ethnicity, over half identified as ethnically Chinese (see **Figure 9**, below). Approximately 10 percent each of business owners identified as Caucasian, Vietnamese or Japanese, while 5 percent identified as other Asian ethnicities.

Figure 9: Chinatown, Business Owner Ethnicity, 2006



Language spoken by business owners was also polled, and of the 220 that responded 59 percent speak English, while another 27 percent speak English and another language. About 14 percent of respondents, or 31 business owners, speak a language other than English.

Table 8: Chinatown, Business Owner Language Spoken, 2006

Languages Spoken	Number of Businesses	Percentage
English	129	59%
English and another language	60	27%
Language other than English	31	14%

Business Plans

133 business owners responded to questions regarding future intentions for their business, as part of the business survey in Chinatown (see **Table 9**, below). Two in-depth interviews were also performed with Chinatown business owners that provide additional detailed information about business owners' plans for expansion and capacity to do so.

The overwhelming majority of Chinatown business owners surveyed and/or interviewed wished to remain in Chinatown, whether in their current location or another location. Half of business owners surveyed plan to stay in their current location and do not have specific plans or desire to move or expand their business, while an additional 27 business owners would like to expand their businesses either by occupying a larger space or by opening an additional location. Fourteen would like to relocate within the International District, continuing to serve the neighborhood.

Table 9: Chinatown, Business Plan, 2006

Business Plan	Number of Businesses
Expand business	27
Relocate in ID	14
Relocate out of ID	6
Remain in same location	67
Close	6
Sell	2
Uncertain	11

Six owners are unhappy with their locations and want to relocate; these owners are primarily looking to move south of Seattle's city limits to locations that offer greater parking and without the presence of Seattle's homeless population. Two owners plan to sell their business and six intend to close their businesses when they plan to retire.

Of the two Chinatown businesses interviewed, one is a major anchor business who is also a major property owner. As a proprietor, they have significant plans for future expansion in both retail and residential activity on a portion of their property. This proprietor cited several reasons for their strong ability to consider and carry out expansion, including: status as second generation, and therefore more assimilated, business; multiple family members to carry out business activities; travel-oriented, risk-taking, and creative-thinking attitudes among the family; influence of community-oriented parents. The other business interviewed was established relatively recently (7 months ago), and stated that they are not ready to consider expansion or relocation.

Among the broader pool of proprietors (including those directly and indirectly interviewed), capacity for future expansion varied. Factors that tended to influence their ability to expand:

- Location on or near paths of primary customer traffic and/or not too close to competing businesses
- Existence of family members/children to expand and/or continue business
- Supportive property owner and/or property manager to assist businesses (e.g. developing business plan, providing rent discounts when needed, negotiating flexible lease arrangements)
- Neighborhood issues including public safety/security, traffic congestion and parking constraints, and need for improved physical environment/amenities.

GENERAL DEVELOPMENT TRENDS

This section briefly documents recent property transactions and general information gathered regarding development trends from interviews with property owners and developers and previous studies performed for the Livable South Downtown planning effort.

Residential Development

In 2000, new market-rate residential development in Chinatown was pioneered by the Uwajimaya mixed-use complex, which includes a successful apartment component, and the Fujisada condominiums, which includes 25 condominium units and reportedly sold out in six months. Until recently, however, other than income-restricted and subsidized projects, there has been a lull in new market-rate residential development activity in Chinatown.[15] **Table 10**, below, shows all recorded condominium sales in both the Chinatown and Little Saigon study areas between 2002 and 2006.[16] Prior to 2006, there were too few sales to create a valid trend. However, in late 2006, Asia Condominiums was converted from apartments, resulting in 57 recorded sales and an average per square foot price of $407.

Table 10: Little Saigon and Chinatown, Condominium Sales, 2002-2006

	2002	2003	2004[2]	2005	2006[3]
Total Transactions	2	0	2	1	57
Average Sales Price	$188,750	-	$1,663,043	$180,000	$295,691
Average Square Footage	594	-	9,999	594	731
Average Sales Price/SF	$318	-	$166	$303	$407

Notes:

[1]All 2002 and 2005 transactions occurred in Little Saigon, while all 2004 and 2006 transactions occurred in Chinatown.

[2]Both transactions in 2004 are hotel condos.

[3]All 57 Condo sales in 2006 are new sales from one new conversion, Asia Condo, as compared to the other transactions which are resales.

In addition to Asia Condominiums, which sold out all 75 units in two months[17], the Empress apartments were converted to the Tobira Condominiums in early 2007. The conversion has reportedly been successful, with eight sales in the first week and asking prices ranging from $404 - $512 per square foot. There has also been new market-rate apartment activity, with construction of the 705 S. Weller apartments in late 2006/early 2007. Similar to Uwajimaya, rents range from $1.45 to $1.80 per square foot per month.

The success of these recent projects indicates a nascent, but strong, market for both mid-range condominiums and new market-rate apartments in Chinatown. Both rents and sale prices are not as high as in Belltown, or other more established residential areas of Downtown. However, with land values reportedly ranging from $100 to $150 per square foot[18], development of woodframe/podium construction

[15] There have been multiple income-restricted, subsidized projects.

[16] Because there were so few transactions for either area prior to 2006, sales for both areas were grouped together.

[17] Reportedly, 90 percent of buyers were Asian or Asian-American.

[18] There were no recent raw land transactions recorded for Chinatown/ID or Little Saigon.

residential buildings is generally feasible, according to a recent development feasibility analysis performed by BHC Consultants and Property Counselors.[19]

The study found that both apartment and condominium development is feasible in South Downtown in projects of 65 or 85 feet in height.[20] Over 85 feet in height, apartment development becomes infeasible due to increased construction costs, and condominium development, while providing developers with a sufficient profit margin to meet investor expectations, provides a lower level of return on costs than projects of 85 feet or less that are composed of lower cost construction materials (wood).

The development of residential buildings over 85 feet is further challenged by on-going issues with obtaining affordable insurance for condominium construction defect liability. While the state Legislature has recently enacted various amendments and statutes aimed at curbing frivolous construction defect lawsuits, Washington state remains one of the most difficult states for developers, builders and architects to obtain reasonably priced condo construction liability insurance. This issue is sufficiently serious to negatively affect condominiums starts (the two most recent new condominium projects in Chinatown are conversions from apartments, not new construction).[21]

While there is a demonstrated market for new residential units in Chinatown/International District, given the current expense of construction materials for buildings over 85 feet and the unresolved issues with condominium defect liability, it may be some time before construction of new residential buildings over six stories takes place.

Commercial Development

Since the late 1990s, there has been significant successful new office development and renovation of older office space just adjacent to the study area along 4th Avenue S; projects include Union Station and such major tenants as Amazon.com and Vulcan. According to the earlier BHC Consultants market analysis and development feasibility assessment, current rents in South Downtown are not currently high enough to support new office development, but general absorption and lease rate trends indicate that new office development should be viable in approximately two years. While local transit amenities and current expansion of professional, legal and business service firms in the area makes Chinatown/International District an attractive location for new office space, limited viable sites and restrictions imposed by the historic district designation make office development difficult. Based on its market analysis and extensive interviews with key informants, BHC Consultants finds that residential development is a more likely catalyst use for new development in Chinatown/International District; major new office development is likely to go south of Dearborn Street or in the Stadium area.

Retail market conditions are described in detail on pages 15 through 17. Recent retail development consists of the Uwajimaya mixed-use shopping center (2000) and the ground-floor retail portions of I.D. Village Squares I and II (2004). It is likely that additional new retail development will be part of mixed office or residential projects.

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[19] "An Assessment of Real Estate and Economic Conditions in South Downtown Neighborhoods for *Livable South Downtown Planning*," BHC Consultants and Property Counselors, 2006.

[20] It should be noted that the feasibility analysis made two significant assumptions: 1) construction cost inputs were at current levels, while rents and sale prices were projected out two years assuming development pressure consistent with other more established areas of Downtown, and 2) the increased value from the higher density alternative scenarios is assumed to go to the project, rather than to the land (land value is generally based on the desirability of a given location *and* the density/intensity and type of land uses allowed).

[21] Recent legislative activity (Senate Bill 5550) that likely would have worsened the problem appears to have been set aside for this legislative session, but could be resurrected in the future. "Bill for warranties for new homes appears dead for this session," Associated Press, March 30, 2007.

Between 2000 and 2006, no commercial property transactions were recorded in Chinatown; this may reflect anticipation of increases in land value under proposed zoning changes.

PROPERTY OWNER CHARACTERISTICS & PLANS

Of the 5 property owners interviewed in the Chinatown/International District, 2 were non-profits, 2 were for-profit, and 1 was a Chinese-origin family association (who owns property in both Chinatown/ID and Little Saigon).

Community orientation. Among those interviewed, there was a range of "community orientation" with regard to providing support to business tenants and/or the broader community. Not surprisingly, the non-profits displayed the most extensive efforts to assist tenants (e.g. supporting business planning, offering lower rents for new businesses or non-profits, committing significant staff time and resources to preserving long-time neighborhood businesses). One of the for-profit owners, primarily due to personal philosophy, also has a track record of assistance to tenants as well as engagement with the community. The other for-profit owner tended to have a more "neutral" community orientation, focusing primarily on investing in their specific property as a contribution to the neighborhood. Finally, the family association had a strong community orientation.

Tenant recruitment. Among the property owners, there was not a systematic method of recruiting tenants. Approaches/methods included: 1) previous family connections to desire retailers; 2) tenants finding the property owner; 3) hiring real estate brokers, including ethnic brokers; 4) placing ads in ethnic papers.

Future Plans for Property. All property owners interviewed have plans for property development. In the case of the non-profits, it is part of their mission to continue affordable housing construction and development consistent with the vision of the community. Both for-profit owners own additional parcels that are either undeveloped or underdeveloped, so have future expansion plans. The family association is interested in developing additional community uses and classroom spaces with one of their properties.

Capacity for Future Property Development. Among those interviewed, most seemed to display strong capacity for developing their properties. In the case of the non-profits, they have strong technical capacity, years of experience and solid track records for community-based development; for them, the ongoing capacity challenges are related to financial and human resources. The for-profit developers also seemed well-positioned to carry out their plans, given human capacity (multiple family members, involvement of younger family members) and prior experience. The family association has strong family commitment for carrying out development, but acknowledged they will need to have a technical partner to assist with actual execution.

KEY FINDINGS

The following summarizes the key findings regarding existing business and real estate conditions in Chinatown/ID:

- The Chinatown business district is both extensive and intensive; there are over 300 business and 40 non-profit organizations spread over a 10-block area with multiple clusters of businesses on Main, Jackson, King, and Weller Streets and 6th, Maynard, 7th and 8th Avenues. The mix is diverse; however, there are concentrations of business types, such as Chinese and other Asian restaurants and alternative medicine, as well as key anchors like Uwajimaya, that create specialty niches with a regional draw.

- Over the past ten years, revenues of consumer-oriented shopping district businesses have declined from $66 million to $41 million. Restaurant sales shrank by over $10 million, nearly a third of total revenues, while miscellaneous retail outlets lost over $6 million in revenues.

- The average tenure of existing restaurants is 12 years, a considerable life span in a volatile industry. While the long life span of restaurants is a testament to the tenacity of their owners, it also implies that more recently, new Asian-American restaurants have not been choosing to locate in Chinatown. While the 79 restaurants are a regional attraction and major asset to the district, the 10-year declining trend in revenues and growth of other Asian-American restaurant locations indicates the Chinatown restaurant cluster is at risk.

- Commercial lease rates vary widely reflecting the diversity of age and condition of space in the district. Approximately ¼ of surveyed businesses pay less than $1.00 per square foot per month, while 1/3 pay $1.00 - $1.50, ¼ pay $1.50 - $2.00 and the remainder over $2.00. On average, retailers and consumer service providers currently pay less than enough to rent to occupy space in new storefronts created by new mixed-use development and driven by housing or office. Existing restaurants on average pay the approximate minimum amenity rent ($1.50/SF/Month); however, additional losses in restaurant revenues could undermine this.

- Service sector business revenues almost tripled between 1997 and 2006, growing from $88 million to $242 million. This growth was driven by business, legal and professional services business revenues and reflects the southward expansion of Downtown office users. The growing day-time office worker population provides the shopping district's restaurants with lunch-time customers and could provide retailers with new local patrons. The health services sector also grew modestly, but steadily, during this time period.

- Chinatown's businesses have diverse market orientations. Approximately two-thirds have a customer base that is city-wide, regional or extra-regional; this includes restaurants that serve Downtown workers at lunch-time. The remaining third of businesses serve residents of Chinatown and adjacent neighborhoods. The customer base also shifts from being more local during the week to more regional on the weekend. The majority of businesses serve customers of all ethnicities; approximately 1 in 5 serves a pan-Asian customer base and another 1 in 5 serve a specifically Chinese and Chinese-American, or Japanese-American clientele.

- Businesses such as Uwajimaya and the Panama Hotel and Teahouse, that have both specialty and mass appeal, are best positioned to prosper amidst on-going changes in the local customer base, while maintaining the Chinatown identity and its regional appeal. Niche businesses that offer special goods or services unavailable elsewhere, such as the alternative health service practitioners and suppliers and that excel at cultivating and serving their customer base should also continue to do well.

III. LITTLE SAIGON: EXISTING BUSINESS CONDITIONS & TRENDS

The following section summarizes existing business and retail real estate market conditions in the Little Saigon shopping district of Seattle.[22] This includes current business mix and distribution, business revenue trends, retail real estate market conditions, customer base, and business and property owner characteristics and intentions regarding future business plans. Also included is a discussion of general development trend. Key findings can be found at the conclusion of this section, on page 43.

Similar to the prior discussion of business condition in Chinatown/ID, this summary is based on quantitative analysis of various pre-existing databases, as well as interviews of business and property owners, brokers and developers active or knowledgeable about Little Saigon and review of previous studies and analysis conducted as part of the Livable South Downtown planning process. However, the intensive community-generated business survey conducted between May and December of 2006 was much more limited in Little Saigon than in Chinatown. The business information gathered in Little Saigon was based strictly on a walking inventory of businesses and properties and did not include face-to-face interviews with business owners. Because of this, the information gathered was limited to business name, type and location and does not include the detailed data regarding lease terms, customer base, business owner characteristics, and tenure available for Chinatown.

To help compensate for this discrepancy and provide more qualitative information, Trang Tu conducted an in-depth assessment of district business conditions via bilingual interviews with business and property owners in Little Saigon. Issue areas discussed included characteristics of businesses (tenure, history, location decision), lease terms and structure, customer base, plans and capacity for expansion/adaptation to potential future change, perceived neighborhood challenges/issues, visions for the future or future changes, and perceived potential impacts of future zoning changes and the Dearborn Street Project. A detailed listing of interview questions is included in Appendix A to this report. The following sections summarize the interview findings (with the exception of perceived impacts of zoning and development, which will be reported in Phase 2).

Interviewees were selected with an aim of achieving a diverse pool of stakeholders, with respect to business type, geographic location, tenure of business, age of proprietor, language used in business activities, and geographic reach of customer base. In Little Saigon, a total of 18 interviewees were conducted, including: 10 business owners, 3 property owners, 4 business/property owners, 1 community non-profit. In addition to information about the specific business and property owners who were interviewed, some of the discussions with property owners provided additional "indirect" insight related to the businesses who were their tenants. These perspectives are integrated into the summary of findings. Appendix B of this report includes brief anonymous "profiles" of each interviewee.

Similar quantitative analyses of business revenues between 1997 and 2006 and property transactions between 2001 and 2006 were performed for Little Saigon as was done for Chinatown/ID west of I-5.

[22] For purposes of this study, the Little Saigon district is defined roughly as the area between S. Main St to the north, 16th Ave S to the east, S Dearborn St to the south and I-5 to the west. The community-based business inventory, however, did not extend east of Rainier Ave S.

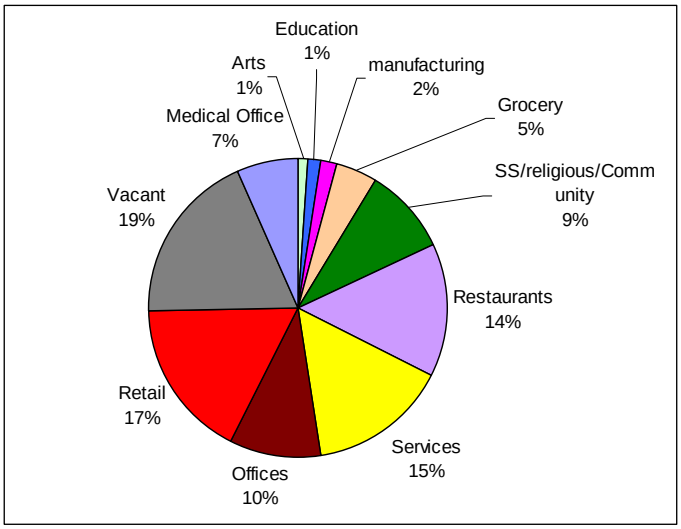
CURRENT BUSINESS MIX & DISTRIBUTION

Little Saigon is a strong Vietnamese-American shopping district with restaurant, retail, and personal service businesses, as well as small office uses clustered on S. Jackson Street between 10th Avenue S. and Rainier Avenue S. (see **Map 5**, following page). In addition to the shopping district, there are a smaller number of production, wholesale, repair and some retail businesses south of S. Jackson Street in a mixed industrial and single family residential area along S. King St, S. Weller Street and 12th Avenue S. In total, there are approximately 175 businesses and 25 non-profit organizations in this area.

Table 10: Little Saigon, Business Distribution, 2006

Business Type	Number of Businesses
Arts	3
Education	3
manufacturing	4
Grocery	11
SS/religious/Community	23
Restaurants	35
Services	37
Offices	24
Retail	42
Vacant	46
Medical Office	16

Figure 9: Little Saigon, Business Distribution, 2006



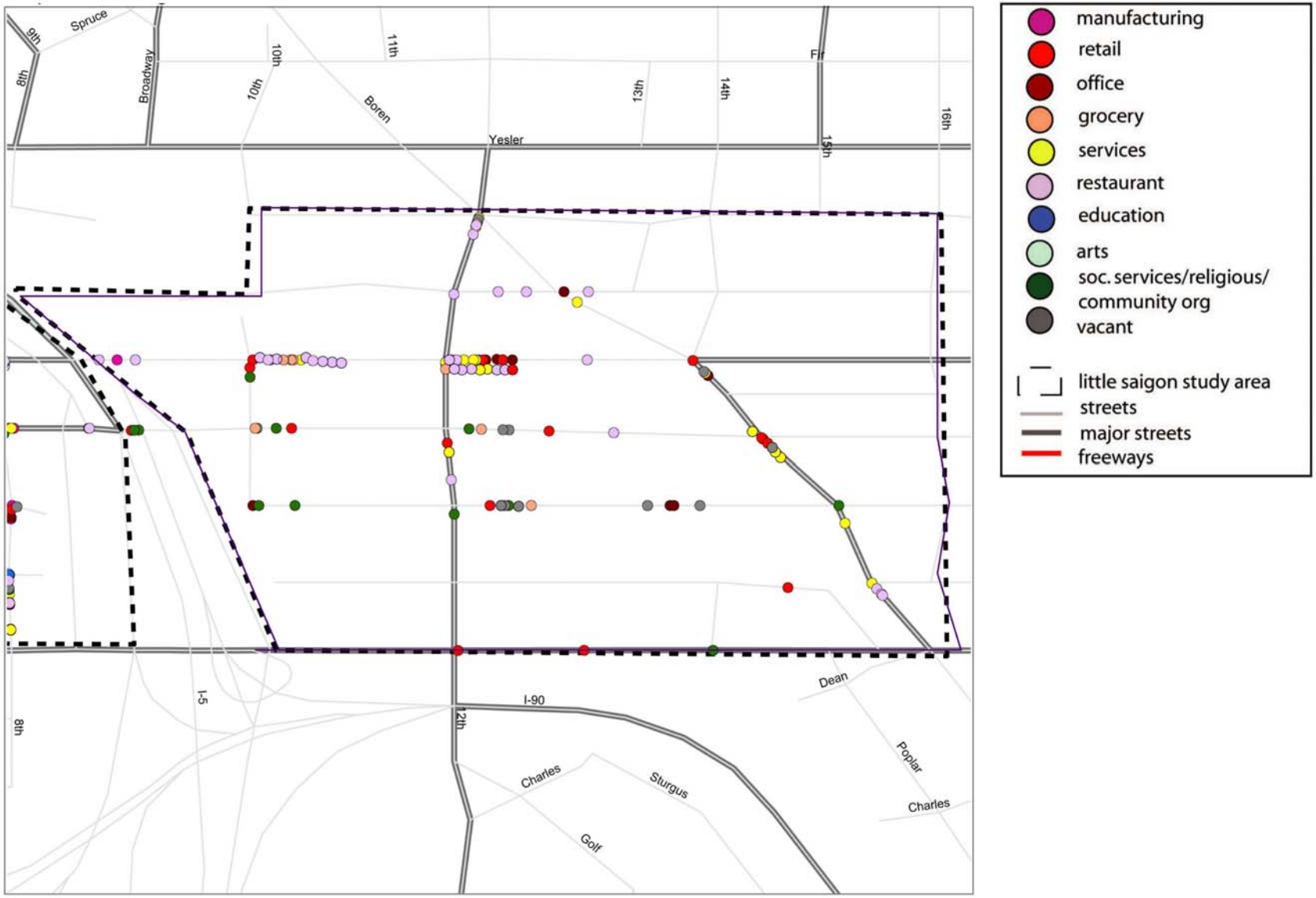
The business inventory found approximately 53 retail businesses in the greater district, including groceries, making retailers almost a quarter of all businesses (see **Table 10** and **Figure 9** above, and further discussion of retail, page). There are also a significant number of restaurants (35) and personal services (37). In addition, the district includes approximately 24 small office users, including legal and accounting services and insurance agencies, 16 medical office users, and 23 social service, religious or community-based organizations. While the business inventory found only four industrial businesses in the area, it is likely that this number under-represents existing production and distribution business in the area.

Little Saigon's restaurants are predominantly Vietnamese or Vietnamese-American and, similar to Chinatown, are critical to the strength of the district's Vietnamese identity (see **Table 11**, below, and **Map 6**, pg 28). There are also a number of Chinese restaurants and a few other Asian restaurants, but only one non-Asian restaurant. Restaurants are strongly clustered on S Jackson Street.

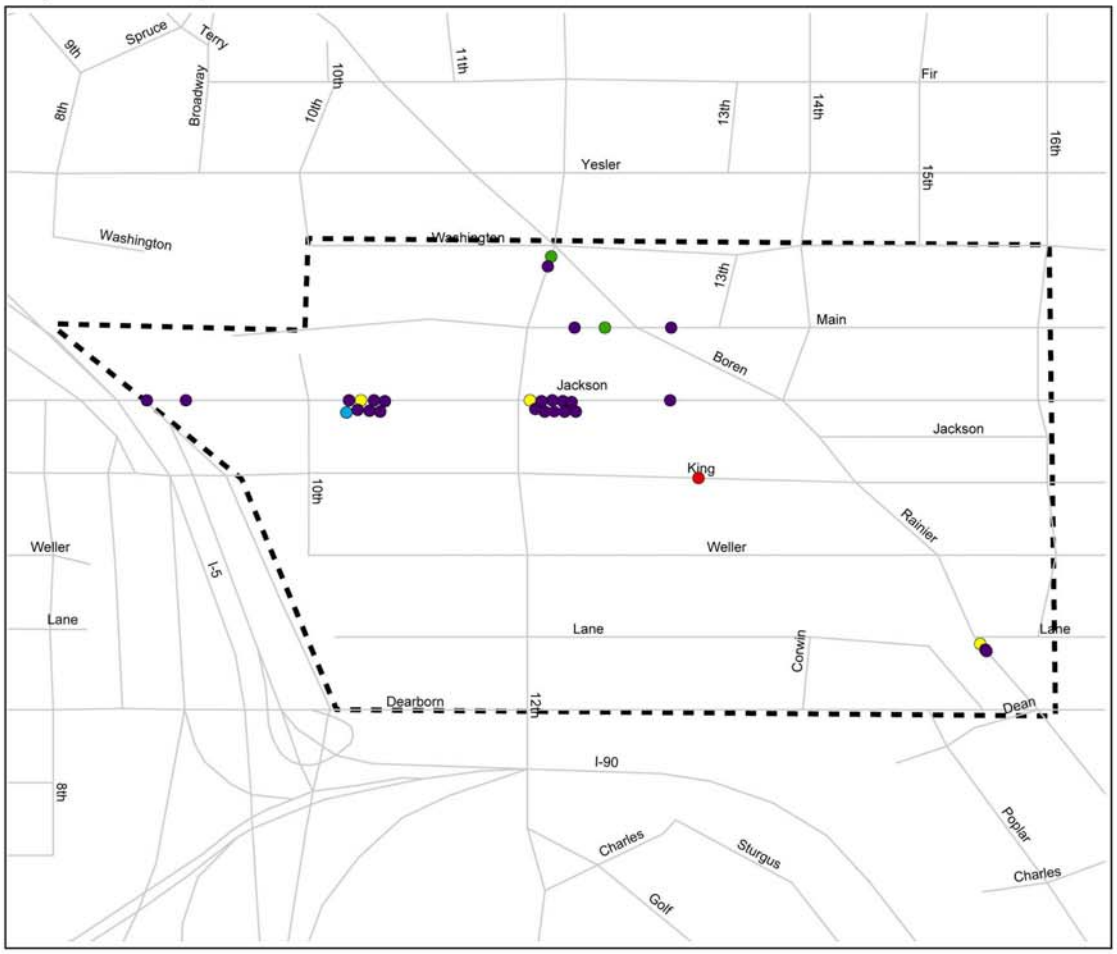
Table 11: Little Saigon: Distribution of Restaurants, 2006

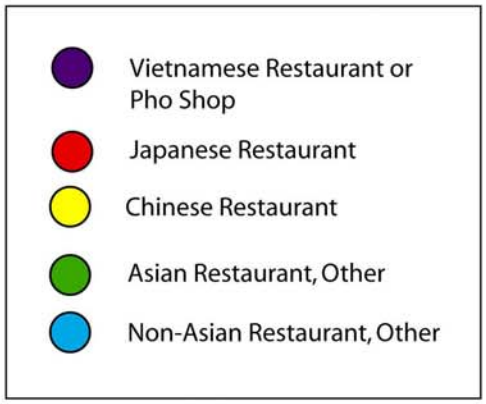
Type of Restaurant	Number	Percentage
Chinese Restaurant	6	17%
Japanese Restaurant	1	3%
Vietnamese Restaurant or Pho Shop	24	69%
Asian Restaurant, other	3	9%
Non-Asian restaurant or Bakery	1	3%

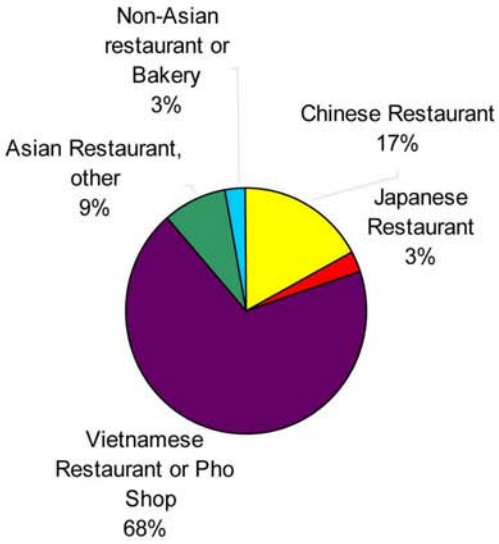
Map 5: Little Saigon, Business Distribution (2006)



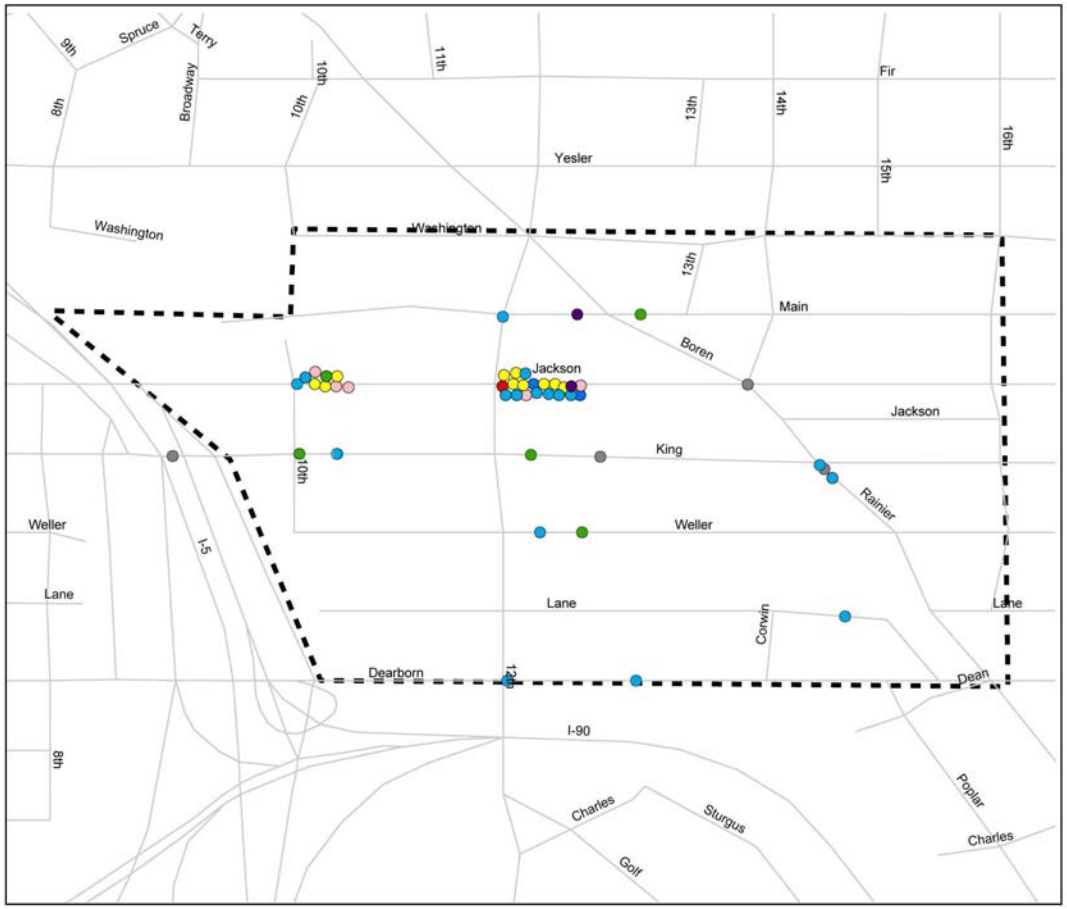
Map 6: Little Saigon, Restaurant Distribution (2006)

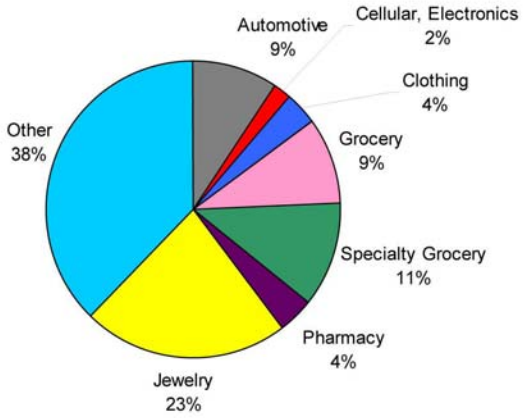




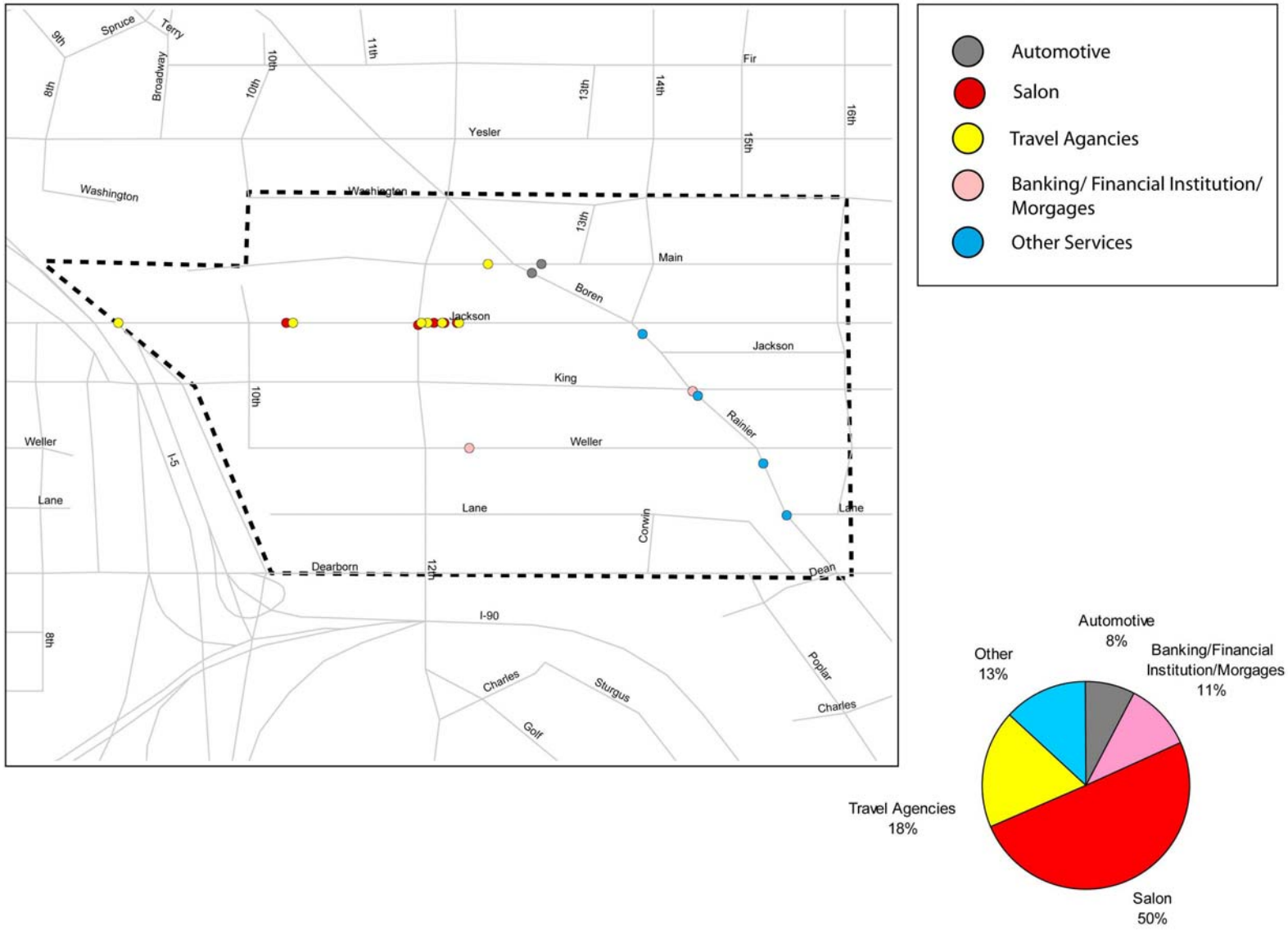


Map 7: Little Saigon, Retail Distribution (2006)





Map 8: Little Saigon, Services Distribution (2006)



Little Saigon's retail sector has significant concentrations of jewelry stores (12) and groceries and specialty grocery stores (11). These two clusters demonstrate the district's dual market orientation as both a comparison goods specialty district and a daily or weekly needs shopping center for Vietnamese-Americans and other Asian-Americans. Other retailers, which include housewares, video, music, games and books, are approximately 20 in number.

Table 12: Little Saigon: Distribution of Retail Businesses, 2006

Type of Retail	Number	Percentage
Automotive	5	9%
Cellular, Electronics	1	2%
Clothing	2	4%
Grocery	5	9%
Specialty Grocery	6	11%
Pharmacy	2	4%
Jewelry	12	23%
Other	20	38%

Half of Little Saigon's large number of consumer services businesses are 19 hair or nail salons (see **Table 13**, below). While this cluster could become a city-wide attraction, in that customers would come to Little Saigon knowing that they would not need an appointment, it is also likely that outlets are undercutting each other's ability to do business. There are also seven different travel agencies serving Vietnamese-Americans and other Asian-Americans.

Table 13: Little Saigon: Distribution of Services, 2006

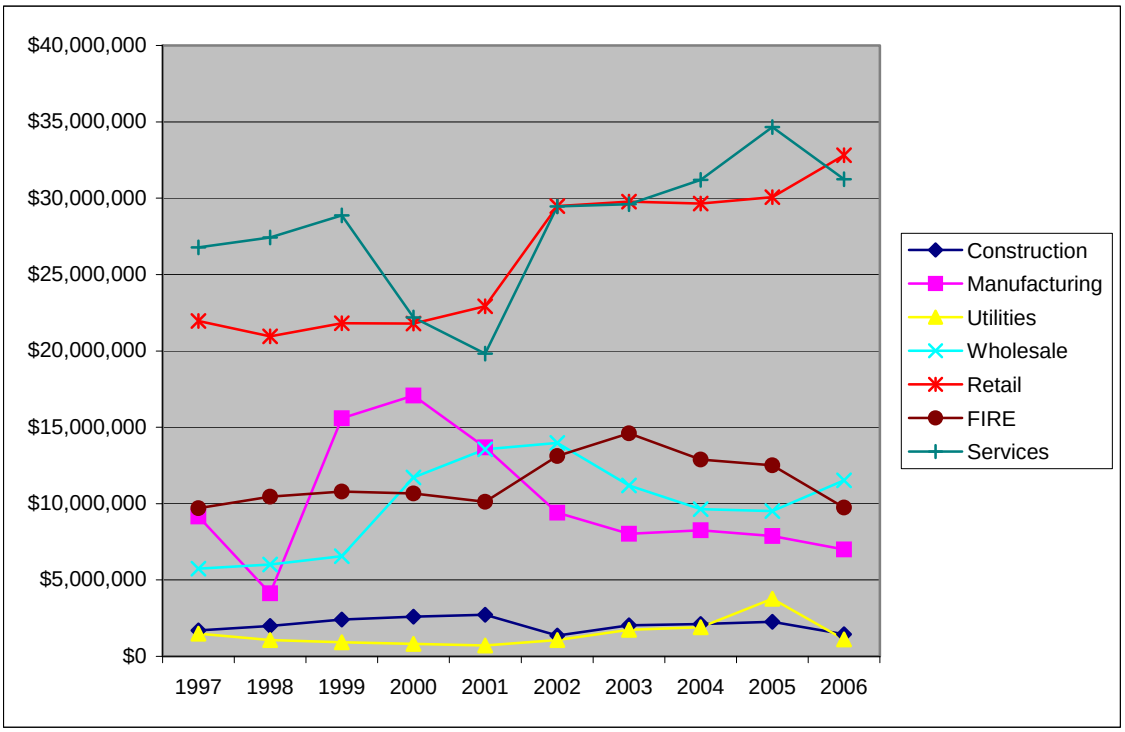
Type of Service	Number	Percentage
Automotive	3	8%
Banking/Financial Institution/Morgage	4	11%
Salon	19	50%
Travel Agencies	7	18%
Other	5	13%

BUSINESS REVENUES OVER TIME[23]

Reflecting its smaller size, recent development and lack of a significant office component, Little Saigon's revenues between 1997 and 2006 were much lower than that of Chinatown/International District. Total inflation-adjusted business revenues in Little Saigon increased from $76.5 million in 1997 to $95.8 million in 2006. The expansion of the district economy was modest but steady over this time period, with an average annual growth rate of 2.8 percent.

Growth of business revenues during this time period was led by both the service and retail sectors. Figure 10 shows the break-down of total revenues by industrial sector, as categorized by Standard Industrial Classification; the FIRE sector includes finance, insurance, and real estate. Total service sector revenues went from $26.8 million to $31.2 million, with significant fluctuation over the time period. Retail sector revenues grew more steadily from $22 million in 1997 to $32.8 million in 2006; this expansion of the retail sector reflects positively on the overall health of shopping district businesses in Little Saigon and is in contrast to the decline of retail sales in Chinatown. The manufacturing and FIRE sectors rose and fell during the time period, while wholesale revenues rose, fell and recovered since 2004.

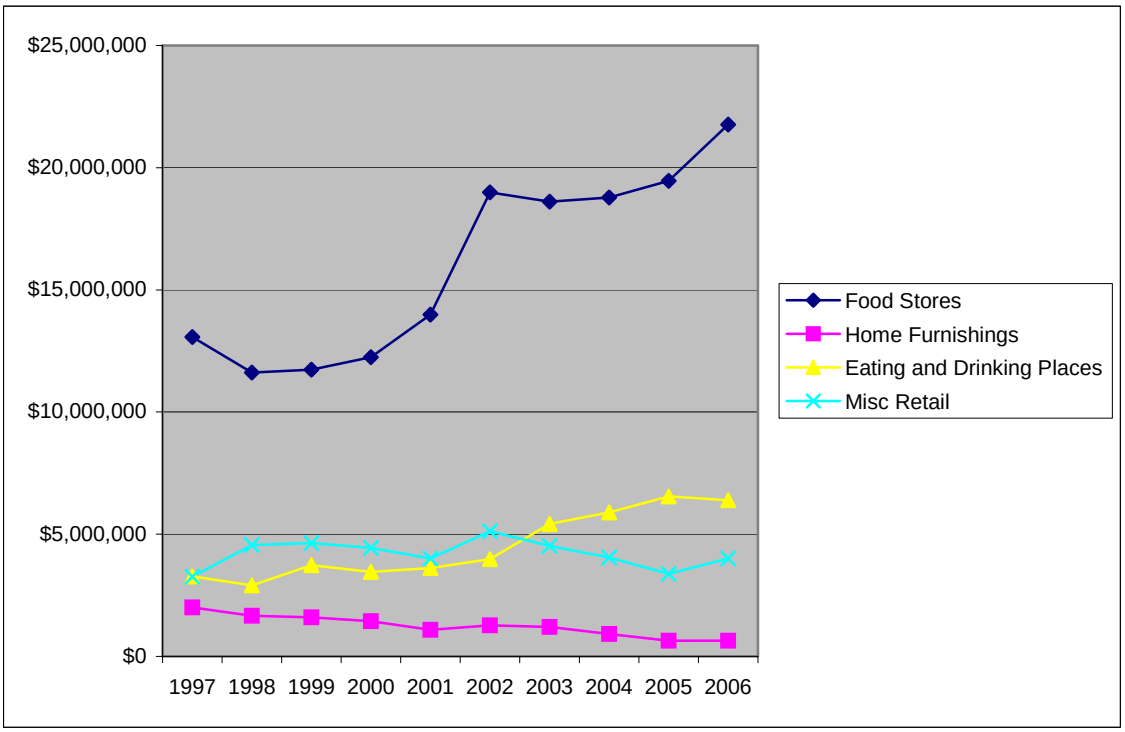
Figure 10: Little Saigon, Business Revenues (1997 - 2006)



[23] Underlying data was obtained from City of Seattle, Department of Executive Administration, Revenue and Consumer Affairs division and is based on information reported by businesses through business license applications and renewals. All revenue figures have been adjusted for inflation to 2006 dollars, so that all dollar amounts are equivalent. Revenue trends were analyzed to the 4-digit SIC level.

The retail industry, which includes restaurants, and therefore the majority of shopping district businesses in Little Saigon, expanded in all significant sub-sectors except home furnishings (see Figure 11, below). Major growth occurred in the food store sub-sector, which increased from total sales of $13.1 million to $21.8 million and reflects the growing number of groceries and specialty groceries found in the area. At a more modest scale, the restaurant sub-sector almost doubled in revenues, from $3.3 million to $6.4 million. Miscellaneous retail, which is comprised largely of drugstore and jewelry store sales, remained fairly steady over the time period.

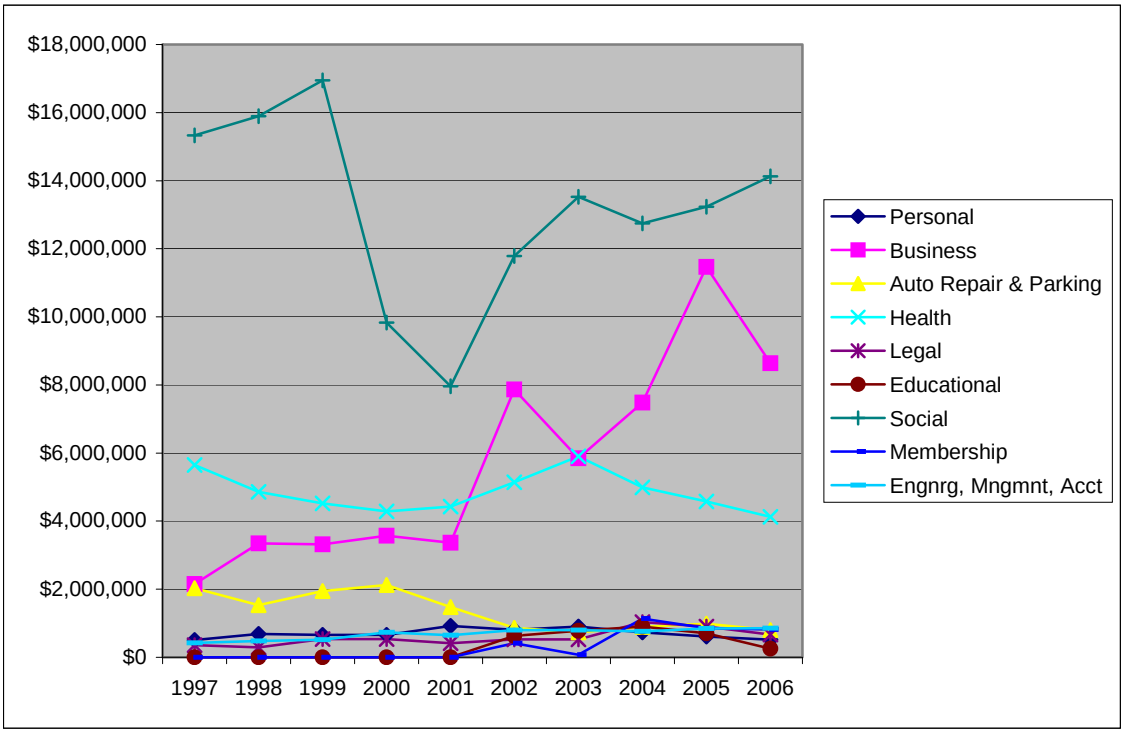
Figure 11: Little Saigon, Retail Revenues (1997 - 2006)



As can be seen in Figure 12, following page, the growth in the service industry is entirely accounted for by business service revenues, which increased from $2.2 million in 1997 to $8.6 million in 2006. Social service sector revenues, which are the largest category of revenues in services, fluctuated wildly during this time period; in 1996, revenues were $15.3 million, which declined sharply to a low of $8 million in 2001 and recovered to $14.1 million by 2006.

Health services and other more minor sub-sector industries remained fairly steady over the time period, with the exception of auto repair and parking lot revenues, which decreased from $2 million to $800,000 over the time period. Personal services, which includes most shopping district service businesses and are not depicted in the figure, grew from approximately $500,000 in 1996 to $900,000 in 2001/2003 before declining to $500,000 by 2006. The majority of personal services revenues, and its fluctuation, is accounted for by beauty shops.

Figure 12: Little Saigon, Service Revenues (1997 - 2006)



BUSINESS TENURE & GENERAL CHARACTERISTICS

The following findings regarding business tenure and retail real estate market conditions, customer base and business owner characteristics and plans are based largely on the in-depth business and property owner interviews conducted by Trang Tu. The 14 Little Saigon businesses interviewed exhibited a diverse range of business mix, distribution and tenure. General characteristics include:

- Tenures: 9 of the businesses were established over 5 years ago, including a jewelry store, 2 restaurants and a supermarket that were among the very first businesses to locate in Little Saigon over 20 years ago. The range of tenures spanned from 10 months to 25 years.
- Location: The 14 businesses represented all four quadrants of the intersection at 12th Avenue S. and S. Jackson Street. Among these were 2 businesses along Rainier Avenue S. between S. Jackson Street and S. Dearborn Street, and 1 business/property owner located along S. Weller Street between 12th Avenue S. and Rainier Avenue S.
- The mix of businesses interviewed included: 4 restaurants, 2 medical services (chiropractor, optometrist), (2 professional services (real estate broker, attorney), 2 supermarkets, 1 jewelry store, 1 sandwich shop, and 1 combination business (immigration service, bookstore, apparel and music).

RETAIL REAL ESTATE MARKET CONDITIONS

Size of Commercial Spaces

Space sizes ranged from 600 square feet (for a sandwich shop) to 15,000 square feet (for a supermarket). Most businesses interviewed had spaces below 3,000 square feet.

Vacancy

The business inventory found approximately 46 vacant commercial spaces or properties. While this 19 percent vacancy rate is rather high, most of the vacancies are found outside of the shopping district in the

mixed industrial area south of S. Jackson St and likely reflects the movement of industrial uses out of the area, rather than lack of demand for storefront space in the heart of the district (see **Map 5**, pg 25).

Lease Terms & Affordability

The vast majority of respondents have 5- or 10-year leases; virtually all are triple net. The typical lease range was from $1.50 to $2.00 per square foot per month. Two outliers included 1) a non-profit who pays $0.50/SF/month, and 2) a sandwich shop who is paying $5.00/SF/month. These lease rates are fairly high for the type of strip commercial space available and reflect the more recent development of most of the retail and office space, in comparison with Chinatown, as well as the proximity of the district to Rainier Avenue S., a high-volume arterial.

There was a mixed response from proprietors regarding whether they felt their current lease rate was "affordable." Some indicated that their lease rate is "fine" or "okay." Two of the proprietors who had been tenants for over 20 years believed that they may be paying relatively lower rents because of their long tenures. Others expressed that their rents are too high, especially in combination with a belief that their landlords do not provide adequate property maintenance. In particular, the business owner noted above who is paying $5.00 per square foot per month, expressed strong dissatisfaction with his lease rate, and feelings of helplessness to change the situation for fear of being evicted by the owner.

CUSTOMER BASE

Among businesses interviewed, there was a wide variation in customer base in terms of both ethnic and geographic diversity. Businesses with the most ethnically diversified customer base (i.e., clientele from different ethnicities or communities) included several delis/sandwich shops, some of the supermarkets, some restaurants, one jewelry store, and a professional office. Geographically, a number of businesses draw from the region, especially South Seattle. Some of the most visible businesses, such as more upscale restaurants, pull from outside the city, from as far away as Everett and Bainbridge Island.

Factors affecting customer base include: 1) business more accessible or appealing to a broader audience (i.e., restaurants), 2) reviews in mainstream media (Seattle Weekly, The Stranger, or the dailies), 3) intentional targeting of a specific market by proprietor, and 4) emphasis on customer service that attracts repeat clients. Specific observations related to customer base follow:

- Delis: More diverse customers due to growing popularity of "Vietnamese sandwiches." Popular with nearby office workers. Quick service. One sandwich shop receives customers of mixed ethnicities due to location next to a supermarket with mostly Taiwanese customers and a city bus stop.
- Supermarkets with diverse customers included one who had received a review in a local mainstream paper (and served mix of Asian, Hispanic and Caucasian ethnicities) and another with a significant outdoor produce display.
- Restaurants: Several restaurants have found popularity with mainstream customers due to 1) offering a non-traditional ambiance with more "upscale" interior design, and 2) pursuing/receiving reviews in mainstream papers. Another restaurant has found a niche among Vietnamese-American, Caucasian, African-American and Hispanic customers alike by pursuing the "family restaurant" niche.
- Jewelry store: Most jewelry stores serve Vietnamese-American customers; however, one that was interviewed described a relatively diverse clientele ethnically (mix of Asians) and geographically (South Seattle, Renton). They attributed this to strong customer service building long-term relationships with repeat clients, established tenure (21 years), and family commitment.
- Medical service: One medical professional described a customer base that is 60-70% Vietnamese-American, with the remaining being other ethnicities. His clients come from as far away as Bellingham and Kennewick, and as close as Harborview and Swedish Medical Centers.

Among the businesses with the least ethnically diverse customer base were most jewelry stores, nail salons, and several professional offices.

- Nail salons: Mostly cater to Vietnamese due to owners' comfort level/greater fluency in Vietnamese. Have some Hispanic and African-American customers.
- Restaurants: Some restaurants who have been established for many years and have traditionally served Vietnamese-American customers remain so. In some cases, these businesses have lost some of their customer base to newer restaurants. One particular "pioneer" business has lost 30% of their customer base in the last several years due to a newer, "non-traditional" restaurant nearby. The customer peak period for a number of these restaurants is on the weekends, when Vietnamese-Americans from throughout the region come to shop and eat in Little Saigon.
- Professional offices: Several of those interviewed (real estate broker, attorney), serve primarily Vietnamese-American clients because they intentionally target that market. The real estate broker serves clients from throughout King County, while the attorney's clients are mainly from South Seattle. A medical professional sees primarily Vietnamese-American clients due to language fluency, customer knowledge of the area, and convenient location near complementary businesses.

Long-term shifts

Two businesses (both restaurants) who have been in Little Saigon long-term (13 to 20 years), have seen shifts in customer base over time. For one restaurant, the first 6 years saw 75% Vietnamese-American customers; for the next 3 years, Vietnamese-Americans would come on the weekends while daytime saw mostly non-Vietnamese clientele. Now, the restaurant serves virtually all non-Vietnamese-American customers. The other restaurant, a pho shop, served mostly Vietnamese- and Laotian-Americans in the early years, then attracted more Caucasians following a Seattle Times article. In recent years, other pho shops have opened, and the base has shifted to mostly Hispanics and Vietnamese-Americans on weekends.

Impacts on Customer Base

The majority of proprietors expressed concerns about several current issues that they perceive having an adverse impact on their customer base. These include: 1) thin profit margins, leading to inability to raise prices due to neighborhood competition, 2) parking and traffic (peak hours, game days, lunchtime, ineffective management of private lots, public construction periods), 3) public safety/security (panhandlers approaching customers inside businesses, employees while walking to cars in the evening, break-ins, drug dealing), and 4) a need for physical improvements in the neighborhood (street and sidewalk repairs/improvements, sanitation, pedestrian amenities, more street lighting).

BUSINESS OWNER CHARACTERISTICS & PLANS

Age, Language, Ethnicity, U.S. Residence

- Business owners ranged in age from early 30s to 60s. Age tended to correspond with English fluency.
- All but 2 proprietors had at least some English fluency; however, among these there was a range from complete to partial fluency. The majority of bilingual owners, when given the option, chose to converse in Vietnamese during the interview; these tended to be either over 50 years of age and/or had relatively fewer years of U.S. residence. Those who interviewed in English tended to speak English perfectly, and be younger (under 40 years of age) and/or U.S. born.
- Ethnicities and tenure in U.S.: The proprietors interviewed included a mix of Asian ethnicities, with the majority being first-generation Vietnamese-American. Other proprietors were Chinese-Vietnamese, first-generation Chinese-American, and second-generation Chinese-American.
- Length of residency in the U.S. varied from earlier arrivals (1970s) to as recent as the late 1980s.

Location Decision

- The vast majority of business owners interviewed, regardless of tenure in Little Saigon, chose their current location for low/affordable rents and concentration of other Vietnamese businesses.
- Several of the younger proprietors (attorney, real estate broker, optometrist) intentionally chose their location because they wanted to serve the Vietnamese-American market, partly as a result of business analyses and partly from personal desire to serve the community. As tenants, these proprietors tend to desire, and seek, newer building spaces. One in particular chose a 3-year old space expressly so that he could have the flexibility to design his own interior improvements.
- Of those interviewed, two proprietors had previously been located elsewhere in Little Saigon. In both cases, they moved locations in order to expand their business.

Expansion Plans/Capacity

The interviews included discussion of whether proprietors desired to expand their businesses, in terms of customer base, physical space and/or geographic location.

Desire to Expand

Overall, the interviews found that most interviewees desire to expand while others do not and at least one is not sure. 9 proprietors expressed a desire to expand, for a number of reasons: 1) general desire to increase customers; 2) strong current demand leading to need to expand physical space; 3) desire to develop property (two business owners who also owned their properties). Those who do not wish to expand cited reasons including, 1) as older proprietors, they are "too old and tired" to consider major changes to the business; 2) they have not yet satisfied all demand from the Vietnamese market; 3) the business is too new to consider expansion; 4) status as a family-run operation limits capacity to expand. One proprietor, a restaurateur, was unsure about expansion. He has had a longstanding vision to help Little Saigon be a cultural center for the community by targeting Vietnamese-American customers with his business; however, this is becoming financially less feasible and he is debating whether to shift his business model to cater to new markets, which he believes would dilute his ability to serve Vietnamese.

Desired Location

Of the business owners who stated a desire to expand, 5 expressed a desire to stay in Little Saigon, due to: 1) customer convenience; 2) historic significance of location or specific intent to serve the Vietnamese community (one successful restaurateur has received offers of support for relocation from potential investors, but has declined because he is committed to support Little Saigon's growth); 3) synergies with other businesses. (e.g. jewelry stores do well if located adjacent to supermarkets); 4) proprietor also owns the property. 3 owners expressed a desire to stay in Little Saigon but also expressed openness to relocating outside the neighborhood, due to: 1) less personal attachment to Little Saigon; 2) other locations (King Plaza, White Center, Renton) are seen as more desirable (opportunities to purchase land, lower rents, less congestion, more parking); 3) customers are less location-dependent. Finally, one proprietor who wishes to expand expressed no attachment to Little Saigon as a business location and believes that his diversified customer base would allow him the ability to do well at other sites.

Factors in Ability/Capacity to Expand

Factors that play a role in determining business' ability or capacity to expand tended to fall into one of the three general categories: 1) resources including financial, human and physical, 2) relevant experiences and skills, and 3) proprietors' attitude towards risk and change,

Human Resources

Being able to involve family members, especially children, in helping to operate, grow and carry on the business was a major factor in shaping business capacity; however, this crucial factor varied among those interviewed. 5 businesses had involvement of adult children in operations, while the other 9 had none. Involvement of children, who are often more formally educated than their parents (and in the U.S.), and

more assimilated and hence more engaged in the mainstream community, invariably brought more ability to shape the business model to cater to the desire markets. One of the restaurateurs, for example, was able to bring an entirely new design concept to the space and menu, and invest resources into executing it. This has been a major draw to mainstream customers. A family-owned jewelry store that opened in 1986 has stayed largely the same due to parents' desire to maintain the status quo; however, the two sons and daughter, who have committed to continuing the family business, have plans for relocation and major expansion.

The question of owner succession is an important related factor, and tends to hinge on multiple factors including type of business, and children's personal circumstances. Restaurants, for example, are generally known and frequently cited in this survey, as a business type that is especially draining physically and financially. Interviews found that children may be involved in restaurants as an initial or short-term support (the case among two interviewees), but then move on to other occupations. Even among the restaurants interviewed where children are committed, they are focusing their energies on the one business, and unable to consider expansion beyond that. In contrast, for example, the jewelry businesses tend to get carried on within the family more because a higher level of technical knowledge is required, that is often held closely within the family. The jeweler who was interviewed described how the father had learned goldsmithing in Vietnam when he was 13 years old, opened the first shop there, and 3 of the children have all learned the technical skills and are committed to carry on the business.

Financial Resources

The majority of businesses are self-financed. Few are aware of public or financing programs. A handful of those interviewed knew of the City of Seattle's façade improvement program due to recent outreach from a community non-profit organization, but had negative experiences with it: too much process, meetings and lack of funds in the end leading to feelings of time wasted and frustration.

Physical Resources

The majority of proprietors in Little Saigon do not own their properties, and wish to do so. This is a longstanding issue that many view as the key to preserving Little Saigon. Anecdotal evidence shows that business owners tend to be small-scale in resource (up to $5 million), not sufficient to purchase major properties given consistently escalating land prices. Several proprietors discussed the concept of pooling capital to develop a building with condominium spaces; this is of serious interest to at least five interviewees. However, they also mentioned concerns about the ability of proprietors to build trust and coordination, so believe would need external facilitation and technical and legal assistance.

Relevant Experiences/Skills

This factor encompasses a range of factors, including:

- Lack of knowledge about strategic business analysis and planning:
  - Most proprietors lack business plans, though they would like to develop one. Rather, they "lay cong lam loi" or have survived through the years by cutting prices and using family labor.
  - Most do not conduct marketing, but rely mostly on word-of-mouth. A few place ads in ethnic newspapers and some of the younger proprietors seek exposure in mainstream media.
  - Most do not conduct market analysis or when they do, lack information for a thorough market analysis (e.g. one proprietor concluded he could not relocate to the Chinatown/ID because he believes customers only go there for Chinese food).
  - Storefront appearance/accessibility (e.g., one proprietor leaves dumpsters out front attracting rats, and others using limited parking spaces for employees, both unaware how these can detract from customer volumes).
- Lack of knowledge/experience with new markets (e.g., a supermarket's attempt to diversify customer base failed because the Chinese-American owner lacked deep familiarity with the types of specialty products his new target customers would desire).

- Previous entrepreneurial experience
- Formal education in business and/or a professional field
- Other factors: degree of assimilation (second-generation business owners), extent of travel and/or interaction with mainstream market.

Attitude towards Risk

In general, we found that proprietors tended to cluster on either end of the risk spectrum, and that this sometimes correlated with age and/or assimilation. Older proprietors seemed to be relatively more satisfied with the status quo due to being more risk averse, less adaptable to change, and/or targeting retirement. In some cases (at least 3 among those interviewed), older proprietors had been more engaged with community-oriented activities in the past but have become less so over time. In contrast, some younger proprietors have other day jobs (e.g. pharmacist, banker) and also bring added entrepreneurial energy towards their business, manifested by willingness to invest financial resources in business improvements, and/or regularly make changes to their business model. Some also bring added dedication and energy toward contributing to the neighborhood as a whole.

GENERAL DEVELOPMENT TRENDS

This section briefly documents recent property transactions and general information gathered regarding development trends from interviews with property owners and developers and previous studies performed for the Livable South Downtown planning effort.

Residential Development

There has been no recent residential development activity in Little Saigon, other than the Pacific Rim Center (2000/1), which is perceived as not successful.[24] There is also very little older housing stock in Little Saigon; the area is primarily strip commercial and industrial in character, with a pocket of detached residential on S. Weller Street between Rainier Avenue S. and 12th Avenue S.

Total detached single-family, duplex and townhouse re-sale activity is summarized in **Table 14**, below.

Table 14: Little Saigon, Non-Condo Residential Re-Sale Transactions, 2002 - 2006

	2002	2003	2004	2005	2006
Total Transactions	3	7	7	8	16
Average Sales Price	$209,227	$277,636	$331,307	$334,181	$409,156
Average Square Footage	1,520	1,598	1,661	1,439	1,521
Average Sales Price/SF	$137	$179	$203	$257	$282

	2002-'03		2003-'04	
	$ Change	% Change	$ Change	% Change
Average Sales Price	$68,409	32.7%	$53,671	19.3%
Average Sales Price/SF	$42	30.8%	$24	13.1%

	2004-'05		2005-'06	
	$ Change	% Change	$ Change	% Change
Average Sales Price	$2,874	0.9%	$74,975	22.4%
Average Sales Price/SF	$55	26.9%	$25	9.6%

[24] According to the BHC Consulting study, condominiums are available $300,000 or more and approximately 10 of 40 units have sold with the remainder becoming available for sale as leases expire.

Non-condominium residential re-sale transactions have steadily increased in activity level and value since 2002. Although the value per square foot is somewhat below the average value per square foot for homes in Central Seattle (2005: $295), annual appreciation is on par with greater Central Seattle (average annual, five year trend, 13.5 percent appreciation).[25] This suggests that, despite the largely commercial and industrial physical character of the area, Little Saigon is attractive to homebuyers.

The area is currently lacking in the physical character and pedestrian infrastructure that makes Chinatown an attractive area for new residential development and current production, distribution and repair businesses also pose incompatibility issues. However, proposed new development in the area including the Dearborn Street mixed-use project (see description below) and the redevelopment of Yesler Terrace could demonstrate that market-rate residential development can be successful in Little Saigon and, over time, begin to change the character of the area to make it more attractive for additional residential development.

The discussion of the feasibility of residential development over 85 feet tall in Chinatown (page 23) also applies to Little Saigon.

Commercial Development

In the last five years, a few smaller commercial projects have been developed by Vietnamese-American owners in Little Saigon. One is a two-story office building along Rainier Avenue S. developed three years ago by a small group of Vietnamese-American owners, one of whom has a medical office in the building. This building has approximately six office uses, and offers 5 to 10-year leases. Another recent development is a one-story retail building on 12th Avenue S., north of S. Jackson Street. The property owner also occupies the main retail space as a sandwich shop/deli, and leases to 3 other retail tenants.

There were eight recorded commercial property transactions in Little Saigon between 2002 and 2006; the types and sizes of properties varies too widely to get a sense of appreciation and the value of individual transactions varies widely. In 2002, a retail trade space sold for $147 per square foot, as did a strip commercial space for $245. In 2003, a property classified only as "commercial" was sold at $229 per square foot. In 2004 and 2005, two office buildings sold for $149 and $160 per square foot, respectively. Two transactions of medical office space in 2005 and 2006 also rose in value, from $301 to $310 per square foot.

The range of commercial lease rates in Little Saigon ($1.50 - $2.00 per square foot per month), the success of recent small scale projects and the low level of vacant space in the shopping district area indicates demand for additional retail and small office space.

PROPERTY OWNER CHARACTERISTICS & PLANS

General Ownership Patterns

The most significant properties at the four corners of Little Saigon's primary intersection, S. Jackson Street and 12th Avenue S., are primarily owned by non-Vietnamese owners, including one Taiwanese and three different Chinese-American owners. At least one of the Chinese-American owners has family roots in the International District and Beacon Hill, and received the property passed down through his father-in-law, a Chinese immigrant. One of the other Chinese-American owners owns two parcels near the 12th/Jackson intersection as well as a newer mixed-use building (residential and commercial) constructed within the last 10 years.

[25] Seattle Times, Home Values, http://seattletimes.nwsource.com/homevalues/prices/prices_king_snohomish.html.

Vietnamese-Americans own some of the smaller parcels beyond the immediate intersection. Our property scan and anecdotal estimates found that approximately 10 to 15% of Little Saigon properties are Vietnamese-owned. A portion of these are property owners who also maintain businesses on the property. Some of these property owners obtained property with existing buildings 10 to 15 years ago, while others have acquired only in more recent years. And it has only been the very recent acquisitions (i.e. the two cases noted in "General Development Trends") that involved new construction on undeveloped sites.

Beyond the immediate intersection of 12th/Jackson, property ownership is a mix of largely industrial activities (some defunct), with a smattering of residential and religious uses. One property owner in this area, who was an interviewee, is an industrial-type business (contractor) but does not conduct industrial activity on-site; instead, they built a new office building with multiple spaces for lease, within the last 5 years, and may build another one next door, in keeping with the type of development and changes they predict may be catalyzed by the Dearborn Street Project.

Relationships with Business Tenants

Similar to property owners in Chinatown/ID west of I-5, property owners in Little Saigon used a variety of methods to recruit tenants, including 1) use of ethnic brokers, 2) placing ads in ethnic papers, and 3) letting tenants find the properties. Several interviewees described challenges finding tenants for office spaces, for which current rents are "below market."

There was also a range of "community orientation" among property owners in Little Saigon. Though there are no non-profits who own property in Little Saigon, we talked with at least two property owners who have provided support to tenants (selecting non-competing tenants, providing financial assistance for tenant improvements, offering rent discounts) and the community (support for neighborhood projects). Yet these owners, both of whom are Chinese-American, also expressed limitations to "how far" they extend their assistance, due to: 1) over time, a growth in the desire to "simplify" relationship with tenants and property management, 2) belief that some tenants' lack of knowledge about business practices limits effectiveness of his efforts to help. At the same time, the consultants learned about other property owners who tenants cited as providing no assistance or property maintenance and charging unaffordable rents.

Future Plans for Property

Among the 7 property owners interviewed, 3 have plans to develop their properties. Influencing factors included 1) motivation to yield returns on their property, 2) availability of human resources to execute and manage a development project, and 3) availability of capital. One owner who currently owns a supermarket on their site described plans for a mixed-use building with underground parking. Another is seeking to expand the existing building, but is constrained by Historic Review District regulations, while another plans to build a second office building. The other property owners, who do not have plans for development, cited a variety of reasons: 1) they feel satisfied with the status quo, 2) they have owned the property for many years (20+ years in two cases), are facing retirement age, and do not desire a major project, and 3) are responding to tenant preferences to not upgrade property in order to keep rents low.

Attitudes toward Future Trends

Most interviewees (both business and property owners) believe there is a fundamental tension between growth/development and preservation of Little Saigon. A unified vision for the future does not exist; there were mixed feelings about whether reconciling the tensions is desirable.

Laissez-faire Perspectives. Some interviewees hold that mixed-use development will add vitality to the area, and that these opportunities should be embraced. Others believe that private actors will always seek to "improve" their properties/businesses, and that government should not dictate what they do, especially with regard to property owners; for some, this is also underscored by previous experience with significant, and often punitive, government intervention in Vietnam, which has left them desiring more

autonomy in the United States. Some interviewees also feel that Vietnamese immigration and assimilation has naturally evolved to a state where Little Saigon will naturally erode as more families settle in outlying areas, and that this is acceptable. Finally, some feel that even if the community desired to preserve the neighborhood, they could not match resources and abilities of large-scale developers, so must be realistic about the chances of remaining viable.

Pro-preservation Perspectives. Other interviewees feel strongly that public and community interventions should be carried out in order to preserve the culture and character of Little Saigon. Many who hold this view do so because they believe in the historical significance of the area and the need to preserve it as a legacy for subsequent generations. Interviewees described various visions for Little Saigon, including revival as an "Old Vietnam" modeled on a traditional business district, expansion to include non-business activities such as arts/cultural venues, educational institutions, and non-profits, and a "cleaner, safer and improved area from which the community can take pride." Finally, some believe that businesses can simultaneously grow and cater to new markets while still retaining cultural authenticity.

KEY FINDINGS

The following summarizes the key findings regarding existing business and retail real estate conditions in Little Saigon:

- Little Saigon is a specialty ethnic shopping district comprised of approximately 175 businesses and 25 non-profit organizations strongly clustered on S. Jackson Street and 12th Avenue S. While there are some industrial and wholesale businesses on S. King and S. Weller Streets, retail, restaurant, personal services and small office uses, the mainstays of the district, are found on S. Jackson Street.

- In contrast to Chinatown, the district has a growing retail sector; total retail revenues grew modestly but steadily from $22 million in 1997 to $32.8 million in 2006. Retail growth was led by the expansion of groceries and specialty groceries in the area; by 2006, there were approximately 12 food stores in Little Saigon. The restaurant sub-sector, comprised of 35 restaurants, 24 of which are Vietnamese, has also grown steadily, doubling in revenues over the past 10 years. Other sizable retail and personal service clusters, including jewelry (12 outlets) and hair and nail salons (19 outlets), grew steadily in total revenues from 1997 to the early 2000s, but then began to decline. This is likely due to larger economic shifts, but may also relate to businesses undercutting each other because of increased competition.

- Retail lease rates are approximately $1.50 to $2.00 per square foot per month. This range of lease rates is both higher and tighter than Chinatown and correlates to the more limited types of space available (largely one and two-story strip commercial) and its more recent development. The business inventory found a high rate of vacancy (19 percent), but these vacancies were found mostly in the mixed industrial and residential blocks off of S. Jackson Street and do not reflect demand for retail and office space in the heart of the district.

- The customer base varies both ethnically and geographically by the type of business, a business' degree of media exposure, and the proprietor's intentions regarding target market. Restaurants are split between those that have intentionally targeted a more mass market through non-traditional ambience or family orientation versus older establishments that have continued to serve a largely Vietnamese-American clientele. Supermarkets are similarly split, while jewelers, nail salons and professional office users are more focused on the regional Vietnamese-American and Asian-American market. Some businesses observed that their customer base has become increasingly varied over time, given media exposure, and that the regional Vietnamese-American clientele is now focused on weekends, similar to Chinatown's regional weekend draw.

- Most businesses interviewed choose their Little Saigon location due to the low rents, proximity to other Vietnamese-American enterprises and desire to serve a Vietnamese-American clientele. The majority of those interviewed wish to expand their businesses and prefer to remain within Little Saigon and several express the desire to own and develop property in the area. Interest in expansion varies according to family and financial resources, the proprietor's level of business experience, strategic planning skills and formal training, as well as their attitude toward risk. These factors frequently correlate with the owner's age and degree of assimilation.

APPENDIX A. INTERVIEW QUESTIONS

A. BASIC INFORMATION

1. Type of business/tenants: What type of business activities do you conduct/are in this building?
2. Language accessibility: What is/are the primary language(s) in which you conduct business?
3. Age of proprietor?
4. History, duration and location of business:
    a. How did you get started with your business?
    b. How many years have you been in business? At this location? In another location within the district? In another location outside the district?
5. Lease terms/length:
    a. What is the length of your current lease term?
    b. Will you attempt to renew the lease when it expires?
    c. How much space do you have, approximately?
    d. What is your current lease rate?
    e. What type of lease is it?
6. Tenant recruitment: How does the property owner identify/select tenant(s)?
7. Does this space meet your current needs well (lease, owner relationship)? Do you anticipate that it will continue to meet your businesses needs over the next 5 years?

B. CUSTOMER BASE

1. What is the composition of your primary customer base (ethnicity, income, geographic origin, travel mode, other characteristics)?
2. Do you have a desire to expand your customer base? If so, to whom/how do you wish to expand?
3. What kinds of plans or ideas do you have, if any, for how to expand your customer base?

C. CHALLENGES/BARRIERS AND FUTURE CHANGES

1. What challenges/barriers affect your business?
2. Future changes and vision
    a. Future plans for property: What plans, if any, does the property owner have for the property?
    b. What kinds of neighborhood changes do you anticipate will affect your business? Do you view these as positive or negative and why?
    c. What thoughts do you have, if any, about how this neighborhood should be/look/feel/function in the future?
3. Business' capacity to respond to change
    a. How do you feel about your ability to respond to or benefit from future changes?
    b. Do you have a business plan?
    c. What type of financing do you have, if any (SBA loans, informal loans from family)?
    d. Are you aware of public programs for business assistance? If not, why not?
    e. What other kinds of assistance do you think is needed?

APPENDIX B. INTERVIEWEE PROFILES

LITTLE SAIGON INTERVIEWS

Interviewee is a business owner who was one of the first proprietors in Little Saigon in the 1980s. For years, streams of Vietnamese families from as far away as Olympia would come to the restaurant he opened with his wife, especially on the weekends. Over the years, he has expanded the footprint of his restaurant, and had hopes his son would continue the business. In recent years, he has lost 30% of his customer base due to competition from a newer restaurant nearby that has appealed to a wide audience of Vietnamese and non-Vietnamese alike. This restaurateur feels he "is at a turning point" of needing to decide whether to change his business model to cater to non-Vietnamese clientele, or retain his focus on his traditional customer base. He has always wanted his business and Little Saigon to be a place for Vietnamese-Americans, but now is unsure whether he can afford to act in accordance with that aspiration.

Interviewee has owned significant property at one of the corners since his father-in-law, a second generation Chinese-American who settled on Beacon Hill, passed the land on. He has strived to "treat his tenants well, since their hard work allows our lifestyle." He offers nearly the lowest rent in the area, has tried to protect his tenants from competing with each other by leasing to diverse businesses, and given his time/resources toward community projects. Six years ago he was considering making improvements to the property; however, a number of tenants stated they would rather have the lower rents, so he did not move forward with improvements. However, now in his 60s, he feels he is "off into the sunset" and is passing property management to his son, who is in his 30s. In addition to raising a young family, his son also manages family property in Edmonds, and feels that "as a 4th generation, he feels more comfortable in Bellevue than in Chinatown." Together, father and son want to continue supporting community goals; however, they feel that they are "not part of the community" and cannot broker all the tenant conflicts that arise; as well, they believe that "there will be a time when a high-rise will go in, and if it's in their self-interest, they would do it. But they aren't actively seeking it."

Interviewee's family has owned a jewelry store in Little Saigon since 1986. Her father learned goldsmithing in Vietnam when he was 13 and opened the family's first store there. She and her two brothers have all learned the technical skills of jewelry and are committed to continuing the family business. While they have been happy with their location in Little Saigon given the foot traffic and complementary businesses nearby, they have been unsatisfied with their landlord's property maintenance, as well as growing parking problems. Overall, the business has been strong but has slowed somewhat in the last five years due to online competition. Clients (many of whom are regulars) come from primarily from South Seattle and are a mix of different Asian ethnicities. She and her siblings have ideas for expanding the business (purchasing property and relocation, developing a website, hiring additional staff, marketing to new communities) and have been looking at purchasing property. They prefer to stay in Little Saigon for the ease of customer access, but the available options are cost-prohibitive for them. Given this, they are considering locations further away including the Rainier Valley, Renton, and neighborhoods north. Her main concern for the neighborhood is potential displacement impacts from zoning changes.

Interviewee represents a community non-profit organization established in Little Saigon within the last five years. From a non-profit perspective, his organization is the only one focused on community development and advocacy in the neighborhood, yet has virtually no financial or staff capacity to sustain needed efforts. The organization leases office space at a favorable rate from one of the major landowners in Little Saigon, but even this support is not adequate for long-term viability. Nonetheless, he dedicated

significant time to advance the needs in the neighborhood, among which he views potential zoning changes and the Dearborn Street Project as the largest forces for change and potential displacement of existing businesses. He is concerned that current proprietors, most of whom do not own their properties and who have thin profit margins, will not be able to withstand potential increases in rents. While a few businesses may be able to adapt to future changes, many, due to language barriers, lack of capacity to cater to mainstream markets, lack of capital, and dearth of family members to carry on the business, will simply be displaced. In this context, there are significant challenges to community organizing, including the same language barriers and lack of a critical mass of engaged businesses.

Interviewee owns a sandwich shop established seven years ago. In his 40s, he conducts business in Vietnamese and English, and receives diverse customers (50% Vietnamese, 50% non-Vietnamese) from both the adjacent supermarket and a bus stop nearby. His biggest challenge is his rent, which he pays at more than three times the average rate for this neighborhood. He also expressed dissatisfaction over the owner's lack of property maintenance (the owner is Taiwanese and uses a property management service). His current lease expires August 2007 and he wishes to relocate out of Little Saigon. Several years ago he had looked into relocating to the Chinatown/ID but concluded it was infeasible because he believes the peak evening restaurant traffic in that neighborhood would not align well with his sandwich sales, which occur mostly during the daytime.

Interviewee leases a 1,000 square foot retail space. In this space, he sells books, videos, CDs, and apparel, and also offers immigration/passport services. He conducts his business in Vietnamese and virtually all his customers are Vietnamese-Americans who are primarily local and come into the store mostly on weekends. This proprietor has a 5-year lease, and feels his rent is "fine." He would like to keep renewing his lease if the property owner allows it, though expressed that if he had an opportunity to own his property, he would expand his store. Eight years ago, he purchased a small building further north on S. Jackson Street, completed upgrades, and leased to five tenants. These same tenants remain there, and he has no future plans to alter the building. He also stated that many neighborhood proprietors have a strong desire to own their properties but lack large-scale resources to purchase a significant site; he estimates that individuals could afford $3 to $5 million deals at most. While some have discussed the idea of pooling resources, he does not believe that Vietnamese proprietors could trust each other enough to make that work. At one point he had attended several meetings and applied for assistance from the City's façade improvement program, but in the end was told there were no funds and has concluded the process was a waste of time and expressed some weariness about other potential City assistance. He has no familiarity with other public financing sources. His biggest neighborhood concerns are traffic congestion and business displacement due to rising rents.

Interviewee established a Chinese buffet restaurant on Rainier Avenue S. in May of 2006. She had previously worked at a bank but decided to change occupations because she wanted to have more interaction with people. Though she had considered locations throughout Seattle and the Eastside, she chose this site due to mutual family connections. She has a 10-year lease and feels her lease rate is "ok." The first few months of business were busy, with customers (nearby residents and employees) coming in primarily at lunch. However, patronage has dropped off significantly due to security problems—she has experienced seven break-ins since opening, including having to replace fans/vent system and glass in skylights (roof break-in). Frequently, panhandlers enter the restaurant and approach customers, or knock on car windows. Though she would like to expand her customer base (and would welcome public assistance with marketing and finances), she is currently looking to sell her business as she is losing revenue.

Interviewee purchased property and opened a pho shop at a strategic site in Little Saigon in 1981, becoming one of the first businesses in the neighborhood. In 1999, he opened a second, slightly larger restaurant adjacent to the pho shop. His family has also opened (as tenants) pho shops in Chinatown/ID,

the north end of Rainier Valley, and in Downtown Seattle. His customer base has shifted over the years, at first drawing primarily Vietnamese-Americans (especially on weekends from throughout the region) and Laotian-Americans. After the Seattle Times wrote an article about the shop, more Caucasians came in. In recent years, other pho shops have opened nearby, and now clients are mostly Hispanics, and Vietnamese-Americans on weekends. His biggest future concerns are potential traffic congestion from the Dearborn Street Project. He doesn't think the tenants in that project will compete with Little Saigon businesses. He also has some concern about succession. Currently, both he and his wife, who are in their 60s, work at the restaurants. Several of their children who have finished college are helping but he is unsure how long they will stay involved. He stated he is "too old and tired" to think about any big changes or expansions to his property.

Interviewee is a business and property owner along S. Weller Street. His father began the family's construction/contractor business in the early 70s after purchasing the site. In the mid-1990s, he and his brothers formed a partnership to expand the business to an 18-person firm working throughout Western Washington. Their core work is urban mixed-use buildings (often for non-profit housing developers). They also build office, industrial, and some military and medical facilities. They use their property (current building built 4 years ago) primarily as the home office, including leasing to approximately 12 tenants (mostly non-profit and non-traditional professional services). Construction equipment is rented for specific jobs and kept on the job sites. His main neighborhood concerns focus on safety and security (panhandlers, drug dealing), lack of parking, and underutilized/vacant buildings and lots. Given this issue, he feels that changes to shift the industrial character of the area to a more thriving, mixed-use neighborhood, are positive. But he acknowledges this may come at the cost of displacing ethnic "mom and pop" businesses, leaving him with mixed feelings about future changes. Yet he does not feel it is the City's responsibility, nor is it preferable, to intervene to "direct what happens on private property."

Interviewee is a real estate broker who relocated from the Rainier Valley four years ago because he believes that Little Saigon is the "face" of the community and he wanted to be part of it. The building in which he leases is owned by a local Vietnamese-American who is also a business owner. He pays the going lease rate for the area and is on a 5-year contract. Generally, he is happy with the space, feels it is adequately sized, and plans to be there for the long-term. Customer base is primarily Vietnamese from throughout Snohomish and King Counties, and are mostly interested in residential space, though they do some commercial work. The business is completely independent, relies on word-of-mouth referrals, and does not have a marketing strategy. He is not yet considering expansion because he feels they have not yet fully tapped into the Vietnamese market. He is most concerned about the Dearborn Street Project's potential for business displacement, which will weaken the character of Little Saigon. He believes the most critical issue is helping business owners be able to control or own the land, and that there is potential for business owners to pool resources and buy property. Public assistance is needed in supporting community capacity to organize, develop a vision, and achieve property ownership.

Interviewee is an attorney who moved to Seattle for college and law school in 1992. Since graduating several years ago, he worked for Safeco, then established his own practice in November 2005. He specifically wanted to serve the Vietnamese community so chose this location. He also sought a newer building so as to have flexibility with his interior improvements, which is not widely available in Little Saigon, but this building had just been built in 2003 by a partnership of several local Vietnamese investors. He is a on a 3-year lease, and rent is higher than for older spaces in the neighborhood, though less than in Downtown. He aims to grow his practice and expects to need a larger space in the future. His practice areas are in immigration, family and business law, and his clients are 90% Vietnamese-American and from South Seattle. Overall, he is satisfied with his space, location and lease. He believes that future changes can be good for the community because they may offer opportunities. However he also acknowledges that for some in the community, changes could mean adverse impacts. Yet he believes that businesses can both remain authentically ethnic and still cater to new markets. He would like to see Little

Saigon preserved, but to be cleaner, safer and with newer buildings, as well as additional uses besides retail (culture, art, entertainment, churches, community organizations, etc).

Interviewee is a medical professional who was initially located in a 1,200 square foot space within Little Saigon and then moved to his current 2,700 square foot space. He pays slightly below the average area lease and is generally satisfied with his space but wishes the landlord would provide some building upgrades to make it more physically attractive. Clients are 95% Vietnamese-American, and come through word-of-mouth and ads he places in ethnic papers. He would like to own his building and stay in Little Saigon, but finds property in the neighborhood too expensive. He likes the idea of a group of business owners pooling resources to buy land, but believes such a concept would need outside technical assistance and staff to coordinate. His biggest concerns for the area are the need for physical improvements (cleaner and more uniform signage, street lighting, trash cans), and improved parking (which he believes the Dearborn Street Project will have a significant impact on). Though he believes the Vietnamese community is undergoing a natural assimilation process of settling in outlying areas, he also believes there is potential for Little Saigon to become a stronger community center through additional development and improvements.

Interviewee is a medical professional by trade who helped his family establish their restaurant two years ago. He remains in his medical field part-time and uses the remainder of his time to manage the restaurant. The business has met widespread success among Vietnamese and non-Vietnamese customers alike, due in part to significant investments in interior improvements, the son/manager's knowledge of mainstream customer preferences, emphasis on customer service, and focus on improvements in response to customer feedback. He also has an extraordinarily strong commitment to Little Saigon, including a vision that the neighborhood develop as a replica of an "Old Vietnam" town. This vision is so strong he has declined offers of support from outside investors willing to help him relocate to a "more physically attractive" neighborhood. He has some concerns about potential zoning changes and the Dearborn Street Project, primarily around additional traffic and potential displacement. He is strongly interested in the concept of a business cooperative to purchase land. As well, he believes that other proprietors as well as property owners need to put more energy and resources into maintaining and improving their spaces, and contributing to the well-being of the neighborhood overall.

Interviewee is a supermarket owner whose business was one of the very first tenants in Little Saigon. He currently pays below average rents for his space, on a 10-year lease. Over the years, he has also opened a supermarket in the Rainier Valley and more recently, a mixed-used building in Renton. He has delegated much of the day-to-day operations to other staff, and focuses primarily on overseas product purchases. Currently his business is strong. At one of his stores outside of Little Saigon, he attempted to diversify products offered to appeal to multiple communities, but failed due to lack of familiarity with the appropriate specialty products, and has since re-focused that store on Asian products. He also owns a small undeveloped parcel near the southwest corner of 12th Avenue S. and S. Jackson Street, for which he has no plans. He believes that future changes are unavoidable (and in some cases, may be preferable), and believes that outlying up and coming areas such as Renton, Lynnwood, and White Center will be the next centers for Asian development. During the conversation, he initially expressed doubts about business owners' ability to come together to form a cooperative to purchase property, but later expressed more positive views about the viability of the concept if technical, financial and coordination assistance were available.

Interviewee is a medical professional who finished graduate school five years ago with an express desire to work in the Vietnamese-American community. After considering relocation to other cities, he chose to settle in Seattle, and found a newer building with a 1,250-foot space for lease. He is currently on a 5-year lease which expires in the summer of 2007 and has found his rent to be "ok." Since opening his business, his patient base has grown significantly, with clients coming from as far away as Bellingham and

Kennewick. Given this, he would definitely like to expand to a 2,500 or 3,000 square foot space, and would like to own his property. He has searched within Little Saigon but found costs prohibitive. Though he would generally like to stay in the neighborhood, it would be feasible for him to relocate elsewhere as he believes it would not be too difficult to move his patients. His main future concerns center on traffic, which is already congested now, especially on Rainier Avenue S., Boren Avenue S., and S. Jackson Street; physical improvements to the neighborhood; and competition from tenants in the Dearborn Street Project. He believes a potential positive of the project is that it may bring more people to the area and allow it to be better known by other communities; however, he believes there is a strong chance it will displace numerous existing businesses that are already facing strong competition from each other.

Interviewee's family started a seafood market on S. Main Street in 1993, and in 1998 purchased a 20,000 square foot property on S. King Street in order to expand the store. Since then, the business has done well, with the customer base expanding significantly from an initial draw of mostly Vietnamese-Americans to now, a mix of different Asian ethnicities, Hispanic, and some Caucasian patrons. The business is still growing, under the management of an older son. They have plans to develop their property as a mixed-use building (restaurants, travel agent, medical office, underground parking and hope to focus on that in the next 5 years. He believes the biggest issues in the future will be traffic, which is already heavy on S. Dearborn Street and Rainier Avenue S. Additionally, potential competition from new businesses and displacement from increased property values as a result of the Dearborn Street Project are major questions in his mind. Yet he also believes that property owners should be allowed to exercise their right to develop their property; that being said, he also believes major developers should be sensitive to and partner to provide community benefits.

Interviewee's family owns numerous parcels, some developed (including two historic buildings) and some undeveloped, in both Chinatown/ID and Little Saigon. This property owner is not a business owner. An older son manages most of the properties. The historic buildings were recently acquired, and they have been looking at different options for redevelopment. Efforts to rent as office space failed to attract tenants due to business' concerns about neighborhood safety. Currently, they are looking at a mix of ground floor retail, one floor of office, and housing in upper floors, for those buildings. They had also been pursuing a development partnership with a developer of homeless housing for a vacant parcel on S. Dearborn Street; the status of that project is not clear at this time. Additionally, they own a parcel near 10th Avenue S. and S. Jackson Street that has an existing building on it. Despite hiring an ethnic real estate broker, they have had a difficult time finding stable tenants for this building, and in fact have provided a rent discount to one tenant who had to reduce business hours. They would like to redevelop this site for mixed-use but have been stymied by Review District guidelines. The owner's main concerns are around neighborhood aesthetics and cleanliness, public safety and security, cumbersome City regulations and processes, and lack of parking. He thinks the additional activity that will be provided by the Dearborn Street Project will be a positive for the neighborhood.

Information from this interviewee was obtained indirectly through a written correspondence to the City of Seattle in which he shares his perspective related to potential zoning changes, as well as data from a 2006 real estate market study in which the consultants conducted an interview with him. This property owner has three properties in Little Saigon, two of which are older buildings constructed 15 to 20 years ago, and a newer mixed-use building (retail and condominiums) constructed in 1998. He is supportive of zoning changes that would increase heights in Little Saigon, as he believes these incentives would help property owners to develop their land. His biggest concerns are public safety, traffic, parking, and physical improvements to the neighborhood.

CHINATOWN/INTERNATIONAL DISTRICT INTERVIEWS

Interviewee is a representative of a Chinese benevolent (family) association, who owns developed property in Chinatown/ID and an undeveloped lot in Little Saigon. For the developed property, the association is currently discussing potential expansion for a program including offices, classroom space, and parking. They have been in discussions about this for awhile, and would need to find a development partner for the project. The association has no development plans for the vacant lot in Little Saigon. Interviewee has mixed feelings about the potential impact of the Dearborn Street Project. On the one hand, it could bring additional visitors and customers into the neighborhood; however, it could also increase traffic and/or visitors could "pass through" the neighborhood, much as the sports stadiums' traffic has done.

Interviewee is a longstanding business and property owner in the community, and has major anchor retail uses located within Chinatown/ID. The property/business is a second generation family enterprise that has grown very successfully over the years as a result of involvement from multiple family members, willingness to take risks and be creative, and commitment to community engagement. When major office projects were slated to be developed adjacent to the property, the family saw this as an opportunity and took the risk to invest in developing their property. When the property was developed, the owner knew what kind of retail mix they desired, so were able to pursue specific types of businesses. Approximately 20 small retail tenants are located within their anchor supermarket, and they have found tenant-landlord relationships to be relatively positive. In general, the tenants seem to have done well, with only two tenants turning over since inception. The owners chose to hire a retail manager, who has provided additional assistance to tenants who need it, as well as allowed the owners to delegate the day-to-day tenant management functions. The owner has long-term plans to further develop portions of their property for additional retail, residential and parking uses.

Interviewee is the director of a community non-profit development organization who has built affordable housing and supported community development in the Chinatown/ID over the last 20+ years. As an owner of multiple buildings in the neighborhood, this organization has numerous tenants including both non-profits and for-profit small businesses. As an organization with a clear community mission, the organization provides considerable assistance to tenants (technical assistance, business planning referrals, rent discounts); yet increasingly must also find ways to balance community-oriented actions and financially-sound actions. The interviewee believes that zoning changes and the Dearborn Street Project will have stronger impacts in Little Saigon than in Chinatown/ID.

Interviewee is a community non-profit development organization who has built affordable housing and supported community development in the Chinatown/ID over the last 30+ years. Among the properties owned by the organization, tenants are primarily residential, with only a few commercial. Among the latter category, the organization has worked to help preserve neighborhood businesses. The interviewees believe that zoning changes and the Dearborn Street Project will have more intense impacts in Little Saigon than in Chinatown/ID. They also believe that the City should employ mechanisms to capture the windfalls of redevelopment for community benefit, such as through tax increment financing. The organization is interested in staying involved to support the needs of Little Saigon as pending changes loom on the horizon.

Interviewee's parents opened their current business, a restaurant, seven months ago. They had previously (20 years ago) owned a restaurant on South Weller Street. While she works full-time at a bank, she spends her remaining time managing the restaurant. She was instrumental in developing the menu and the design for the interior, which emphasizes an overall, slightly upscale ambiance, though menu items are moderately priced. They hold a long-term lease with the building owner, who is one of the community

non-profit developers. She feels the location has been good overall, though a little bit on the “edge” of the neighborhood; however, she believes the location will improve as the neighborhood changes. The customer base is very mixed, including various Asian ethnicities and Caucasian. The restaurant draws from the Eastside, Everett, Bothell, and throughout Seattle. She pro-actively pursues marketing online and through local mainstream papers.

Little Saigon & Chinatown/International District, Impacts on Local Businesses from Proposed Land Use/Zoning Changes and Dearborn Street Mixed-Use Shopping Center

DRAFT

Phase II Summary: Evaluation of Likely Impacts of Zoning Changes and Dearborn Street Project

May 1, 2007

Client: City of Seattle, Department of Planning & Development

STRATEGIC ECONOMICS

TRANG D. TU CONSULTING

I. OVERVIEW AND SUMMARY OF KEY FINDINGS

Overview

This report summarizes the results of phase 2 of a three-part study to assess economic impacts to Little Saigon and Chinatown/International District from two specific forces: a) potential zoning changes to both areas, currently under consideration by the City of Seattle, and b) the Dearborn Street Project, a proposed shopping center and 550-unit housing development project at the existing Goodwill site on South Dearborn Street. Strategic Economics and Trang D. Tu Consulting are conducting this study for the City of Seattle's Department of Planning and Development (DPD) as part of DPD's Livable South Downtown study.

Phase 1 included quantitative and qualitative analyses of existing retail conditions in the business districts of Chinatown/International District and Little Saigon. A summary of findings from Phase 1 is detailed in a separate report.

Phase 2, results of which are documented in this report, focused on identification and assessment of the potential impacts to both business districts from the proposed zoning changes and development project. Key tasks included:

- Literature Review on commercial gentrification in ethnic business districts
- Case Studies of ethnic specialty shopping districts
- Retail Overlap Analysis between proposed uses in the Dearborn Street Project and existing Little Saigon business district
- Impact Analysis of proposed zoning changes and the Dearborn Street Project

Phase 3 will include formulation of targeted mitigation and economic development strategies based on the learnings from phases 1 and 2.

Summary of Key Findings

The following section summarizes key findings from the four Phase 2 tasks noted in the previous section.

Literature Review on Commercial Gentrification

- Asian-American immigrant-owned businesses are often formed due to discriminatory barriers that prevent entrepreneurs from entering the mainstream economy. Limited access to mainstream financing/financial institutions, language and cultural barriers, thin profit margins often lead to high failure rates.
- For workers in immigrant-owned businesses, jobs are often not the most desirable due to low wages and benefits, long hours, difficult conditions, and impediments to wage mobility.
- National studies have found that large format retailers retain significantly less earned revenue in the local economy than locally-based retailers.
- Strong community organizations and political support are integral to maintaining the identity of an ethnic business district in the face of external change.

Case Studies

- It is possible for an Asian District and rapidly growing downtown neighborhoods to co-exist in close proximity.
- City government can play a crucial leadership role in promoting cultural preservation as an asset to downtown revitalization setting forth priorities to achieve both.

- Without public intervention, market-driven downtown revitalization can lead to mixed results for ethnic businesses including displacement, relocation, and establishment of new businesses.
- A possible concept for Vietnamese business districts to cater to a wider audience is by preserving and promoting authentic culture, rather than changing to adapt to mainstream consumer preferences.
- Developer impact fees can be applicable in some circumstances. Efficacy is critically based on: having state enabling legislation, establishing a clear nexus between development and impact, and having a strong, proactive city leadership and planning department to set clear policy direction. Capturing residual value from private development for community benefits depends on both timing and scale of increased development potential.
- A thriving community with strong and diverse social fabric requires a stable residential base to support the health of the business district.
- Strong community-based organizations are crucial to support community-oriented growth. Often, financial and technical support from city government is needed to build this capacity.

Retail Overlap Analysis

- The Dearborn project will have a largely different mix of goods and services and primarily target a different market than Little Saigon businesses. Dearborn project is a mass market/weekly good shopping center with two large format anchors, four major retailers, a mid-market supermarket, 30 to 40 small retailers, and 10 subsidized micro-retailer spaces.
- In contrast, Little Saigon is a regional-serving, ethnic specialty district with retail niches in Vietnamese restaurants, nail and beauty salons (19), jewelry stores, and specialty grocery.
- There are modest overlaps in types of business with regard to jewelry stores, though the businesses under consideration serve different target markets. The Dearborn project may have one to two mass market jewelry stores, and Little Saigon has twelve jewelers serving Vietnamese-American and Asian-American specialty consumers.
- There is also modest overlap in general merchandise, with Dearborn project proposing inclusion of a Target mass market discount department store and approximately six Little Saigon businesses selling some general merchandise to a specialty market.
- If Little Saigon businesses shift toward serving a mass market, there is potential for direct competition with businesses in the Dearborn project.

Impact Analysis

- High probability impacts include: a) displacement of industrial businesses north of the Dearborn Street Project; b) modest increase in potential value of development in Little Saigon which may over time speed new development and displace existing businesses; c) increased exposure of Little Saigon businesses to mass market customer base; d) increase in potential value of new residential development in Japantown.
- Lower probability impacts include: a) in both sub-areas, increased attractiveness of residential development and non-ethnic local-serving retailers; b) additional mass market retailers adjacent to Little Saigon increasing retail rent/rate of property redevelopment in the district; c) modest increases in property values exacerbating Little Saigon businesses' ability to own property.
- Issues of note include: a) impact of upzoning in Chinatown/International District core; b) impact of Dearborn Street Project on Chinatown/ID local businesses given revenue trends.

II. LITERATURE REVIEW ON COMMERCIAL GENTRIFICATION

For this task, a literature review was conducted using both academic and practitioner sources for studies regarding commercial gentrification of ethnic business districts. Most of the literature pertains to the unique challenges faced by ethnic business districts and gentrification of housing in ethnic neighborhoods as opposed to commercial districts, but some lessons apply to both situations. Below is a synopsis of the literature that is most relevant to Seattle's Chinatown/ID and Little Saigon with respect to how the proposed Dearborn project and land use and zoning changes may affect these areas.

Population

The national Asian and Pacific Islander (APA) population is growing and projected to continue on this path for quite some time. Through a combination of immigration and natural increases, the APA population has grown tremendously in the last few decades, from approximately one and a half million in 1970 to eleven million in 2000. The APA population is projected to grow to twenty million by 2020 (Ong and Hee 1993; U.S. Bureau of the Census 2001). According to the 2000 Census, there are over 2.4 million people of Chinese ethnicity living in the U.S. and 1.1 million of Vietnamese ethnicity. In the City of Seattle in 2000, there were nearly 74,000 Asians or Asian-Americans living in the city, 26% of whom are ethnically Chinese and 16% are ethnically Vietnamese.[1]

At the same, the APA population is increasingly decentralized. Other than cities like San Francisco and New York that receive large numbers of, in particular, Chinese immigrants who continue to live in the dense core of city, APA immigrants are increasingly arriving in outlying suburban areas that offer lower cost housing. Native-born APA populations are also increasingly found outside of central cities.

The APA population is complex, originating from many different countries and speaking many different languages. Generalizations are not effective in describing this population, its strengths and weaknesses, or its needs. As noted by researchers, APAs are amongst the richest and poorest, the best educated and least educated of all Americans (Jiobu 1996; Cheng and Yang 1996; Ong and Hee 1994; Ong 2000).[2] Because of this complexity, there are many misconceptions about Asian-oriented ethnic business districts, and false beliefs that they all are alike and share the same challenges.

Asian Enclave

Ethnic business districts around the country and the world have provided a cultural gathering place for immigrants when they arrive in new cities. Many immigrants live, work in and/or start businesses located in these ethnic business districts. In general, the businesses established are related to niches that harness the skills and ethnic identities of the community's business and residential occupants.

[1] US Census, Summary File 2 (SF 2).

[2] Ong, P., and Miller, D. (July, 2002). Economic Needs of Asian Americans and Pacific Islanders in Distressed Areas. *The Ralph and Goldy Lewis Center for Regional Policy Studies*
UCLA, School of Public Policy and Social Research. Working Paper Series. p. 4.

The concept of an ethnic business district gives rise to the notion of self-contained Asian-American enclaves that are often depicted as having a vibrant ethnic economy. This is true for some of the higher profile districts, such as San Francisco or New York's Chinatown, both of which enjoy a higher job-to-resident ratio than the national average. However, even in these successful districts, while jobs are available they are often in low-wage sectors such as restaurants, small retailing, and garment assembly.[3] For many Asian enclaves, jobs and/or housing are scarce, leading many in the local Asian community to commute outside of their neighborhoods for work. According to a UCLA study of the economic needs of Asian-Americans and Pacific Islanders often the reality is that Asian neighborhoods are not self-contained, isolated sub-economies.[4]

The National Coalition for Asian Pacific American Community Development (CAPACD) asserts that APA businesses play an important role in the community and economic development of low-income communities. The prevailing public perception is that APA-owned businesses are profitable and successful. Indeed, the Small Business Administration reports that APA-owned businesses nationally grew at a phenomenal rate, suggesting that business owners are reaping economic success. However, based on the few studies that exist on APA businesses, a different situation emerges. According to the LEAP Public Policy Institute and the UCLA Asian-American Studies Center, APA businesses in Los Angeles are formed because the owners were unable to find work due to discrimination barriers in the mainstream economy. The businesses primarily concentrate in small service and retail businesses where failure rate is high, profit margins are low, and business hours are long. Dependent on unpaid family labor or immigrant workers who are low skill or have limited English proficiency, the businesses are often unable to improve the wages, benefits or working conditions for their employees. Also, they are unable to access mainstream resources offered by American financial institutions because of their lack of knowledge and experience with credit and the lack of language services. The study suggests that APA businesses in cities nationwide may face similar issues.[5]

Challenges for APA Business Districts

In general, ethnic business districts face numerous challenges. As noted in the aforementioned UCLA study, some contemporary APA communities have prospered, while others continue to face significant economic development challenges. Many of the most disadvantaged are found in inner-city ethnic enclaves that share common problems with African-American and Latino communities, but that also have unique characteristics (Ong and Umemoto 1994; Ong et al. 1993 and 1999; Urban Institute 2000), such as:

- Low-wage work rather than unemployment (Hum 2000; Ong 1984);
- Marginalized businesses even though entrepreneurship is higher than for other ethnic groups (Bonacich and Light 1988);
- Skill deficits that characterize all low-income communities;
- Language and cultural barriers.[6]

[3] Ibid, p. 17.

[4] Ibid.

[5] http://www.nationalcapacd.org/

[6] Ibid, p. 4.

In this same UCLA study, a survey was conducted of Community Based Organizations (CBOs) working with distressed APA neighborhoods, and the top three problems identified by the CBOs, in order of severity, are:

1. Underemployment
2. Inadequate Healthcare
3. Gentrification

Gentrification

There is no agreed-upon definition for gentrification, be it residential or commercial. A study conducted by The Urban Institute put forth the following definition:

> *Gentrification is the process whereby higher-income households move into low-income neighborhoods, escalating the area's property values to the point that displacement occurs. In addition to changes in economic class, gentrification often involves a change in a neighborhood's racial and ethnic composition, which can further alter an area's characteristics, potentially leading to community tension*.[7]

Although the Urban Institute study refers to residential gentrification, the same concept can be applied to ethnic business districts. As a commercial area becomes more attractive, new businesses will want to move in. The increased demand will drive up the property rental/lease rates, and current business owners may have a hard time affording the new rent. Gradually, existing businesses will relocate to other lower-rent areas and the ethnic business district will have lost its cultural identity through the loss of these long-standing ethnic businesses.

This process has been seen around the country, with the most widely documented examples being that of large chain stores driving up rents and displacing local mom and pop businesses. Notable studies have been conducted in Chicago and Austin showing that locally owned businesses provide substantial economic benefits to cities, and cities need to ensure that their policies don't unintentionally disadvantage local businesses. In studies conducted in Chicago and Austin, it was shown that locally owned businesses generate more revenue per square foot than chain stores given that a larger percentage of dollars spent at locally owned stores remain in the local economy. The Chicago study showed that, "For every $100 in consumer spending with chain firms, $43 will remain in the local economy; if that same spending occurs with a locally-owned firm, that value jumps by 58 percent, to $68. Similarly, for every square foot of space occupied by a chain, the local economic impact is $105; if a local firm occupies that same space, impact jumps by 70 percent, to $179."[8]

Another study conducted at Loyola University for the City of Chicago found that the impact of gentrification in any community is multifaceted. New residential development or increased housing costs can displace some residents while bringing new residents into the community. The demographic structure of the population can change; for example, fewer older residents and fewer children may be present in the gentrified community. This demographic shift can change the culture or character of the community, particularly in the case where the community has a particular racial or ethnic identity that is anchored not only in its residents, but also in a

[7] Levy, D., Comey, J., and Padilla, S. "In the Face of Gentrification: Case Studies of Local Efforts to Mitigate Displacement." *Urban Institute – Metropolitan Housing and Communities Policy Center.* (2006), p. 1.

[8] Civic Economics. The Andersonville Study of Retail Economics. Chicago, Illinois. 2004, p. 5.

variety of institutions, such as stores, religious institutions, and community organizations. All of these changes can feed tensions and misperceptions among various community groups.[9]

The Loyola study focused on different neighborhoods in Chicago and specifically discussed many of the challenges faced by the diverse Asian community. Below is an excerpt from this study that is particularly relevant to Seattle's Chinatown/International District and Little Saigon.

> *Income differences and ethnicity within the Asian community have produced different experiences with gentrification. Southeast Asian immigrants have lower income levels than other Asian ethnic groups and hence are more vulnerable to gentrification and displacement. Some interviewees (Asian and non-Asian) suggested that Asians are less affected by gentrification because they are "economically better off." This view may be partially the result of buying into the stereotype of Asians as the "model minority," rather than making distinctions among the wide variety of ethnic groups included under this broad racial category. For example, Southeast Asian immigrants from Vietnam, Cambodia, Laos, and Thailand have not had the income levels that immigrants from India have had (See for example Chicago Tribune, 2003). Unlike other racial and ethnic groups, income differences in the Asian community are related to different levels of integration with the non-Asian community. This, in turn, is likely to result in different levels of vulnerability to displacement when communities experience reinvestment*.[10]

The observed displacement in Chicago's Chinatown has been one of upper-income Asians displacing lower-income Asians; the lower-income cohort relocated to the outer portions of Chinatown. The study asserts that Chinatown in Chicago may represent a model of more balanced development, or at least a model that is able to resist entire displacement of one ethnic group by another.

The ability of Chicago's Chinatown to prevent gentrification is multifold and can be attributed to:

- A strong array of ethnic-based community organizations and other organizations established to promote economic and tourism interests;
- Promotion of policies that provide protections for residential and retail stability.
- A stable, unique and thriving commercial district.
- Developers less interested in Chinatown given its strong institutional and political support.

Application to the International District and Little Saigon

While the gentrification studies described above are focused on residential communities that may or may not have a commercial district, one lesson is clearly applicable: **strong community organizations and political support are integral to maintaining the identity of an ethnic business district in the face of external change.**

The distinction between Chicago's Chinatown and predominantly Southeast Asian communities in the area reflects to some extent the differences between Chinatown/International District west of Interstate 5 and Little Saigon. Chinatown/International District is a more established district than Little Saigon and has had more time to build its reputation and institutional support.

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[9] Nyden, P., Edlynn, E., and Davis, J. The Differential Impact of Gentrification on Communities in Chicago. *Loyola University Chicago Center for Urban Research and Learning – For the City of Chicago Committee on Human Relations*. (January, 2006), P. 5.

[10] Ibid, pp. 27-28.

Additionally, as seen in other communities around the country, due to the more recent arrival and a lower rate of integration among Vietnamese immigrants, Little Saigon's community organizations have less robust capacity, and do not yet have the same strength of collective voice as does Chinatown/International District.

Chinatown/International District is distinct from other extensive Chinatowns around the country in that a very small portion of its customer base lives within the neighborhood. In New York and San Francisco's Chinatowns, many Chinese-Americans in the city live within the borders of the business district. In addition, these Chinatowns are still among the first places new immigrants coming to these cities reside and make cultural connections. In contrast, Seattle's Chinatown is largely supported by customers from outside the business district. According to the 2000 US Census, approximately 3,000 people lived in Chinatown/International District, a far-from-sufficient population to support the over 300 businesses in the district. As described in Phase I, almost two-thirds of local businesses report their primary customer base coming from outside of the District and traveling to the District from Downtown or other areas of the city for its unique blend of retail offerings and atmosphere.[11]

This geographic separation of primary customer base and business district is even more true for Little Saigon and this, coupled with the lack of strong community organizations, makes Little Saigon more susceptible to change. As Little Saigon effectively has no residential population, its customers either travel to the district from other neighborhoods or outlying areas to shop and frequent the restaurants, or visit the area at lunchtime from nearby employment centers. The lack of both a supportive local customer base *and* organizations or institutions that make the area more compelling for potential APA customers from elsewhere, renders the area vulnerable to competition from other APA commercial districts in areas more proximate to their customers.

In order to weather competition from outlying APA districts, as well as the changes that a new residential population base and the introduction of mass market retail will bring, both districts must consider how best to maintain their cultural identity, while evolving amidst changing market conditions. In Little Saigon especially, an objective of preserving ethnic identity has not yet even been collectively built given the constraints of community organizing capacity. Currently, Chinatown/International District has relatively strong community organizations and cultural institutions and relationships with city government borne of longstanding community activism that helps address significant issues. If Little Saigon is to maintain its ethnic niche identity, it will also need strong community support organizations to help organize, build consensus and work toward community objectives.

[11] See *Draft* Phase I Summary, April 5th, 2007, pg 19.

III. CASE STUDIES

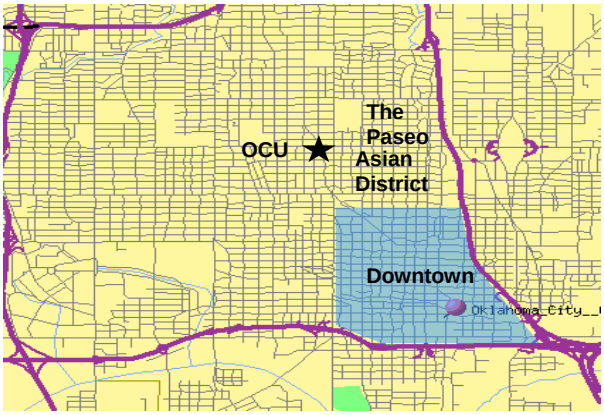
For this task, four cases were researched and analyzed with the goal of identifying lessons and potential strategies that might be applicable to the study areas. To select the case study areas, an initial scan was conducted of cities and counties with the largest concentrations of Vietnamese-Americans (see Appendix A). Additionally, baseline research on approximately two dozen communities was conducted; these are listed in Appendix B.

The scan and baseline research revealed the lack of any one business district that was similar to Little Saigon or could offer relevant insights in: a) existing conditions, b) impacts from zoning changes and/or significant commercial development, and c) relevant preservation strategies (local government and community-based). Given this, the consultant team selected four areas that together provide relevant insights in the three aspects described above: Oklahoma City, San Jose, Rincon Hill in San Francisco, and Dorchester in Boston. The table in Appendix C relates each of these four areas to the primary categories in which they offer relevant insights. For each of the four areas, research included collection of basic demographic data; review of local government plans and policies; recent development projects and market trends; and interviews with community representatives and city officials (listed in Appendix D).

OKLAHOMA CITY

Existing Conditions

Oklahoma City's Asian District is a pan-Asian business district with primarily Vietnamese-American businesses located approximately ½ mile north of downtown Oklahoma City, around the intersection of 23rd Avenue and Classen Boulevard, west of the Paseo Arts District and east of Oklahoma City University (see area map below). The district originated following an initial wave of Vietnamese refugees who migrated to the city from Fort Chaffee, one of four major refugee resettlement camps established in the United States after the Vietnam War. Many of the initial Vietnamese refugees were Catholic and chose to live near a Catholic Church in this area; businesses were gradually established from this core.



Today, The Asian District is slightly smaller than Seattle's Little Saigon, with approximately 70 total businesses including 28 restaurants, 4 groceries, 2 drug stores, 2 cleaners, 3 salons, 3 doctors' offices, 3 law offices, and others. The customer base is primarily Vietnamese, with the 3 largest supermarkets having a more mixed clientele drawing from other Asian ethnicities.[12] The Asian District is similar to Little Saigon in its pattern of strip commercial development, its relatively small residential base of 600 to 700 people, and a citywide population of approximately 10,000 (see Figure 1 below).

[12] City of Oklahoma City. The Plan for the Asian District. Oklahoma City: 2005.

The City of Oklahoma City planning department states that the businesses are generally healthy, despite a trend of Vietnamese-American families moving to outlying areas for industrial jobs. This is at least partially due to the dearth of concentrations of Asian businesses in outlying areas, compelling families that have moved out to return to shop in the Asian District.

Figure 1. Vietnamese-Americans in Oklahoma City	
# Vietnamese in Oklahoma City	10,000
Rank among Vietnamese enclaves in US	19th
Within 1-mile radius of Asian District:	
➢ Vietnamese population	700
➢ % households below poverty level	46 %
➢ # total housing units	1,330
➢ % housing units owner occupied	30%
➢ Median household income	$15,285

Source: U.S. Census 2000.

A significant number of Vietnamese merchants have been able to purchase their property over time, at least partly due to the relatively cheaper land and, until recently, slower development market in Oklahoma City (citywide, the average sales price of new housing in 2006 was $214,000, with average apartment rent of $555). According to the City's planning department, in the last 5 years, there has been some interest in development in the Asian District from local Asian investors.

City Policies and Impacts

Downtown Oklahoma City experienced historic decline after World War II, as urban renewal destroyed over 1,000 buildings in the 1960s and middle- and upper-income Caucasians migrated to the suburbs, leaving downtown abandoned and deeply underinvested.

In 1993, with leadership from the Chamber of Commerce, voters approved MAPS, a package of downtown development projects that would be funded by a one-cent sales tax increase over 5 years. The assessment raised $300 million for downtown development projects (see Figure 2 below) intended to catalyze a revitalization of the city's core with the broad goals of increasing residential, office, commercial development and growing an entertainment/cultural district.[13]

Figure 2. Oklahoma City MAPS Projects		
Project Name	**Project Costs**	**Completion Date**
Southwestern Bell Bricktown Ballpark (15,000 seats)	$34 million	1998
Bricktown Canal (shops, restaurants, hiking and biking trails, park areas)	$32 million	1999
Renovation and Expansion of Convention Center	$63 million	1999
Renovation of Civic Center Music Hall	52 million	2001
Ford Center (20,000 seat sports arena)	87 million	2002
Renovations of Oklahoma City Fairgrounds	$14 million	1998
Downtown Library and Learning Center	$21 million	
New Trolley System		
Oklahoma River Amenities (7 miles of trails, landscaped areas, recreational facilities)	$23 million	

Source: Oklahoma City Convention and Visitors Bureau.

Fueled by the MAPS investments, numerous neighborhoods in downtown Oklahoma City have undergone major investment activity in the last 10 years. The Paseo, noted above and located east of the Asian District, is a historic arts district with 17 gallery/working studios, 60 artists, restaurants, coffee houses, clothing boutiques, gift shops, yoga studio, and salon. Bricktown, an old warehouse district just east of the civic center, has become the premier entertainment/tourist district. From 1994 to 2004, Bricktown properties increased in assessed value by 1,300 percent, in comparison to an average 7% per year throughout the late 1980s to early 1990s.Three

[13] Oklahoma City Convention and Visitors Bureau. "MAPS Narrative."

adjacent neighborhoods--Automobile Alley, the Flatiron District and Deep Deuce—have seen residential development take off.

New residential projects include: renovation of the historic Skirvin Hotel (13 floors) and Colcord Hotel (150 rooms, 13 floors); new development: Block 42 (luxury condos), The Hill (200 townhomes), The Triangle (700 loft units, office and retail space), The Deep Deuce (294 units), Legacy Summit (200 units), and The Park Harvey Center (164 affordable apartments).[14]

In the midst of downtown revitalization, the City of Oklahoma City has also made efforts to preserve and strengthen the Asian District. Several plans, in 1992, 1994 and 2000, establish policies and guidelines for development in the area, of which the most recent is the 2005 Asian District Plan. The plan calls for marketing the unique cultural aspects of the District as a regional tourist attraction, in concert with downtown development. The plan's implementation items include streetscape and pedestrian improvements funded via a $1.5 million bond; rezoning to allow mixed-use development; addressing parking management; establishing an urban design review process; and establishing a property owner's association.[15]

Lessons Learned

Oklahoma City offers several take-away learnings:

- It is possible for an Asian District and rapidly growing downtown neighborhoods to co-exist in close proximity.
- City government viewed cultural preservation as an asset to downtown revitalization and played an important role in setting priorities to both: 1) preserve the cultural district and 2) promote downtown growth.
- Availability of affordable land enabled business owners to purchase property.

SAN JOSE

Existing Conditions

The Vietnamese-American community in San Jose is the largest in any city in the United States, numbering 78,842 in 2000, or 8.8% of the city's population. Socioeconomic status amongst the population varies widely, from affluent households in several suburbs to concentrated poverty in downtown San Jose. Figure 3 below contrasts households in two suburbs with particularly significant concentrations of high-income Vietnamese-Americans, and two areas of downtown. In the two suburbs, median household income of the Asian population ranges from $90,000 to $114,000 with poverty level between 3% and 5%. In contrast, downtown areas have median household income between $42,000 and $56,000 and poverty levels between 12% and 17%.

Figure 3. San Jose Asian Population: Downtown vs. Suburbs

	Suburbs		Downtown Area	
	Evergreen	Berryessa	District 7	Downtown
Total Asian Population	15,603	47,642	45,340	22597
# Vietnamese population	5,485	14,119	25,037	8752
Median household income of Asian population	$114,429	$89,795	$56,655	$42,000
% Asian individuals living below poverty level	3.2%	5.5%	12.8%	17.0%
Asians below poverty as % of total area population	0.2%	2.9%	4.0%	3.3%

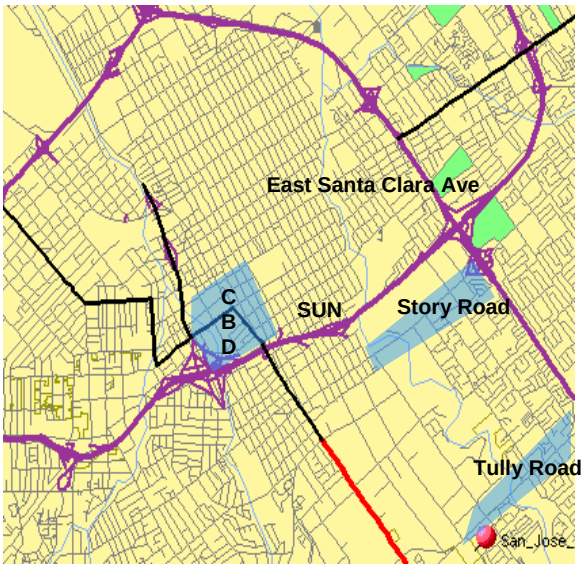
Source: U.S. Census 2000.

[14] Ibid.

[15] City of Oklahoma City. The Plan for the Asian District.

The large population has supported the growth of Vietnamese business districts in multiple areas, with an estimated total of 5,000 businesses. Concentrations include (see area map on next page):

- East Santa Clara Avenue: area of early business settlement; today is a mix of newer establishments (restaurants) and older businesses (medical offices, pharmacies)
- SUN: area of early business settlement south of San Jose State University (SJSU); fewer than 10 businesses; most established over 20 years ago, primarily serves low-income residents in surrounding neighborhood
- Story and Tully Roads: area of more recent business establishment approximately 1 mile south of downtown; Grand Century Mall at Story Road and Interstate 101 is a focal point.



Businesses have developed primarily through individual private initiative, rather than community-wide development efforts or public policies and plans. While most businesses do not own their properties, a few have begun engaging in small-scale development in recent years. A few business owners have begun promoting a vision for a "Vietnam Town" that would focus additional development in the Story Road area. Part of this vision focuses on catering to a broader audience by preserving and marketing authentic Vietnamese culture.

Japantown

In addition to the Vietnamese business enclaves, the consultant team also identified potential relevant insights from the case of Japantown in San Jose. This 4-block area sits in the heart of downtown just northeast of the civic center. Japantown has been called one of the three most authentic Japantowns outside of Japan, and is home to the Japanese American Museum of San Jose, San Jose Taiko, the widely-known Shuei-do Manju Shop, and San Jose Tofu. There are approximately 129 Japanese businesses that remain, despite burgeoning downtown growth in the surrounding area and several new market-rate housing developments in the neighborhood in the last 2 to 3 years. A 2005 survey found that 30% of these businesses were established over 30 years ago, and 30% were opened in the last 5 years, indicating both stability and growth.[16] Community organizations include the Japanese American Citizens League, the Japantown Business Association, Japantown Neighborhood Association, and the Japantown Community Congress of San Jose, a community partner to the City of San Jose which looks after cultural preservation of the area.

City Policies and Impacts

Since the 1980s, the City of San Jose has pursued policies to promote downtown growth. The City's 2020 General Plan included downtown revitalization as 1 of 7 major strategies, and the 1994 update of the General Plan focused downtown priorities on:

- Additional development of retail and high-density housing,
- Pedestrian- and streetscape improvements,

[16] Japantown Business Association. Japantown Business Survey. San Jose: 2005.

- Convention Center expansion,
- Updating the zoning code with mixed-use overlays, strategies for shared parking, density bonuses.[17]

A major vehicle for fueling downtown development is the San Jose Redevelopment Authority (SJRA), which has designated 7 areas of downtown as community renewal areas specifically for focused investment. These areas are detailed in Figure 4 on the next page.

Figure 4. San Jose Downtown Community Renewal Areas

Name	Year Established	Location	Primary Uses Promoted
Almaden Gateway	1988	7 blocks in NW downtown	Commercial/office
Century Center	1983	3 blocks in Downtown Commercial Historic District	Office and retail
Guadalupe-Auzerais	1983	75 acres in SW downtown	Cultural and recreational uses
Market Gateway	1983	6 blocks in south downtown	Theater, arts and entertainment uses
Park Center Plaza	1961	13 blocks in west downtown	Civic plaza
Pueblo Uno	1975	3 blocks	Office and retail
San Antonio Plaza	1968	Downtown core	Mixed-use

Source: San Jose Redevelopment Agency.

With the close of the 1990s and start of the next decade, downtown San Jose saw significant growth. Figure 5 below details development in 2004 and projections for 2001 to 2010. The data and projections were established prior to the dot-com decline in recent years, but provides information about the prior results of downtown-promoting policies.

Figure 5. Development in Downtown San Jose

	2004	projected 2001-2010
total retail space (2004)	1.43 million sf	500k to 1 million sf
total office space (2004)	7.20 million sf	8 to 10 million sf
# residential units (2001)	2,600	8 to 10,000 units
# hotel rooms (2001)	1,500	2,000+
# restaurants (2004)	140	
# retail/services (2004)	118	
# entertainment venues	40	

Source: San Jose Redevelopment Agency

Community Impacts

Amidst the downtown growth, there is anecdotal evidence that at least some of the Vietnamese businesses along East Santa Clara Avenue were impacted and displaced due to construction of the new City Hall, while others, such as several medical offices and pharmacies, remain. Also, several new Vietnamese-owned restaurants have opened in the immediate vicinity of the new City Hall and primarily serve daytime downtown workers. At the same time, migration of community to outlying areas at least partially fueled the emergence of the newer business concentration on Story and Tully Roads.

From an institutional standpoint, there does not seem to have been a clear City policy to preserve or strengthen Vietnamese-owned businesses that had been located downtown. The

[17] San Jose Redevelopment Agency. Strategy 2000: San Jose Greater Downtown Strategy for Development. San Jose: 2000.

San Jose Redevelopment Authority established the Strong Neighborhoods Initiative (SNI) to support neighborhood development through planning and infrastructure investment. SNI is a partnership pf the City, SJRA and neighborhoods and includes 22 designated areas that are also community renewal areas. One of the SNI areas is Japantown, which is also a designated historic district, reflecting the City's seemingly significant focus on preserving the area.

Lessons Learned

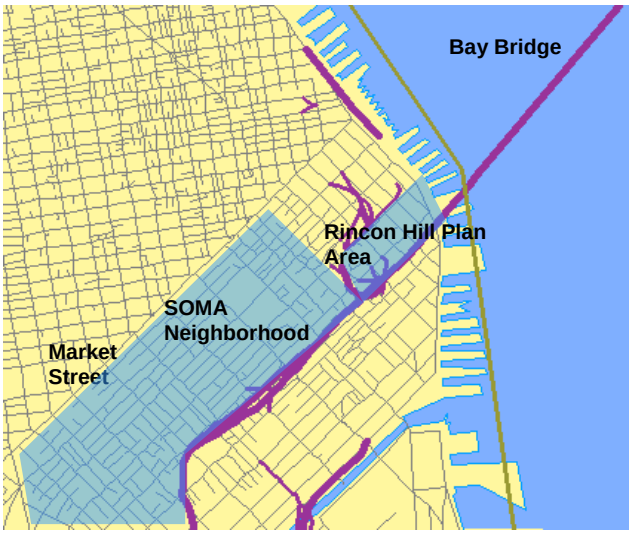
San Jose offers several take-away learnings:

- Without public intervention, market-driven downtown revitalization led to mixed results for Vietnamese businesses: some were displaced, some relocated voluntarily, some stayed and some new establishments opened.
- A possible concept for Vietnamese business districts to cater to a wider audience is by preserving and marketing authentic culture.
- In the case of Japantown, City government viewed cultural preservation as an asset to downtown revitalization and played an important role in setting priorities to both: 1) preserve the cultural district and 2) promote downtown growth.

RINCON HILL

Existing Conditions

Rincon Hill is a neighborhood located in the southern portion of San Francisco, bounded by Market Street to the north, San Francisco Bay to the east, the South of Market (SOMA) neighborhood to the west, and the Mission District to the south (see area map below). Rincon Hill was a historically industrial and underutilized area and included an assortment of access ramps for the Bay Bridge, Transbay Terminal and Embarcadero Freeway in its midst.[18]



In 1985, the City of San Francisco adopted the Rincon Hill Plan, which called for redeveloping the neighborhood to accommodate high-density residential development. Among other implementation actions, the plan included rezoning and design guidelines to encourage the redevelopment. While a number of new developments did come in subsequent years, overall investment was slower than anticipated due to the presence of the elevated freeway and lack of public enhancements. Additionally, zoning loopholes led to poorly designed projects not in keeping with design objectives (e.g. overly bulky buildings too close together).[19]

2005 Rincon Hill Plan

In 2005, the City established an updated Rincon Hill Plan focusing on a 55-acre area of 12 blocks and 20 public and private parcels. The overall objective was to create a high-density urban sustainable neighborhood of up to 10,000 new residents. Several rationales undergirded

[18] Lockwood, Charles. "A History of Ever-changing Rincon Hill." San Francisco: January 2003. http://www.spur.org/documents/030101_article_02.shtm

[19] City of San Francisco. Rincon Hill Plan. San Francisco: 2005.

the plan: a) large number of vacant and underutilized parcels, b) urgent citywide housing need, c) opportunity to improve urban design, d) opportunities to plan comprehensively due to the removal of the elevated freeway and a proposed new Transbay Terminal (4,700 residential units, a new intermodal transit station and new office/hotel/commercial on 40 acres). Figure 6 below describes the key provisions of the Rincon Hill Plan.[20]

Figure 6. Key Provisions of Rincon Hill Plan (2005)	
Housing	▪ 2,220 new units, including 266 to 377 affordable units ▪ Developments over 10 units will meet citywide requirement for 12% on-site or 17% off-site affordable housing ▪ Off-site affordable units must be built within SOMA neighborhood ▪ 40% of all units in new developments will be 2+ BR units ▪ Publicly owned land will be developed with 100% affordable housing
Urban Design	▪ Transparent, ground floor retail storefronts ▪ Townhouses with stoops and front entries ▪ Tall buildings: 4-8 story base and slender residential towers from 250-550 feet; towers with ▪ strict bulk/spacing requirements (115 feet apart)
Streetscape and Community Space	▪ "Living streets" improvement plan—beyond standard improvements ▪ Community center renovation ▪ New parks
Business Preservation	▪ Use zoning to recreate types of spaces to help small businesses: ▪ Max. retail store frontage of 5,000 sf ▪ Each block may have up to 1 storefront max. 15,000 sf (grocery store) ▪ Floor-to-floor height minimum of 12 feet ▪ Community stabilization funds for business support

Source: City of San Francisco.

Developer Impact Fees

In addition to the provisions above, the Rincon Hill Plan also stipulated a structure for developer impact fees. California state law allows local governments to exact impact fees on private developers to provide public infrastructure for the new demands created by new development.

The process of establishing the impact fees and the uses for which they would be deployed involved lengthy negotiations amongst the developers (in this case, a consortium of several development projects), the City of San Francisco, and community advocates. At least three consultant studies were commissioned to establish a nexus among potential development windfall, development impact, and level of impact fee.

The analyses were an integral element of developing the impact fees, and much of the negotiations focused on key assumptions that influenced the level of projected profits, which in turn drove the level of fee deemed feasible. Some of the assumptions that were scrutinized included: unit mix, cost of project amenities, development costs for condominiums vs. rental apartments, development costs for various floorplate sizes, capitalization rate, development costs for affordable housing units, anticipated escalation in housing prices, size of parking stalls and estimated parking revenues, expected ground floor retail revenue, assumed profit thresholds, operating costs per unit, and overall assessment of market strength/expected sales prices and rent levels.

In addition to the analysis, community and City members played a central role. A partnership amongst community groups led by the South of Market Community Action Network (SOMCAN) played an important advocacy role and established an "inside-outside" advocacy relationship

[20] Ibid.

with the City planning department, who had chosen to play a strong and pro-active role in setting clear policy terms with developers. This strategy helped bring about Executive support for the impact fees. SOMCAN took a key position that they were not against new development but that there had to be clear community benefits. A community platform was developed based on this. Additionally, there was strong backing from the District Supervisor for the area, who is a geographically-based local elected representative.

At the end of the process, in 2005, the final impact fee for the Rincon Hill area was set at a $25 per square foot increment (in addition to other standard fees such as schools that developers in California typically pay). This increment was allotted to two uses:
a) $11 per square foot for community infrastructure improvements (streetscape, community center, new parks), according to a list of specific improvements that had been identified and cost-estimated by the City (see Figure 7 below), and
b) $14 per square foot toward a Community Stabilization Fund, which would support affordable housing, and small business programs in the adjacent SOMA neighborhood.[21]

Figure 7. Cost Summary of Rincon Hill Community Infrastructure Improvements

Mitigation	Cost
Living Street Open Space Improvements	$5,924,406
Pedestrian Safety and Streetscape Improvements	$3,883,953
Traffic Calming to Residential Alleys	$1,381,000
Rincon Hill Park	$12,866,052
Essex Hillside Park	$472,050
Sailor's Union of the Pacific Community Center	$2,500,000
Library Services	$601,718
Gross Cost of Community Facility Improvements	$27,629,179
Less Current Requirements for Street Improvements	$1,701,679
Net Cost of Community Facility Improvements	**$25,927,500**

Source: City of San Francisco. City Ordinance enacting Rincon Hill Plan. San Francisco: 2005.

Two concessions were provided to developers: a) impact fees could be paid at escrow, (as opposed to at the time of permitting, when the developer typically does not have cash flow), so developers could avoid having to borrow funds at interest; and b) developers could pay impact fees through in-kind construction of facilities. Implementation of the impact fees is led by the Mayor's Office of Community Development (OCD), with a Community Advisory Committee. These entities are currently developing recommendations for disbursement of funds.

Two important factors contributed to the ability to capture the windfall from development projects: a) much land had already been purchased by developers so property values had not yet corrected, creating a sizable windfall, and b) the significant increase in development potential (doubling of height limits) created real value to be able to invest toward community benefit. As a result, community organizations became strong advocates for growth.

The Rincon Hill impact fees, as San Francisco's first rezone in fifteen years, set a precedent for subsequent development projects, and established tacit expectation around developer contributions to mitigate community impact.

[21] City of San Francisco. City Ordinance enacting Rincon Hill Plan. San Francisco: 2005.

It should also be noted that the City of San Francisco has taken a tailored approach to setting impact fees in different neighborhoods around the city, based on a principle of exacting fees in proportion to anticipated impact. For example, another neighborhood, Market and Octavia, anticipates growth of nearly 6,000 new housing units, 10,000 new residents, and 4,300 new jobs. The City identified key community improvements costing a total of $254 million. Less intensive upzoning, from 6 to 8 stories, was proposed for this area in comparison to Rincon Hill. The nexus analysis determined a feasible impact fee of $10 per square foot on new residential development, and $4 per square foot on new commercial development.[22]

Lessons Learned

Rincon Hill offers several take-away learnings:

- Enabling state law provided city government with the authority to exact impact fees on private developers.
- The City's strong, proactive planning department was crucial in setting clear policy direction, leading negotiations with developers and forming effective partnerships with community representatives. Additionally, support of elected officials crucial.
- Ability to capture a sizable windfall from private developments was enabled by both the timing and significant scale of increased development potential (doubling of height limits). If the increase in development potential had been marginal, it may not have yielded a windfall.

DORCHESTER

Existing Conditions

The Vietnamese-American in Boston is the 11th largest concentration of Vietnamese in the United States, according to the U.S. Census, totaling 18,000 people and comprising 24% of the Asian-American population. The majority of Vietnamese-Americans, 10,000, live in South Boston's Dorchester neighborhood, particularly concentrated in the Fields Corner area.

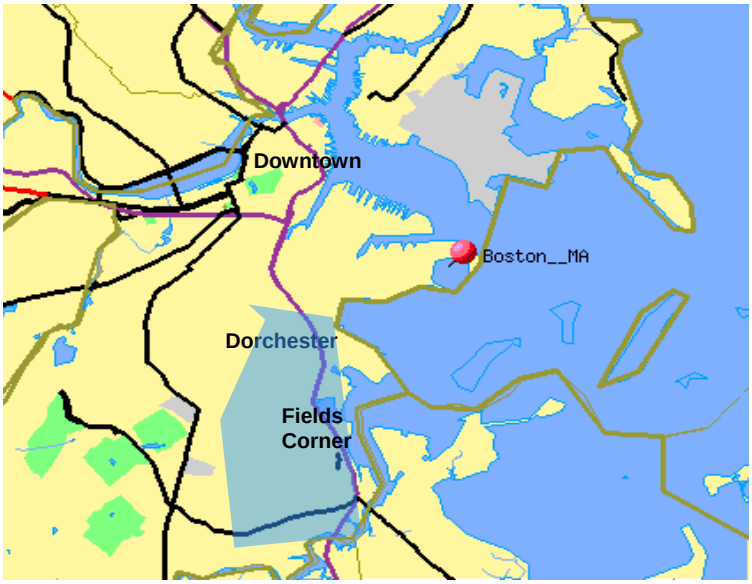
Fields Corner, an area of 1.2 square miles, is home to 20,000 residents, of whom 8,000 are Vietnamese-American. Eighteen percent of families live below the poverty line, with 35% of households earning less than $20,000 per year. A 2005 business survey conducted by MIT identified over half of the businesses in Fields Corner (143 of 285) as Vietnamese-owned. These merchants occupy 116,000 square feet of commercial space, 25% of gross leasable area, but only provide 2% of sales. Most are family businesses with less than $500,000 in sales annually, but have a strong regional-serving niche. Businesses are over-represented by financial/insurance services, building materials/hardware stores, and medical/dental offices, and under-representation of dry cleaners, supermarkets, and drugstores.[23]

Figure 8. Vietnamese-Americans in Dorchester	
% growth Vietnamese population 1980 - 2000	128%
# Vietnamese in Boston	18,000
Vietnamese as % of Asian population in Boston	24%
Rank among Vietnamese enclaves in US	11th
# Vietnamese in Dorchester	10,000
# Vietnamese in Fields Corner neighborhood	8,000
% families in Fields Corner below poverty level	18%
% households earning less than $35,000/year	35%

Source: U.S. Census 2000.

[22] City of San Francisco. Market and Octavia Redevelopment Plan. San Francisco: 2006.

[23] Viet-Aid. Recommendations for Sustainable Development in Fields Corner. Boston: 2004.



Factors in Community Development

Several key factors have influenced the development of the community node in Fields Corner:

- Pre-existing density: Typical of numerous East Coast cities, Dorchester has a physically dense fabric. The most prevalent type of residence is the “triple-decker”, tri-level duplexes that can house numerous families in one building. In the business districts, buildings tends to be several stories high. This residential and commercial creates a significant residential base in close proximity to small businesses.
- Extensive public transportation: Boston’s extensive subway system serves virtually all in-city neighborhoods, including Dorchester, providing crucial mobility options for those without automobiles, especially seniors.
- More intensive racial segregation. Historically, Boston’s immigrant communities have been tight-knit and choosing to locate in geographic proximity and maintain strong social and economic cohesion. This remains true for some of the more recent refugee and immigrant communities as well, and can serve to enhance the development of ethnic enclaves.
- Strong community-based organizations: The evolution of two key Vietnamese-American organizations in Fields Corner (discussed below) have helped strengthen the social and economic fabric of the community.

The above factors have created a thriving Vietnamese-American community centered in Fields Corner. Even in the midst of broader growth and property appreciation in Dorchester, the community has remained a stable place for businesses and families. While some families have moved out, many stayed to purchase homes and rent to other Vietnamese. As residential property values rose 180% in the last 15 years, this has helped to build the wealth base of many residents and contributed to staving off gentrification. In turn, the stable residential base supports business health while community organizations help knit together the community fabric

Figure 9. Dorchester Residential Development		
Year	**Indicator**	
	Median home sales price	Median condominium sales price
1997	$125,000	$70,000
1998	$140,000	$73,000
2000	$194,500	
2005	$384,900	$269,000
2006		$290,000

Source: City of Boston Department of Neighborhood Development

Community-based Organizations
Two organizations in the Vietnamese-American community have played a significant role in supporting the neighborhood's growth.

Viet-Aid, the first Vietnamese-American community development corporation (CDC) in the United States, was established in 1994. Today, Viet-Aid is supported by approximately 16 to 18 staff and a strong and diverse Board. Viet-Aid's program areas include:

- Community real estate development. Projects include:
  - St. Williams School: renovation of church for affordable housing
  - 1460 Dorchester Ave: a $14 million project to build a new 4-story mixed-use development with 43 affordable housing units and 7,000 square feet of ground floor commercial spaces on a 16,000 square foot parcel across from the Fields Corner subway station.
  - Bowdoin-Geneva III: 20 affordable homeownership units for first-time homebuyers on scattered sites using green construction methods. Project under construction.
  - Completed projects:
    - 1392 Dorchester Ave: 12-units for very low-income individuals
    - Vietnamese-American Community Center: First in the nation. Houses preschool, health programs, elderly services, cultural/recreational activities, classrooms. Cost $5 million.
    - 19-21 Faulkner Street: 6 units of family housing
    - Toledo Terrace: 3 units of family housing
- Small business assistance. Viet-Aid has provided technical assistance to 50 local businesses including $400,000 in loans, created 21 new jobs, and developed a family-owned cleaning cooperative.
- Other programs: family childcare coop, crime watch group, voter drive, recreational, youth, cultural activities

The Vietnamese-American Civic Association (VACA) was established in 1984 as a Mutual Assistance Association (MAA). Today, has over 30 staff and provides naturalization assistance, ESL classes, employment and social services, and health education.

Both Viet-AID and VACA have intentionally focused on complementarity and targeting their work to serve different needs/niches.

Lessons Learned
Dorchester offers several take-away learnings:

- Pre-existing physical conditions created built-in density which nurtured a thriving community with strong and diverse social fabric. The stable residential base helps to support the health of the business district.
- Growing strong community-based organizations was crucial to support community growth. In particular, efforts were focused on building capacity of two groups, rather than diluted and scattered efforts to support a plethora of organizations.

The case studies present an array of relevant insights that may be useful for Seattle's Chinatown/International District and Little Saigon. These lessons will be reconsidered more broadly in the development of potential tools and strategies in phase 3 of this study.

The next two sections provide analyses of the specific impacts of the proposed Dearborn Street Project and potential zoning changes on the study area.

IV. ANALYSIS OF OVERLAP BETWEEN DEARBORN STREET PROJECT RETAIL AND LITTLE SAIGON BUSINESSES

In this task, the consultant team assessed the likely overlaps or distinction between the types of goods and services to be offered by retailers in the proposed Dearborn Street Project and existing businesses in Little Saigon, as well as the competitiveness or complementarity of each retail node's market orientation.

Overall, the tentative list of retailers at the proposed Dearborn project provides many complementary and few competitive offerings in its retail mix. The project will draw upon a broader market than Little Saigon given the former's retail mix of large anchor stores with national reputations and diverse mix of goods and services. In a few product areas there is some general overlap: jewelry, general merchandise, grocery, electronics and clothing; however, the product lines and brands offered will be quite different. Additionally, store format and customer service provided by Little Saigon businesses specifically target an APA clientele, in particular, Vietnamese-Americans. The majority of businesses at the Dearborn project will have a different mix of goods and serve a different target market than that currently being served by existing businesses in Little Saigon.

Little Saigon

Many of the estimated 175 businesses fall into four major retail niches: restaurants (24 of 35 restaurants are Vietnamese), beauty and nail salons (19 total), jewelry (12) and grocery and specialty grocery (2 and 5, respectively). The other retail and consumer services market segments represented within the business district are pharmacy, clothing, cellular/electronics, banks and small office users, including medical and travel. Greater Little Saigon also has social services/community services agencies, industrial businesses, and educational organizations.

The customer base is largely citywide/regional and Vietnamese-American/Asian-American, although a few businesses serve a broader population; the majority of Little Saigon businesses are culturally identifiable as Vietnamese. This district is not as established as the neighboring International District, but is currently the most significant cluster of Vietnamese-American owned businesses in Seattle.[24]

Dearborn Street Project

The commercial component of the proposed Dearborn project is a mass-market daily/weekly needs shopping center of approximately 750,000 square feet, including the Goodwill offices and training center. Target and Lowe's, both large format national chain retailers in their segments of discount general merchandiser and hardware, respectively, anchor the shopping center. In addition to the anchors, four major retailers in office supplies, pet supplies, home electronics and home furnishings (150,000 SF total), as well as a mid-market supermarket (such as Safeway or QFC, 50,000 SF) are proposed. Goodwill Industries, the current occupant of the site, will also be establishing a store presence selling second-hand items. Finally, approximately 100,000 square feet in 30 to 40 smaller stores are proposed, including 10 to 20 micro-retailers. These other businesses, which have not yet been finalized, will be a mix of retail and service-oriented businesses, with the largest concentration being in clothing. Amongst the smaller

[24] For in-depth discussion of business mix and market, see *Draft* Phase I Summary, April 5th, 2007, pgs. 28 & 37.

stores will be a number of spaces that benefit from a $1 million rent subsidy provided by the project developers to help local businesses with affordable space in the center.

The primary trade area for the shopping center is greater central Seattle extending from Lake Union south to approximately Rainier Beach. The secondary trade area includes West Seattle, Mercer Island and Queen Anne/Interbay/Magnolia. Below is a description of each market segment being proposed for the Dearborn project and how it complements or competes with the Little Saigon business district.

Major Retailers

Target. The proposed Target will be approximately 160,000 square feet. Typically, Targets carry hardlines ("normal" products and goods), softlines (clothing), and a limited amount of groceries, usually non-perishable. Specifically, Target stores carry clothing, shoes, jewelry, health and beauty products, electronics, compact discs, DVDs, bedding, kitchen supplies, sporting goods, toys, pet supplies, automotive supplies, hardware supplies, and food. They also carry seasonal merchandise such as patio furniture during the summer and holiday decorations during November and December. Many stores also have one-hour photo processing, a portrait studio, a tire and oil change shop, an optical store, a pharmacy, and a garden center and snackbar, and may include quick service restaurants.

Target currently has two locations in Seattle with three others in the surrounding areas. The two within the City proper are located in the northeastern and southwestern portions of the city. Those outside the city limits reside in Bellevue, Tukwila, and Redmond. Target is also looking for an additional store location in the northern area of the central city.

Little Saigon has no small mass-market general merchandisers, drugstores, discount or variety stores that would be most affected by competition from a Target. The kinds of general merchandise offered by local niche stores and the customer base interested in these goods is sufficiently different that Target should not compete with existing businesses.[25] There may be some competition in clothing and electronics, although the Little Saigon businesses target the Asian sub-market.

Lowe's Home Improvement Warehouse. Lowe's is a chain of retail home improvement and appliance stores. The Dearborn store is proposed to be approximately 160,000 square feet. The store is re-locating from its current location further south on Rainier Avenue South at South McClellan Street. There is also a Lowe's in north Seattle. There are seven other stores in the surrounding region. Home improvement and appliance stores are not part of the Little Saigon retail mix. Lowe's will compete primarily with the Home Depot located in industrial SoDo on Utah Avenue South.

Goodwill Industries International. Goodwill Industries currently owns the majority of the proposed Dearborn project site and occupies it with training facilities and offices.[26] A retail store is proposed as part of the Dearborn project. Goodwill stores feature second-hand items, clothing, housewares and appliances, and furniture. Larger Goodwills also include jewelry, wedding gowns, computers, and antiques.

[25] For example, specialty cook- and tableware designed for Asian food preparation and service.

[26] Goodwill is one of the world's largest nonprofit providers of education, training, and career services for people with disadvantages, such as welfare dependency, homelessness, and lack of education or work experience, as well as those with physical, mental and emotional disabilities.

The Seattle area is home to a number of Goodwill stores, two of which are within two miles of the proposed Goodwill project. The tenancy of a second-hand Goodwill store within an urban format (i.e. multi-story and mixed-use) shopping center is an innovative opportunity created by their ownership of the site.

The second hand retail segment is not directly represented in Little Saigon, but Goodwill does sell clothing, and other items that are currently offered by retailers in the business district. It is, however, unlikely that a Goodwill store would draw customers away from Little Saigon.

Supermarket. The final major tenant is a mid-market supermarket, such as a Safeway or QFC of approximately 50,000 square feet. Little Saigon currently has five specialty and two small, more general convenience groceries. The specialty groceries should not be affected by the supermarket. The general convenience groceries will have minor overlap, but should continue to capture the majority of sales of convenience goods that do not merit a trip to the grocery store.

Medium-Sized Retailers

Four medium-sized retailers in office supplies, pet supplies, home electronics and home furnishings will also be included in the project. The stores will vary in size between 15,000 and 40,000 square feet, totaling 150,000 square feet. There is currently one cellphone/electronics store in Little Saigon that would have limited overlap with a major home electronics retailer.

Small Retailers

Approximately 100,000 square feet of space will be occupied by 30 to 40 small stores and restaurants of 400 to 5,000 square feet each. These consist of jewelry, clothing, kids' shoes, sunglasses, cosmetics, gifts/cards, and some local tenants (e.g., flowers). There is some overlap with Little Saigon's two clothing stores, but again, the target market for retailers at Dearborn will be quite different than that currently served by Little Saigon.

Jewelry. Potentially more competitive with Little Saigon are two proposed jewelry and custom jewelry stores. While the twelve jewelry stores in Little Saigon have a specialty orientation, the number of stores makes this an important niche for the district. The Dearborn project jewelry stores and Target jewelry department are likely to capture a large portion of local jewelry sales. Should any of the existing specialty stores in Little Saigon try to expand to more of a mass market, this may be challenging.

Restaurants. Four to six full and quick service restaurants are proposed for the project, including one Japanese, one Asian, and two sports/bar and pizza. Little Saigon's business mix is dominated by restaurants, in particular Vietnamese, and does have one Japanese restaurant and one general Asian restaurant. The patrons of the proposed Dearborn restaurants will typically be those customers who have come to shop and then decide to visit a restaurant and will not draw existing customers away from Little Saigon. However, of all Little Saigon businesses, local restaurants have the best opportunity to benefit from the additional customers brought into the area by the Dearborn project. Mass-market customers who shop at the center might be attracted to eat at Little Saigon restaurants, in particular if the center does not also have Asian restaurants.

Services

The majority of the proposed services are not competitors to current businesses: health clubs, real estate, repair shops etc. The two areas where there is overlap are banking and salons.

While there is a major concentration, perhaps over-saturation of nail and beauty salons in Little Saigon, they target a distinct APA market. Similar to restaurants, customers of these salons are likely to be individuals who have come to shop at the Dearborn project, and not the type of customer who is already going to Little Saigon's salons and other service businesses.

Office

Although the Dearborn project will include some office space, this reflects an expansion of the Goodwill offices that are already in existence at the site. No additional office space will be made available to other organizations or businesses.

V. IMPACT ANALYSIS OF POTENTIAL LAND USE/ZONING CHANGES AND PROPOSED DEARBORN STREET PROJECT

OVERVIEW

This section describes likely impacts of proposed land use and zoning changes, as well as the proposed Dearborn Street Project, on the businesses in the commercial districts in Little Saigon and Chinatown/International District. The assessment draws on the research and analysis performed as part of Phase I: evaluation of current business mix, distribution and tenure; business revenue trends; retail real estate market conditions; customer base, business and property owner characteristics and plans; and general development trends. Additionally, Appendix F includes perspectives obtained from business and property owners during Phase 1 interviews regarding their perceptions of potential impacts from the Dearborn Project and zoning changes. The impact analysis also draws on results of the Phase 2 tasks described in previous sections: commercial gentrification literature review; case studies; and direct competitive analysis of Little Saigon and the Dearborn Street Project. Finally, it relies on development feasibility findings from a previous consultant study performed by BHC Consultants and Property Counselors in 2006.[27]

GENERAL APPROACH

The impact analysis was guided by several general principles:

1. Two sources of impacts. Specific focus on identifying potential impacts from two sources:
   - Potential zoning changes to the Chinatown/ID study areas being considered by the City of Seattle
   - The proposed Dearborn Street Project

2. External forces. An array of additional external forces adds or will add to overall impacts in the study areas. While this study does not include in-depth analysis of these factors, it is important to recognize their role in the current and/or future development of the study areas, and they are revisited in Phase 3 of this study. These factors include:
   - Redevelopment of the Seattle Housing Authority's (SHA) Yesler Terrace community. Yesler Terrace is located adjacent to Little Saigon, just north of the intersection of 12th Avenue South and South Jackson Street. Currently, SHA is conducting a community process to plan for redevelopment of the area, which will likely result in a mixed-income, mixed-use, higher-density community. Redevelopment would influence Little Saigon nearby, as have similar SHA redevelopments at Holly Park, Rainier Vista and High Point to their surrounding neighborhoods.
   - Existing deficits in neighborhood infrastructure. Previous studies have documented challenges in neighborhood infrastructure in both study areas including need for improved sidewalks and other pedestrian amenities, enhanced hygiene and sanitation, expanded transit facilities, and traffic and parking congestion.
   - Sound Transit First Hill Connector. Sound Transit is considering a possible streetcar line to connect Chinatown/International District and Capitol Hill light rail stations, of which one of the options would run along South Jackson and South King Streets and turn north on South Jackson Street. If this alternative is realized, there would likely be increased development along the line and particularly near the stations.
   - Citywide shifts in location of industrial activity. In the last decade, as Seattle has continued to attract new residents and job growth, some in-city neighborhoods with

[27] "An Assessment of Real Estate and Economic Conditions in South Downtown Neighborhoods for *Livable South Downtown Planning*," BHC Consultants and Property Counselors, 2006.

historic industrial uses have shifted to increased residential and retail activity. Examples include South Lake Union, parts of Fremont and Ballard, and to some extent, portions of the Rainier Valley. As these trends occur, more and more industrial businesses have relocated to the outskirts of the city or beyond. Such shifts in the study areas may also be influenced by these broader trends.

- Community migration. The Vietnamese-American community in Seattle has increasingly migrated to outlying areas in the last decade. Little Saigon continues to be a regional serving magnet, but with particularly high traffic (pedestrian and auto) on weekends, when families return to shop. As parking constraints amplify, this may disincentivize customers, who instead may choose to shop at alternative clusters of Vietnamese businesses in the Rainier Valley (especially King Plaza), and in Renton (e.g. Ranch 99 Mall). If this trend continues it could further erode the health of Little Saigon businesses.
- Current development market. Currently, the private development market views Little Saigon as premature. As a result, under current zoning, there is significant unrealized development potential. This existing condition forms an important basis for the impact findings and is described further as part of Little Saigon impact #2.

3. Snapshot-in-time and no future intervention. The analysis discusses likely potential impacts given today's conditions in Chinatown/International District and Little Saigon. It also assumes no future interventions to mitigate or otherwise alter potential impacts. The purpose of this is to define a baseline scenario from which Phase 3 strategies and interventions can be formulated.

4. Winners and losers. Any given impact can have positive or adverse impacts; these will be positive or negative depending on the public goal or vision for development and the viewpoint of the constituency or stakeholder affected by an impact. While the analysis focuses more deeply on adverse impacts, it also discusses, where relevant, potential positive impacts to provide a clearer analysis of trade-offs to inform decision making.

FINDINGS

The findings are grouped into three categories: a) major high probability impacts, which are described in summary table format and explanatory narrative, b) additional speculative or lower probability impacts, and c) issues of note raised by staff from the City's Department of Planning and Development or community members.

High Probability Impacts

The following four impacts are those considered to have a high probability of affecting the current conduct of business by local firms. The severity and type of impact vary by impact, but all four are quite likely to occur. The table at the beginning of each impact discussion summarizes the cause of the impact, its type, the approximate number of businesses impacted and likely severity of the impact, and the timeframe for the impact to occur (0 to 5 years, 6 to 12 years and/or 13+ years). The designation of type indicates the causal relationship between the proposed change and impacted outcome and is categorized as follows:

- Direct – immediately intervening in the normal conduct of business;
- Indirect – impelling some further change that affects businesses; or
- Exacerbating – contributing to a change that is already taking place.

The likely severity of the impact-low, medium or high-indicates how intense the level of impact will be on those affected business.[28]

[28] The severity category indicates the degree to which affected businesses will be impacted, rather than the likely number of businesses that will be affected.

Little Saigon, High Probability Impact #1:
Inconvenience to and eventual displacement of production, distribution and repair businesses along north side of South Weller Street and on South King Street between 12th Ave South and Rainier Ave South

Cause	**Type of Impact:** ***(Direct/Indirect/Exacerbating)***	**Degree of Impact:** **Number of Businesses Impacted & Severity** ***(Low/Medium/High)***	**Timeframe:** ***(1 to 5 years, 6 to 12 years, 13+ years)***
Allowance of residential land uses in current industrial zone; Dearborn Project on south side of South Weller Street introducing a large number of residents and pedestrian-oriented commercial activity to area.	**Direct** Pedestrian and vehicular traffic interference with conduct of production and distribution business; new residents object to industrial business activity; major change in land value incentivize land sale for mixed use or residential development.	**No. of Businesses: 7 – 8** **Severity: High** Land use changes will result in movement of industrial businesses over time; relocation is a significant business cost and inconvenience. For businesses that own their property, the financial windfall of a major increase in land value will mitigate the disturbance of moving; for tenants, the level of negative impact depends on availability of industrial space elsewhere.	**6 to 12 years** Residential occupation of the Dearborn project is likely to take at least 2 to 3 years; development of additional rezones of nearby properties is likely to wait for signs that the Dearborn project is financially successful.

The interruption of industrial activity and eventual movement of production, distribution and repair businesses out of the area north of the proposed Dearborn Street project and south of South Jackson Street is the most direct and severe impact likely to result from the proposed land use/zoning changes and the proposed Dearborn Street project. Currently, the area north of South Dearborn Street and south of the mid-block parcel line just south of South Jackson Street, east of 12th Ave South and west of Rainier Ave South is zoned Industrial-Commercial (IC-65') and does not allow residential uses. With a rezoning to either Neighborhood Commercial (NC3-85') or Downtown Mixed Residential (DMR 125')[29], this area would open up to residential development. Most immediately, the Dearborn Street project, if approved, will include approximately 550 residential units, in keeping with this proposed change in zoning.

[29] There is also a no-change alternative.

Current Condition

Many of the units in the proposed Dearborn Street project will face South Weller Street, the north side of which currently has five active industrial or quasi-industrial businesses: one auto-repair shop, two food distribution or production businesses and two other distribution/production businesses, as well as one apparently inactive food distribution/production business. The industrial businesses generate considerable truck traffic that is relatively unimpeded by pedestrian activity. This block also has three office buildings, but no retail or residential uses. One block further north, South King Street also has two active auto repair businesses; however, there are also a number of older detached single family homes (approximately five), a multi-family apartment building and two retail businesses, one of which, Lam's Seafood Market, is quite active.

Direct Change

The proposed change in allowed land uses will incentivize redevelopment of existing industrial parcels to residential or mixed use, given the significantly higher value of these uses relative to industrial. The development of the Dearborn Street project will hasten this change on South Weller Street, as it will introduce a sufficient number of housing units and small-scale retailers to begin to change the overall character of the street from industrial to a residential neighborhood and shopping. Inevitably, the new pedestrian and vehicular activity generated by the Dearborn Street project will impede truck traffic in and out of the industrial businesses, a critical aspect of distribution, and residents living in units facing South Weller Street may likely express a desire to minimize or remove adverse industrial business externalities (i.e. noise, diesel fumes, etc.).

Over time, the repair businesses on South King Street are also very likely to relocate out of the area, although this transition will be more gradual, given that the area is already mixed and these businesses are already accustomed to coexisting with residential and retail uses. The change in the value of the land and its development potential, however, is quite likely to result in the movement of these businesses over time.

Business Outcome

The severity of the impact is designated as high, due to the generally high cost of business relocation. For businesses that are tenants, the success of relocation will depend on the availability of appropriate industrial space elsewhere and, for distribution businesses, the proximity of this space to customers.[30] For businesses that own their space, the proposed change in allowed use and development of the proposed Dearborn Street project, while immediately inconvenient, could have considerable financial upside. The increased land value creates a financial windfall that businesses should be able to realize through sale of their property.

[30] Two of the active industrial businesses on S. Weller Street appear to be Asian food suppliers (Golden Pheasant Noodle and King's Oriental Foods Co.); these businesses may supply the many Asian restaurants (approximately 110) and grocers in Chinatown/International District and Little Saigon and benefit from their proximity.

Little Saigon, High Probability Impact #2:

Modest increase in potential value of development in remainder of Little Saigon with additional allowed height; may over time speed new development and the displacement of existing businesses.

Cause	Type of Impact: *(Direct/Indirect/Exacerbating)*	Degree of Impact: Number of Businesses Impacted & Severity *(Low/Medium/High)*	Timeframe: *(1 to 5 years, 6 to 12 years, 13+ years)*
Increase of height limit from 65 to 85 feet or 125 feet (change areas and change in height depends on alternative).[31]	**Exacerbating** Existing businesses in Little Saigon are likely to be displaced by new multi-story mixed-use development over time. Residential and office uses are currently allowed in existing C1 and NC3 zones; all areas of Little Saigon proposed for rezone already have significant additional development potential under current zoning and will redevelop based more on market momentum than allowance of modest additional development envelope.	**No. of Businesses: Approximately 65 - 130, depending on alternative** **Severity: Low** The role of the proposed rezone, in and of itself, in spurring new development will be modest.	**6 to 12 years; 13+ years**

Existing businesses in the remaining areas of Little Saigon also face potential displacement from new mixed-use development of properties they occupy. However, the prospective upzoning of these areas, (from approximately I-5 to 12th Avenue South from South Main Street to South Dearborn Street and 12th Avenue South to Rainier Avenue South to the mid-block parcel line south of South Jackson Street), will have a modest role in spurring new development in the area, given the considerable un-used existing development potential under current zoning and the limited degree to which the upzoning improves the feasibility of development. The remaining areas of Little Saigon are currently zoned Neighborhood Commercial (NC3-65') or Commercial (C1-65'), both of which allow residential and mixed-use development up to six stories. The proposed rezones to International District Mixed (IDM 75'/85'), Neighborhood Commercial 3 (NC3-85') or Downtown Mixed Residential (DMR-125') would allow one or six additional stories of development.

Current Condition

The areas proposed for possible height increases to either 85 feet (South Jackson Street) or 125 feet (central portion of Little Saigon) are largely one- to two-story strip commercial development, or one- to two-story warehouse/industrial or office space. With a few exceptions, the majority of the existing development is at least 20 years old and has not been carefully maintained. As the area is now zoned to allow commercial or mixed-use development to 65 feet, there is currently a considerable amount of unrealized development potential in the area.

[31] In addition to the no-action Alternative #4, Alternative #2 maintains the existing height limit of 65 feet along S. Jackson Street.

However, because the strip commercial, industrial uses and lack of streetscape amenities have made Little Saigon less appealing for residential projects and there have been comparatively more attractive areas of Downtown available for redevelopment, the area has seen little residential development activity.[32]

Exacerbating Change

The nascent residential market in Chinatown,[33] prospective redevelopment of Yesler Terrace and the residential component of the Dearborn Street project should begin to change the perception of Little Saigon as unable to support housing. As adjacent mixed-use and residential projects proceed and generate market momentum, Little Saigon's development potential should become more attractive to real estate equity investors and, over time, the area should see increased development interest.

The role of the proposed zoning changes in attracting development is likely to be modest, contributing to development momentum rather than spurring it. A change in height from 65 to 85 feet is likely to result in one additional story of residential or office development, given current building codes and practices.[34] According to the development feasibility analysis performed by BHC Consultants and Property Counselors[35], a prototypical apartment development project under the base NC3-65' zoning would have a return on cost of 15.2 percent, while a prototypical condominium project would have a return of 38.2 percent. Under the proposed NC3-85' zoning, prototypical apartment and condominium development projects would have returns of 16.6 percent and 45.1 percent, respectively, increases of 1.4 and 6.9 percent, respectively. These increases make already feasible development projects more attractive.

Due to the significant increase in construction cost when shifting from wood to steel frame, the DMR-125' development prototype delivers a comparatively smaller return on cost than the base NC3-65' development prototype. As a result, the apartment scenario becomes infeasible with the change in construction type, with a negative return on cost, while the condominium scenario decreases from a 38.2 percent return on cost to a 29.5 percent return on cost. While 29.5 percent is a quite feasible level of profitability (a base profitability threshold being approximately 15 percent), on a percent basis it does not justify the additional investment required. The proposed 125-foot up-zoning may therefore not result in development to the full allowed height under current development conditions.

The proposed increases in allowed height, at most, modestly increase the profitability of potential development. Given that market momentum based on the recent expansion of condominium development to the southern portions of

[32] The exception is the Pacific Rim Center (2000/1) immediately adjacent to I-5 on S. Jackson Street, which has had a troubled sales record; the project sold approximately 10 of 40 units and ultimately leased the remainder.

[33] See description of residential development trends, most notably two highly successful condominium conversion projects, in *Draft* Phase I Summary, April 5th, 2007, pg. 40.

[34] Five stories of woodframe construction are allowed over concrete podium; there is market precedent for two stories of concrete podium with woodframe above, but additional concrete stories would be unusual.

[35] "An Assessment of Real Estate and Economic Conditions in South Downtown Neighborhoods for *Livable South Downtown Planning*," BHC Consultants and Property Counselors, 2006. Rents and sales prices used in the financial feasibility analysis are not specific to Little Saigon or Chinatown, but are generalized to South Downtown; they are also projected out approximately two years.

Downtown is the more critical factor in spurring development, the impact is designated as exacerbating.

Business Outcome

As described, most of the existing development in Little Saigon is well below the existing or proposed allowed development envelope, and of lesser physical quality. Additionally, a number of other external factors, noted in the General Approach section, will come into play, such as the redevelopment of Yesler Terrace and potential new public transportation infrastructure. These and the area's proximity to Downtown and transportation amenities makes it likely that many existing properties will redevelop at a more significant scale, over time, as market momentum builds. It is the confluence of these factors, above and beyond the proposed zoning changes themselves, that will ultimately likely create a major transformation of the area over time.

As described in the Phase 1 summary report, existing lease rates in Little Saigon are in the range of $1.50 to $2.00 per square foot per month. This is a sufficient level of rent to support the development cost of new ground-floor retail space in mixed-use buildings, particularly if the retail is regarded as an amenity to residential units in upper stories. New development may or may not seek to retain existing small businesses in new space; regardless, existing businesses will have to relocate during demolition and construction, a considerable business interruption that often leads small businesses to permanently relocate elsewhere. Because the majority of shopping district businesses do not own their properties, many permanent relocations are likely to occur as the district redevelops unless retention strategies are put in place prior to redevelopment.

While this overall redevelopment dynamic may have significant consequences for the existing businesses, the up-zoning, in and of itself, is likely to play a small role in spurring this transition. Because the existing development envelope and general market momentum are more major factors, the severity of the impact of the proposed height change is low.

Little Saigon, High Probability Impact #3:
Increased exposure of existing ethnic niche retailers and restaurants to mass market customer base.

Cause	Type of Impact: *(Direct/Indirect/Exacerbating)*	Degree of Impact: Number of Businesses Impacted & Severity *(Low/Medium/High)*	Timeframe: *(1 to 5 years, 6 to 12 years, 13+ years)*
The Dearborn project will bring an expanded volume and diversity of central city mass market customers into the area.	**Indirect** The Dearborn project creates a greater mass market opportunity for local businesses. Businesses may change to cater to expanded local market or remain focused on regional niche; impact could be positive or negative depending on business.	**No. of Businesses & Severity:** Number of businesses affected & severity of impact depends on consumer behavior of existing and potential customers, and capacity and interest of individual businesses. Businesses will have to actively pursue and target mass market in order to yield positive impacts.	**1 to 5 years**

The proposed Dearborn Street project includes an approximately 650,000 square foot daily/weekly needs shopping center component. The shopping center will bring a new mass-market central city shopper demographic into the area. Little Saigon businesses that currently cater to a largely Vietnamese-American and Asian-American sub-market will be exposed to both vehicular and pedestrian traffic generated by the proposed Dearborn Street project and will have an increased potential for a mass market customer base. This both offers businesses an opportunity for expansion at the same time that it could dilute the district's existing niche orientation, displacing specialty businesses that do not adapt.

Current Condition
Most businesses in the Little Saigon shopping district currently serve a specialty Vietnamese-American and to some extent, Asian-American market from Seattle and the region. While a few of the businesses, particularly restaurants, draw a more ethnically diverse clientele, the majority of businesses serve the niche ethnic market. Customers travel to the district primarily by car, particularly on weekends, due to the migration of most families to outlying areas over time.

Depending on the type of business and the interest and capacity of individual businesses, the possibility of appealing to a broader market is either a potential boon to business or, alternately, not realistic and even potentially harmful.

Indirect Change

The Dearborn Street Project will bring a large number of new shoppers into the Little Saigon area, with a potential "spillover" effect into the ethnic business district. This could have a net positive or adverse impact on Little Saigon businesses, depending on several factors, discussed below.

a. Consumer behavior of existing customers. Little Saigon currently has limited parking capacity, particularly during weekend peak customer hours. Numerous businesses have reported these constraints as having a deleterious effect on existing customers. They question whether customers will continue to patronize businesses if there are perceived or actual increases in future neighborhood auto traffic congestion and parking constraints. This is particularly critical as current customers are driving long distances from around the region. At the same time, other clusters of Vietnamese businesses in the Rainier Valley (e.g. King Plaza) and in Renton, offer competing shopping areas with greater parking capacity. The sensitivity of the existing customer base to the availability of parking and the parking advantages of competitive districts renders Little Saigon vulnerable to customer loss with any additional pressure on existing parking.

b. Consumer behavior of potential new customers. If potential new customers travel from the Dearborn Street Project to Little Saigon, this could create a positive impact on area businesses. However, this will depend on the consumer preferences and needs of those customers and whether they are aligned with what is offered in Little Saigon, as well as better physical connections and improved streetscape to facilitate travel between the two locations. Given the types of shopping trips that will be made to the Dearborn Street project, it is unlikely that customers will park in Little Saigon and walk to the project, passing by existing businesses and potentially stopping to shop.[36] More likely, Dearborn center shoppers will need to be attracted to either walk to Little Saigon after leaving their purchases in their vehicles, or to park a second time in Little Saigon. Compelling shoppers to park twice is considered challenging in the retail industry.

c. Capacity and interest of individual businesses. Whether Little Saigon businesses will benefit from increased mass market customers depends on both the capacity and interest of individual businesses. The business survey conducted in Phase 1 provides some insight. The table below shows several measures of capacity and interest. Three of the 14 interviewed currently serve a highly diverse customer base, and the majority (10) expressed a strong desire to expand. However, all but one of the businesses ranked low or moderate in one or more measures of "capacity" as defined by a business possessing the financial resources, human resources, and technical capacity to align their business model to serve a mass market clientele. Additionally, for some businesses, it may not be possible to both serve existing ethnic markets and a broader audience due to the ways the respective sub-markets may identify the type of business which they will patronize. Further, there is likely a sample selection bias in the survey as businesses who were more willing to be interviewed are probably those relatively more likely to have capacity to expand, thereby overstating the capacity of businesses overall.

[36] The retail component of the Dearborn project is a daily/weekly needs shopping center anchored by a mass merchandiser, hardware chain, and supermarket. Shopping trips to the center will most typically involve purchase of items transported in a shopping cart, or even dolly, and customers will shop elsewhere rather than park multiple blocks away and carry multiple heavy/awkward items back up-hill to their vehicles on a regular basis.

Business Outcome

Given the above discussion, the impact is indirect and the overall impact of increased mass market customers on Little Saigon businesses is likely to be low to moderate. Any exacerbation of the currently limited parking capacity in Little Saigon would be a significant driver of existing customer decline; however, it is unlikely that Dearborn Street Project shoppers would park in Little Saigon, so the potential overall impact on current customer traffic is a low negative effect. At the same time, the overall new customers generated by the Dearborn Street Project are likely to provide low to moderate positive effects on Little Saigon businesses given the current barriers to travel between the two sites and misalignment between current business offerings and new customer preferences. Finally, Little Saigon businesses currently have low capacity overall to effectively cater to a broader market.

Figure 10. Little Saigon Business Survey: Business Capacity/Interest to Serve Mass Market

Business Interviewed	Already Serving Diverse Customers?	Resources		Technical Capacity	Desire to Expand/Attitude toward Risk
		Financial	Human		
Restaurant	Med	Low	Low	Low	High
Deli	High	Low	Med	Low	High
Medical	Low	Med	High	Med	Med
Professional	Low	Med	Med	High	High
Medical	Med	Med	Med	High	High
Professional	Low	Med	Low	Med	High
Jeweler	Med	Med	High	Med	High
Supermarket	Med	Med	High	Med	High
Construction	High	High	High	High	High
Miscellaneous	Low	Low	Low	Low	Med
Restaurant	Med	Med	Med	Low	Low
Restaurant	Med	Med	Low	Med	High
Restaurant	High	Med	High	High	Med
Supermarket	Med	Med	High	Low	High

Source: Phase 1 Interviews, Little Saigon-Chinatown/International District Economic Impact Study, 2007.

International District/Chinatown, High Probability Impact #4:
Increase in potential value of new residential development in Japantown (South Jackson Street to Yesler Way, 4th Avenue South to 5th Avenue South) with additional allowed height; should speed course of development.

Cause	Type of Impact: *(Direct/Indirect/Exacerbating)*	Degree of Impact: Number of Businesses Impacted & Severity *(Low/Medium/High)*	Timeframe: *(1 to 5 years, 6 to 12 years, 13+ years)*
Increase of height limit from 120 to 180 feet or 240 feet (change in height depends on alternative)	**Direct** A height change to 240 feet increases development return on cost by 12.9%; change to 180 feet by 5.4%.[37] This is enough of an increase to help incentivize new development, given current favorable market conditions.	**No. of Businesses: 4 - 8** **Severity: Medium** Businesses in existing buildings that are redeveloped are likely to be displaced permanently, given the inconvenience of returning to the location after an extended construction period. Impact on business depends on availability of space elsewhere in Chinatown.	**6 to 12 years** Current issues with condo liability insurance may delay residential development activity.

Existing businesses in older buildings not within the Historic Special Review District in the three-block area between South Jackson Street and Yesler Way, and 4th and 5th Avenues South are likely to be displaced by redevelopment; redevelopment will be partly spurred by the proposed upzoning in height. The area is currently zoned International District Mixed (IDM 100'/120'); the proposed increases in height to either 180 or 240 feet for residential uses would improve the feasibility of development sufficiently to help incentivize new development.

Current Condition

The majority of land in this three-block area known as Japantown is surface parking lots. There are also multiple development projects that were constructed recently and thus unlikely to be redeveloped in the near future. However, there are three existing properties with ground floor retail tenants that are likely to redevelop. There are four existing businesses: a club, bar, grocery and restaurant, located in single-story concrete buildings surrounded by parking lots, on 4th Avenue South, just north of South Main Street, as well as four active businesses: a restaurant, club, grocery and gallery in the ground floor of an approximately 11-story residential building (Downtowner Apts.) on 4th Avenue South, just south of South Main Street.

Direct Change

The proposed changes in height improve the return on cost for a prototypical condominium development. With a height change from 120 to 180 or 240 feet, the percent return on cost increases from 30.1 percent to 35.5 or 43.0 percent, respectively. This change in profitability increases the attractiveness of developing surface lots or redeveloping existing low value buildings in the area. In particular, the

[37] BHC Consultants and Property Counselors, 2006.

proposed 240 foot alternative improves profitability by 12.9 percent, a sufficient increase to stimulate new interest in the area. This portion of Chinatown/International District has already seen recent development activity. Given the existing market momentum, the change in zoning could incentivize additional projects.

Business Outcome

The single-story concrete buildings at 4th Avenue South and South Main Street are likely to redevelop under the proposed new zoning. These businesses are likely to be permanently displaced given the inconvenience of relocation. The severity of the impact on these businesses depends on the availability of other viable space in Chinatown/International District.

Low Probability Impacts

This section describes additional potential impacts that the consultant team either cannot say with certainty will occur, or the outcome of the impact is difficult to predict. These are assessed with lower probability than those discussed previously and are designated as speculative.

International District/Chinatown/Little Saigon, Speculative Impact #1:

Proposed land use changes and increases in allowed height attract new residential development. New residential/worker populations create demand for non-ethnic local-serving retailers. Non-ethnic retailers either dilute or revitalize existing businesses.

Depending on the sub-area, the proposed zoning changes will have either a modest or more significant role in attracting residential development to the study area. Over time, new residential projects in both districts are likely to result in sufficient local population to support non-specialty neighborhood-serving retailers. Demand for space from neighborhood-serving retailers could result in either increased lease rates or development of new retail space. The presence of new neighborhood-serving retailers could invigorate the districts, expanding the customer base and creating additional opportunity for existing retailers, or it could dilute their uniqueness and ability to draw customers shopping for specialty goods from across the region. The speculative impacts are somewhat different for Chinatown/International District (west of Interstate 5) and Little Saigon (east of Interstate 5) given differences in the business conditions in each district, and are discussed below.

Chinatown/International District

As discussed in the Phase 1 summary report, Chinatown/International District (west of Interstate 5) has experienced a significant downward trend in retail revenues since 1997, with the exception of the Uwajimaya shopping complex.[38] Downward trends in food stores, restaurants and miscellaneous retail all pre-date recent nascent residential development activity. This suggests that the existing ethnic niche stores are struggling. There are many potential factors, most importantly, the emergence of other Asian specialty districts outside of central Seattle that have newer space or cheaper rent and are more easily accessed by increasingly decentralized immigrant and first generation populations, as discussed previously. Given the changing role of the Chinatown/ID shopping district in the region, a more significant local residential population and the additional customer base it offers may be an important opportunity for existing businesses. While serving daily and weekly needs of a more diversified local population[39] will require transition on the part of these businesses, it may be their best chance to remain viable.

Little Saigon

In contrast to Chinatown/ID, Little Saigon's retail sector has expanded since 1997, in particular food stores and restaurants. While the area also faces competition from outlying Asian business districts, the district as a whole seems to be succeeding as a regional destination. A local, diverse customer base, and its potential for supporting non-specialty stores, may therefore have more of a negative effect in Little Saigon, than in the International District.[40]

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[38] See *Draft* Phase I Summary, April 5th, 2007, pgs. 13 – 15 for ID revenue trend discussion and pgs. 33 – 35 for Little Saigon discussion.

[39] The developer of a recent condominium conversion project reports that approximately 90 percent of buyers were Asians or Asian-Americans specifically interested in living in Chinatown/ID. However, as more market momentum is established, it is likely that the area will become attractive to a more diverse population.

[40] Given its more recent history and the lack of architectural character, Little Saigon may also not have Chinatown/ID's special appeal for Asian-American buyers.

Little Saigon, Speculative Impact #2:
Success of proposed Dearborn project attracts additional major retailers to underdeveloped properties on Rainier Avenue South. Additional mass market retailers adjacent to Little Saigon increase retail rent/rate of property redevelopment in the area.

Under current zoning and some of the proposed rezone alternatives, large industrial parcels in the four-block area between the current Goodwill site and the Little Saigon shopping district could be developed as medium or large-format retail. Development of major mass-market retail between the Little Saigon shopping district and the Dearborn Street project could place additional rent and development pressure on shopping district properties. Because access and visibility are the two most important locational factors for major chain retailers, it is most likely that additional stores seeking to be near the Dearborn Street project would locate on Rainier Avenue South, given its much higher average daily traffic and easier on/off-ramp access to I-90, or South Dearborn Street, given its better on/off-ramp access to I-5 (though viable sites are limited on Dearborn Street).

Properties near the shopping district that are the likeliest to attract major retailers are the parcels on Rainier Avenue South between South Weller Street and South Jackson Street, though the size of these parcels and changes in grade would be a challenge. It is possible that the development of the proposed Dearborn Street project could increase the attractiveness of these sites for medium or large-format retailers. Should the sites also be developed with retail, it is possible that these projects would increase rent and development pressure on South Jackson Street properties near Rainier Avenue South.

Little Saigon, Speculative Impact #3:
Proposed upzoning increases property values modestly, making it slightly more difficult for existing business owners to purchase properties as desired.

As described previously, the proposed change in the height limit along South Jackson Street from 65 to 85 feet and south of South Jackson Street from 65 to 85 or 125 feet will have a modestly positive effect on the feasibility of development in that area. This slight increase in profitability may also translate into higher property owner expectations regarding land value. While the additional amount that development should be able to pay for land is modest, property owner expectations of their properties' values may exceed the actual value of their holdings.

The interviews conducted in Phase 1 identified several Little Saigon business owners interested in purchasing the buildings they occupy or other property in Little Saigon for relocation and/or expansion. All interviewed owners who expressed this also reported that their due diligence in assessing potential properties to purchase found sales prices unaffordable. It is likely that business owners cannot afford to purchase the properties they occupy because these properties are already too valuable under the current zoning, which allows six stories of development. Additionally, while the property transaction research performed for Phase 1 found no actual speculative transactions[41], it is possible that property owner expectations have increased in anticipation of the change in zoning, whether in keeping with the modest improvement in development profitability, or beyond what development can actually pay.

Issues of Note
The consultant team received preliminary feedback from the City's Department of Planning and Development and from this study's Community Review Group regarding two additional potential

[41] See *Draft* Phase I Summary, April 5th, 2007, pg. 41.

impacts. The consultant team considered these potential impacts in the course of analysis and determined that, in and of themselves, they would not affect existing businesses. However, they are included here for discussion purposes and to acknowledge the broader set of factors which will collectively shape the sub-areas and which will be reflected in Phase 3 strategies.

International District/Chinatown, Area of Concern #2:

Impact of Core Chinatown Upzoning

The area south of South Weller Street in Chinatown/ID is currently zoned International District Mixed (IDM 75'/85') and is proposed to either increase in allowed height from 85 to 125 feet or remain the same. There is significant under-utilized development envelope under the current zoning and there have been recent mixed use development projects in the area.[42]

According to the financial analysis performed by BHC Consultants and Property Counselors, a project developed under the existing zoning would have a 46.1 percent return on cost, while a project developed to maximize the proposed 125 foot height limit would have a 28.3 percent return on cost, a significant decrease in overall profitability. While the 125 foot project is financially feasible, the additional return created by the added increment of development does not justify the much greater investment required to build the project, given the change in construction type (as discussed previously under Little Saigon impact #2). It is unlikely that the proposed increase in height would act as an incentive for development in the area and therefore would not have an impact on existing local businesses.

International District/Chinatown, Area of Concern #1:

Impact of Dearborn Project on Local Businesses Given Revenue Trends

City staff expressed interest in the study of potential impacts of the Dearborn Street project on businesses in Chinatown/ID west of Interstate 5, given a 10-year downward retail revenue trend. While the consulting team did not conduct a direct competitive analysis of Chinatown/ID retailers versus the proposed retail mix in the Dearborn Street project, in general, the product offerings and the market orientation of existing businesses is markedly different than that proposed for the Dearborn Street project. As discussed in the Phase 1 summary report, the business mix of the shopping district is dominated by Asian restaurants, with significant clusters in specialty grocery, convenience grocery, specialty gifts and alternative medicine. Additionally, two thirds of all business owners surveyed described their market orientation as city-wide, regional or supra-regional.[43]

In contrast, the retail component of the proposed Dearborn Street project is a central city-serving mass market daily/weekly needs shopping center anchored by a general merchandiser, hardware and building material supplier, and major mid-market supermarket. There is very little competitive overlap between the district and the proposed shopping center. It is unlikely that the center will negatively affect business at existing retailers in Chinatown/ID.

Additionally, the impact of proximity to a new mass market customer base and speculative impact of attracting additional large retailers are unlikely to affect existing retailers in Chinatown/ID. Likely routes for customers traveling to the proposed Dearborn Street project do not pass through Chinatown/ID west of I-5 and, in general, the Dearborn Street project site is too geographically distant to generate these effects.

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[42] For example, 705 S Weller, a 6-story mixed-use apartment project built in late 2006/early 2007. For additional information regarding recent residential development activity in the ID, please see *Draft* Phase I Summary, April 5th, 2007, pgs. 22-23.

[43] See *Draft* Phase I Summary, April 5th, 2007, pgs. 6-12 and 19.

Appendices

Appendix A. Cities and Counties with Largest Vietnamese-American Populations

U.S. Cities with Largest Concentrations of Vietnamese-Americans (2000)

Rank	City	Number	Percentage of City Population
1	San Jose, CA	78,842	8.8
2	Garden Grove, CA	35,406	21.4
3	Houston, TX	32,261	1.7
4	San Diego, CA	27,473	2.2
5	Westminster, CA	27,109	30.7
6	Los Angeles, CA	19,747	0.5
7	Santa Ana, CA	19,226	5.7
8	Seattle, WA	11,943	2.1
9	Philadelphia, PA	11,608	0.8
10	New York City, NY	11,334	0.1
11	Boston, MA	10,818	1.8
12	San Francisco, CA	10,722	1.4
13	Portland, OR	10,641	2.0
14	Anaheim, CA	10,025	3.1

Source: U.S. Census

U.S. Counties with Largest Concentrations of Vietnamese-Americans (2000)

Rank	County	Number	Percentage of City Population
1	Orange County, CA	135,548	4.76
2	Santa Clara County, CA	99,986	5.94
3	Los Angeles County, CA	78,102	0.82
4	Harris County, TX	55,489	1.63
5	San Diego County, CA	33,504	1.10
6	King County, WA	27,484	1.58
7	Alameda County, CA	23,817	1.65
8	Fairfax County, VA	23,044	2.38
9	Dallas County, TX	21,355	0.96
10	Tarrant County, TX	19,396	1.34

Source: U.S. Census

Appendix B. Baseline Research Communities

Vietnamese-American Business Districts
Dorchester (Boston)
Oklahoma City
Houston
Tenderloin (San Francisco)
Orange County, CA
San Jose
New Orleans
Stockton
Rosemead
Orlando
San Diego
Fairfax County, VA

Cambodian-American Business Districts
Long Beach

Pan-Asian Business Districts
Rainier Valley (Seattle)
Argyle (Chicago)

Chinese-American Business Districts
Richmond, BC

Korean-American Business Districts
Los Angeles
Washington, DC
San Francisco
Dallas

Other Areas Considered:
Rincon Hill (San Francisco)
Central District (Seattle)

Appendix C. Case Studies Framework

	Area(s) with Similarities to Seattle's Little Saigon				
	1. Existing Conditions	**2. Impacts**		**3. Preservation Strategies**	
		From Zoning Changes	**From Sig. Development**	**Local Govt Strategies**	**Community-based Strategies**
Oklahoma City	**PRIMARY**	Secondary	Secondary	Secondary	
San Jose		**PRIMARY**	**PRIMARY**	Secondary	
Rincon Hill (SF)		Secondary		**PRIMARY**	Secondary
Dorchester (Boston)	Secondary		Secondary		**PRIMARY**

Appendix D. Case Study Interviews

Oklahoma City
Hoa Tran, Planner, City of Oklahoma City
Bob Mier, City of Oklahoma City

San Jose
Councilmember Madison Nguyen, San Jose City Council
Quyen Dinh, Staff, International Children Assistance Network (ICAN)
Kim Luc, Strong Neighborhoods Initiative Staff, City of San Jose

Rincon Hill
April Veneracion, Executive Director, South of Market Community Action Network (SOMCAN)
Marshall Foster, Former Staff, City of San Francisco Planning Department

Dorchester
Trinh Nguyen, Board Member, Viet-AID
Dien Bui, Former Staff, Viet-AID

Appendix E. References and Resources

BHC Consultants and Property Counselors. “An Assessment of Real Estate and Economic Conditions in South Downtown Neighborhoods for *Livable South Downtown Planning*.” Seattle: 2006.

Binetti, Mike. “San Francisco’s First Elite Neighborhood.” San Francisco: 2003. http://baseportal.com/cgi-bin/baseportal.pl?htx=/zpub2000/sfentries&cmd=list&range=0,50&Title~=R&cmd=all&Id=187

CBS 5. “Vietnamese community transforming S.J. politics.” San Jose: March 21, 2007.

City of Boston Department of Neighborhood Development. “Commercial Trends” Issue 7, Part 2. Boston: 2002.

City of Boston Department of Neighborhood Development. “Dorchester Data Profile.” Boston: 2006.

City of Boston Department of Neighborhood Development. “Real Estate Trends.” Boston: 2006.

City of Boston Department of Neighborhood Development. “Real Estate Trends.” Boston: 1998.

City of Boston. Zoning Ordinance, Article 52, Dorchester Avenue Neighborhood District. Boston: 2001.

City of Oklahoma City. OKC Plan 2000-2020. Oklahoma City: 2000.

City of Oklahoma City. The Plan for the Asian District. Oklahoma City: 2005.

City of San Francisco. City Ordinance enacting Rincon Hill Plan. San Francisco: 2005.

City of San Francisco. Market and Octavia Redevelopment Plan. San Francisco: 2006.

City of San Francisco. Mid-Market Redevelopment Plan. San Francisco: 2056.

City of San Francisco. Rincon Hill Plan. San Francisco: 2005.

Civic Economics. “The Andersonville Study of Retail Economics.” Chicago, Illinois. 2004.

Dean, Bryan. “Automobile Alley is no longer just a home for car dealerships.” http://maps.newsok.com/features/maps/maps_automobile.html
Dean, Bryan. “Investments replenish city vibe.” http://maps.newsok.com/features/maps/maps_arts.html

Dineen, J.K. “More highrise housing slated for Rincon Hill.” *San Francisco Business Times*: Feb. 24, 2006.

Economic and Planning Systems. “Rincon Hill Feasibility and Fee Burden Sensitivity Analysis.” San Francisco: 2005.

Hausrath Economic Group. San Francisco’s Eastern Neighborhood Rezoning Socioeconomic Impacts. Oakland: 2006.

Japantown Business Association. Japantown Business Survey. San Jose: 2005.

King, John. “Rincon Hill on the rise.” *San Francisco Chronicle*: April 18, 2005.

King, John. “Towers' tall task must be to serve the public good.” *San Francisco Chronicle*: May 27, 2006.

KRON 4. “San Jose Japantown.” http://kron4.com/Global/story.asp?s=%20%20552831

Lackmeyer, Steve. “Developers hope trucks don’t stop.” http://maps.newsok.com/features/maps/maps_flatiron.html

Lam, Andrew. “Sale of Viet Mercury Troubles Bay Area Vietnamese.” *New America Media*. Oct. 26, 2005.

Levy, D., Comey, J., and Padilla, S. “In the Face of Gentrification: Case Studies of Local Efforts to Mitigate Displacement.” *Urban Institute – Metropolitan Housing and Communities Policy Center.* (2006).

Lockwood, Charles. “A History of Ever-changing Rincon Hill.” San Francisco: January 2003. http://www.spur.org/documents/030101_article_02.shtm

Nguyen, Nam Xuan. “Merc’s New Viet Language Offering Stirs Mixed Feelings in Community.” *Pacific News*. San Jose: Feb. 9, 1999.

Nolte, Carl. “City’s skyline moving upscale.” *San Francisco Chronicle*: June 14, 2006.

Nyden, P., Edlynn, E., and Davis, J. The Differential Impact of Gentrification on Communities in Chicago. *Loyola University Chicago Center for Urban Research and Learning – For the City of Chicago Committee on Human Relations*. (January, 2006).

Oklahoma City Convention and Visitors Bureau. “MAPS Narrative.” http://www.okccvb.org/mapsprojects.html

Ong, P., and Miller, D. (July, 2002). Economic Needs of Asian Americans and Pacific Islanders in Distressed Areas. *The Ralph and Goldy Lewis Center for Regional Policy Studies UCLA, School of Public Policy and Social Research.* Working Paper Series. p. 4.

Roberts, Timothy. “Group wants to designate Vietnam Town.” *Silicon Valley/San Jose Business Journal*. March 2, 2007.

San Jose Redevelopment Agency. “Downtown San Jose Fast Facts.” San Jose: 2006.

San Jose Redevelopment Agency. “East Santa Clara Street Demographics.” San Jose: 2005.

San Jose Redevelopment Agency. Downtown Project Areas Narrative. http://www.sjredevelopment.org/downtown.htm

San Jose Redevelopment Agency. Strategy 2000: San Jose Greater Downtown Strategy for Development. San Jose: 2000.

Sedway Group. Rincon Hill Financial Feasibility and Funding Alternatives. San Francisco: 2004.

U.S. Census Bureau. United States 2000 Census. Washington, DC: 2000.

Viet-Aid. Recommendations for Sustainable Development in Fields Corner. Boston: 2004.

Appendix F. Interviewee Perspectives on Potential Impacts

A. Perspectives on Potential Impacts of Dearborn Street Project

From Little Saigon Interviewees:

- Number one concern is with traffic, especially as the project is located very close to his property. Doesn't think the stores will compete that much. Thinks Asian customers won't be attracted to the types of stores in the project and that non-Asian customers will shop elsewhere. Also, if the rent in the Dearborn Street project is $2 to $3 per square foot, that's too high for Vietnamese tenants because in Little Saigon businesses operate on very thin profit margins using family labor and can't afford to pay higher rents.
- Traffic from project—does not think customer base will expand because his business currently only has Vietnamese customers.
- Believes that the Dearborn Street project will change neighborhood hugely, leaving fewer underutilized parcels. Is hoping the project will attract more people to the neighborhood, which might make leasing easier (of their commercial property). Downside: tenants' rents will increase. Biggest concern: traffic and parking. The most vulnerable will be first-generation immigrant businesses who can't afford the rents. Right now, rents are still pretty cheap. As a result, he has mixed feelings about the project. As property owners, they will probably benefit; but the area will lose cultural diversity of first-generation Asians.
- Wants from Dearborn Street Project: 1) Formation of a Business Improvement Area (BIA)—thinks will help clean up the community, 2) Vietnamese Cultural Center: thinks would be positive.
- Thinks project 'will work'
- No concerns about Dearborn Street project, except asked "is there a food court?"
- Businesses overall: Existing shoppers who support the Little Saigon community will avoid it. New customers who go to Dearborn won't bring new customers for Little Saigon. Very few Little Saigon businesses have a diverse customer base; everyone else is dependent on Vietnamese customers.
- Time is needed. If the Little Saigon community had five years (to prepare), proprietors could change and be more competitive. Under the project's current timeline, this is not possible. Also, more time would enable making the area more attractive, like Pike Place Market, for example; if can do this, more people will "give it a try." That's when the Dearborn Street project could be complementary, not sooner.
- Whether there are benefits depends on how parking is managed. The Dearborn Street project expects to pull from the region.
- Not sure having Asian concessions in the Dearborn Street project would help Little Saigon. The project will act as a "new south point" and will infill between there and Little Saigon. This may be detrimental to Vietnamese businesses because they'll get pushed out.
- Not sure about impact of the project. Foresee more people, more businesses, means creates more opportunities. The issue is: if you don't own the property and rents go up, can be a problem. This pattern leading to displacement happens all the time in neighborhoods like Little Saigon. Fear is of displacement if newcomers (potential customers) don't provide the income.
- More traffic impacts on LS.
- Mixed feelings. GW could produce more clientele.
- Will have tremendous impact on parking.
- Will have impact on traffic, which is already bad.

- Dearborn Street project will bring in retail, will change culture and lose character of Little Saigon and International District.
- If Dearborn Street project brings in Target or grocery or other optical, will lose a lot of business.
- Property values: most Vietnamese don't own the property. Will force a lot of business owners out of the area. Many are marginally making it now.
- Don't think project can be stopped because it's too big but if can come up with community benefits agreement, could help area look better and be in better competitive position.
- Thinks there'll be more people to the area and will make the area better known to different ethnicities.
- Will impact traffic.
- Initially thought Dearborn Street project would be beneficial but now has concerns: will it compete with businessowners? Will it compete with property owners for tenants? Some businesses could do well, such as restaurants because they appeal to everyone, but others, such as medical/dental offices, won't necessarily draw new customers. Potential benefits: cleaning up the streets, transient issues.
- Property values: adjacent landowner already increased price. He isn't able to obtain property in order to expand.
- May help with crime on streets; bring more foot traffic.

From International District Interviewees:

- The Dearborn Street project is gigantic. They need to be very careful about design, and the (retail tenant) mix of what's in the project. Design should have effective linkages to Little Saigon. Space should be available at a reasonable cost to potential Little Saigon tenants. How can the business model help support businesses in Little Saigon?
- The Dearborn Street project has the most potential to transform Little Saigon, and will create its own anchor. Everything adjacent to it becomes "fair game for new players." The Dearborn Street project developers don't see community impacts as their responsibility.
- Feels that the more business, more activity there is, the better. Will hopefully bring more people into the core (of the International District), via pedestrian traffic along Dearborn. Thinks the Dearborn Street project could make the area more of a distinct destination.
- Hard to predict impact of the Dearborn Street project: could bring more people in but would it spill over into the International District? People would likely get back in their cars and drive to the district. If Dearborn Street project has the same kind of restaurants, will compete. Need to look at retail mix. Little Saigon businesses will feel the pinch the most.
- Will have different impacts on International District vs. Little Saigon due to different regulatory environments (no Special Review District in Little Saigon—that's partly why it turned out the way it did; double-edged sword: more freedom but fewer protections). Thinks property values will go up much less in the International District than in Little Saigon because there is not a lot of movement in property (in the ID) and owners won't upgrade to the extent that it takes to increase rents. Even up-zoning won't have a huge impact because most buildings have the historic preservation overlay.

B. Perspectives on Impacts of Potential Zoning Changes

- Will increase property values which will increase rents. Only in the last ten years have "things started taking off" in Little Saigon and that has been gradual. Is fearful of "spike" effect of rezones. Biggest challenge: will businesses be able to adapt quickly enough?
- Challenges to businesses are both 1) financial/capital, and 2) know-how/knowledge to change or expand business model to respond to changing demographics.
- Doesn't think zoning changes will impact much. Also, that rising property values will price business tenants out, if property owners "follow the market."
- Rezoning could hurt businesses. Don't really see a negative future impact except for the rezoning issue.
- Zoning changes: impact hard to say. Could help new Asian businesses at expense of older businesses.
- Up-zoning: want to know what's the benefit and how does that accrue to existing businesses? Believes advantage is to the property owner.
- Zoning is inevitable because industrial in-city won't work anymore. But the planning has to be done carefully. Need appropriate incentives to do the right thing. Balance that with regulatory hammers.
- City needs mechanisms to capture upside of redevelopment, for example, through tax increment financing: designating increased property taxes to be used for certain housing and community development programs, so that money gets channeled.
- Zoning changes: depends on what types of projects. If a lot of low-income housing, this could be good. But if is going to push out existing communities, not good.

Little Saigon & Chinatown/International District, Impacts on Local Businesses from Proposed Land Use/Zoning Changes and Dearborn Street Mixed-Use Shopping Center

DRAFT

Phase III Summary: Economic Development Strategies

May 31, 2007

Client: City of Seattle, Department of Planning & Development

STRATEGIC ECONOMICS

TRANG D. TU CONSULTING

I. OVERVIEW AND SUMMARY OF RECOMMENDATIONS

Overview

This report summarizes the results of Phase 3 of a three-part study to assess economic impacts to Little Saigon (east of I-5) and Chinatown/ID (west of I-5) from two specific forces: a) potential zoning changes to both areas, currently under consideration by the City of Seattle, and b) the Dearborn Street Project, a proposed shopping center and 550-unit housing development project at the existing Goodwill site on South Dearborn Street. Strategic Economics and Trang D. Tu Consulting are conducting this study for the City of Seattle's Department of Planning and Development (DPD) as part of DPD's Livable South Downtown study.

Phase 1 included quantitative and qualitative analyses of existing retail conditions in the business districts of Chinatown/ID and Little Saigon. A summary of findings from Phase 1 is detailed in a separate report.

Phase 2 included identification and assessment of the potential impacts to both business districts from the proposed zoning changes and development project. A summary of findings from Phase 2 is detailed in a separate report.

Phase 3, which is the subject of this report, focused on formulation of targeted economic development strategies based on the findings from Phases 1 and 2. Recommendations include both regulatory and incentive-based strategies intended to reduce the potential adverse impacts of future changes, including the two specific sources of impact analyzed in this study, and to strengthen the business districts in Little Saigon and Chinatown/ID.

Summary of Recommendations

Below are key findings and recommendations from Phase 3.

The overarching objective of the recommended strategies and tools is to:

- Support vitalization and revitalization of commercial districts in Little Saigon and Chinatown/International District (C/ID)

Desired Outcomes:

1. Balance goals to a) accommodate future residential and job growth, and b) preserve cultural and commercial vitality
2. Build a thriving neighborhood with diverse community-supporting land uses and activities
3. Help small businesses, especially those that are refugee- and immigrant-owned, to grow and prosper in the mainstream economy as future opportunities arise

- A primary goal for Chinatown/International District is to: channel prospective future growth to support cultural identity of the district and strengthen existing businesses.
- A primary goal for Little Saigon is to: establish community vision and strengthen community capacity to forge a desired future.

Assets, Challenges and Opportunities

International District

Assets

- Intensive and extensive business district.
- Regional and national reputation.
- Walkable streets and historic architecture enhance pedestrian walking experience.
- Community has built strong cultural institutions and community-based organizations over time.
- Proximity to Downtown and other regional and tourist draws.
- Long-standing tenure of many businesses helps retain cultural character.

Challenges

- Declining retail revenues.
- Rise of other APA business concentrations in outlying areas.
- Lack of pedestrian and visual connectivity to adjacent neighborhoods.
- Lack of significant local residential customer base.

Opportunities

- Nascent residential development market
- Proposed changes in allowable zoning height
- Surface parking lots decrease walkability of neighborhood

Little Saigon

Assets

- Proximity to Downtown and other regional and tourist draws.
- Regional cultural and commercial center for Vietnamese-American community.
- Growing retail revenue trends.

Challenges

- Neighborhood infrastructure.
- Competition from other Vietnamese business districts in outlying areas.
- Potential for chain retailers to locate in the heart of the neighborhood and/or new development to displace existing businesses.
- Lack of residential base within district.
- Nascent capacity of community-based organizations.

Opportunities

- Opportunity to build business and community capacity.
- Potential to leverage future developments for business support, neighborhood improvements, and potential customer base.
- Strategic marketing to regional customer base.

Strategies and Tools

The paragraphs below outline a range of recommended strategies and tools to support economic development and preservation in Chinatown/ID and Little Saigon. While the menu of strategies encompasses a wide range of public, private, and community-based activities, the

following are the most critical, high-impact tasks that must be accomplished in order to enable other strategies to be implemented:

1. City leadership and commitment to the needs and opportunities in this area by:
    a. Providing dedicated staff (in-kind or financial) to lead coordination of multiple public and private projects in the area with an aim toward leverage for community benefit
    b. Providing financial resources to support implementation of key strategies that require new or expanded levels of effort
2. Community leadership in implementing key strategies by:
    a. Working in partnership with City of Seattle and other key institutions as well as private sector partners to accomplish community goals
    b. Leading efforts to organize community toward a shared vision in Little Saigon
3. Private sector leadership in contributing to community goals by:
    a. Working in coordination with local government agencies and community stakeholders toward a shared community vision
    b. Leveraging private development contributions (in-kind and financial) to contribute to community development goals.

Shared Strategies

- Strategy 1: Asian/Pacific Islander (APA) Small Business Technical Assistance Initiative
- Strategy 2: Regulatory Mechanisms
- Strategy 3: Community Development Financing Tools
- Strategy 4: Philanthropy

Specific to Chinatown/International District

- Strategy 1: Retail Tenant Strategy
- Strategy 2: Community Identity and Promotional Programs
- Strategy 3: Historic TDRs

Specific to Little Saigon

- Strategy 1: Inter-agency Initiative
- Strategy 2: Targeted Outreach and Vision Building
- Strategy 3: Business Ownership Initiative
- Strategy 4: Community Development Financing Tools
- Strategy 5: Business Incentives
- Strategy 6: Physical Improvements
- Strategy 7: Leveraging Private Investment
- Strategy 8: APA-Oriented Senior Housing

II. OBJECTIVES AND ROAD MAP

This section articulates a foundation from which the Strategies and Tools recommended in Section III are based.

Overarching Objective

The overarching objective of the recommended strategies and tools is to:

- Support vitalization and revitalization of commercial districts in Little Saigon and Chinatown/International District (C/ID)

Desired Outcomes of Strategies

This study does not attempt to articulate a specific vision or set of desired outcomes for the study areas. However, a set of basic outcomes was needed that could serve as a basis from which to develop strategies. Drawing from the findings in earlier phases of this study, as well as ongoing input from stakeholders, the consultant developed the following basic set of outcomes as a foundation for developing strategies:

1. Balance goals to a) accommodate future residential and job growth, and b) preserve cultural and commercial vitality
2. Build a thriving neighborhood with diverse community-supporting land uses and activities
3. Help small businesses, especially those that are refugee- and immigrant-owned, to grow and prosper in the mainstream economy as future opportunities arise

Road Map

The two sub-areas in this study, Chinatown/ID (west of I-5) and Little Saigon (east of I-5), also have differences with respect to historic development, current economic conditions, community vision, and organizing capacity. Given this, the consultant team also developed an overarching "road map" for each sub-area that also influenced the development of strategies.

Chinatown/International District Road Map: Harnessing and Channeling New Growth

- Goal: channel prospective future growth to support cultural identity of the district and strengthen existing businesses

The C/ID business district was developed significantly earlier than Little Saigon. The tenure of businesses is longer, and the growth of community organizations including non-profit advocates and affordable housing developers has evolved over a longer period of time. Numerous studies and plans have been initiated over the years and together speak to a relatively clear vision for the district. Given this, the recommended road map for the district focuses on activities to channel prospective future growth toward achieving the community's vision.

Little Saigon Road Map: Establishing Vision and Pursuing Community-oriented Growth

- Goal: establish community vision and strengthen community capacity to forge a desired future

Little Saigon's identity as a Vietnamese-identified business and neighborhood district has developed over the last 20 to 25 years, in contrast to the C/ID's longer history. While the businesses in Little Saigon have shown steady growth in revenue over the last 10 years, there has not been a significant level of development of community organizations or non-profit capacity. As a result, there is not yet a clear and/or unified vision for future development in Little Saigon. The recommended road map emphasizes building community capacity and vision, hand in hand with advocating for community-oriented development.

III. ASSETS, CHALLENGES AND OPPORTUNITIES

The following section synthesizes findings from Phases 1 and 2 to delineate key assets, challenges and opportunities in each of the two sub-areas. These form the context from which Strategies and Tools are discussed in Section IV.

International District

Assets

Intensive and extensive business district. The C/ID, west of Interstate 5, is both extensive in geographic size and intensive in the number of businesses in the area, with over 300 business and 40 non-profit organizations spread over a 10-block area with multiple clusters of businesses on several streets. The area has a significant existing stock of smaller storefront retail spaces that should help preserve the small business character of the area.

Regional and national reputation. The Chinatown portion of the ID is one of the oldest neighborhoods in Seattle. It is regionally and nationally known for its diverse mix of Asian restaurants, specialty goods, and the Japanese grocery store Uwajimaya and Kinokuniya Bookstore. There is also an alternative medicine niche that draws clients from throughout the city. The district's existing reputation is a major asset.

Walkable streets and historic architecture enhance pedestrian walking experience. The C/ID has both an existing street grid and historic buildings that make the area pleasant and interesting to walk. In particular, the district has a smaller block size and narrower street widths that slow traffic, encourage street-crossings and increase the variety of the street wall.

Community has built strong cultural institutions and community-based organizations over time. The C/ID has developed a network of strong community-based organizations, family associations and cultural institutions with long local histories. These include organizations such as the Business Improvement Area (BIA), Interim Community Development Association (ICDA), Seattle Chinatown-International District Preservation and Development Authority (SCIDPDA), Wing Luke Asian Museum, Chinatown Chamber of Commerce, and Chong Wah Benevolent Association, to name only a few.

Proximity to Downtown and other regional and tourist draws. The C/ID is adjacent to Pioneer Square and within walking distance to the ballpark and football stadium, as well as the central business district and waterfront. South Downtown is generally rich in tourist and entertainment attractions, which have the potential to provide additional draw for local businesses.

Long-standing tenure of many businesses helps retain cultural character. The average tenure of C/ID businesses is quite long for small businesses, averaging 12 years for restaurants and 11 years for retailers, considerable life spans in typically-volatile industries. The stability of these businesses and the expertise that experience gives them are major assets in preserving the cultural character of the district over time.

Challenges

Declining retail revenues. As discussed in the Phase 1 report, retail industry revenues in the C/ID declined by a third between 1997 and 2006 (excluding the Uwajimaya complex). Most critically, given the large number of restaurants, revenues of eating and drinking places decreased by $10 million; miscellaneous retail sales, including gift stores and drugstores, also decreased significantly, indications that existing, long-standing businesses are struggling and that few new businesses are opening in the area.

Rise of other Asian/Pacific Islander business concentrations in outlying areas. Other Asian business districts have been emerging adjacent to the ID (Little Saigon) and outside of central Seattle over the past 20 years. While the ID has a regional reputation and amenities that set it apart from these districts, the lack of new businesses and the innovation they bring poses a risk to the ongoing appeal of the district.

Lack of pedestrian and visual connectivity to adjacent neighborhoods. The major connector to Pioneer Square and the rest of Downtown is South Jackson Street. Unfortunately, the intersection of South Jackson Street, 4th Avenue South and 2nd Avenue South, over the Amtrak rails, is formidable and creates a barrier to pedestrians walking from other parts of Downtown.

Lack of significant local residential customer base. In contrast with other major Chinatowns across the country, the C/ID is largely supported by customers from outside the business district. As of the last U.S. Census, approximately 3,000 people lived in the International District, a generally insufficient population base to support the over 300 businesses in the district. While this speaks to the strength of the district's regional draw, it also poses a risk to the stability of local businesses. A local residential population creates a base of customers who purchase basic daily and weekly needs as conveniently as possible, giving local businesses a significant advantage in attracting their patronage.

Opportunities

- Nascent residential development market
- Proposed changes in allowable zoning height
- Surface parking lots decrease walkability of neighborhood

As described in detail in Phase 1, a nascent residential market is emerging with two recent condominium conversions and one new apartment project. The area also has a number of surface parking lots that disrupt the neighborhood fabric and decrease the vitality and walkability of the shopping district. The proposed changes in allowed height, particularly the proposed 240 foot alternative for Japantown, could further encourage this housing momentum, bringing significant new development, and numbers of residents, to the district.

These new residents are needed to help existing businesses thrive; however, they are likely to need everyday goods and services that existing businesses do not currently provide. New mixed-use development will also bring new ground-floor retail space. Both the prospective residential population and new retail spaces create an opportunity for an infusion of new customers and businesses. This can either help expand and complement existing business, or it could dilute the uniqueness of the district.

Little Saigon

Assets

Proximity to Downtown and other regional and tourist draws. As with the C/ID, Little Saigon is also in close proximity to major regional draws including the sports facilities, the Downtown business district, and the waterfront.

Regional cultural and commercial center for Vietnamese-American community. Since its inception, Little Saigon has been a regional hub for the Vietnamese-American community, drawing significant customer traffic particularly on weekends.

Growing retail revenue trends. As described in Phase 1 of this study, Little Saigon businesses have seen a steady and increasing trend in revenues over the last 10 years, particularly in the service and retail sectors. The service sector grew in revenues (adjusted for inflation) from

$26.8 to $31.2 million, while the retail sector rose from $22 to $32.8 million. Within retail, the grocery store sub-sector grew significantly, and restaurant revenues grew moderately.

Challenges

Neighborhood infrastructure. There are significant deficiencies in Little Saigon's infrastructure, particularly with regard to inadequate sidewalks and lack of pedestrian amenities. A perceived low availability of parking is also often reported by customers and potential customers.

Competition from other Vietnamese business districts in outlying areas. The emergence of other Vietnamese business clusters, such as King Plaza in Rainier Valley, businesses along Rainier Avenue South and Martin Luther King Jr. Way South, and the Great Wall Mall (anchored by Ranch 99) in Kent, reflect a growing trend for Vietnamese-American families, already relatively scattered across the city, to disperse even further as assimilation increases and Seattle housing affordability continues to be prohibitive to many low- and moderate-income families.

Potential for chain retailers to locate in the heart of the neighborhood and/or new development to displace existing businesses. As discussed in Phase 2 of this study, there may be potential for future changes in the district, such as establishment of new chain retailers (outside of the Dearborn Street Project) and/or new development to displace existing businesses if their rents become prohibitive. Research has shown that these refugee-owned businesses may be even more vulnerable than most due to their owners' comparatively recent emigrations, as language and cultural barriers further hinder their access to resources and mainstream customers.

Lack of residential base within district. As with the C/ID, the Little Saigon neighborhood itself has a small, almost non-existent residential base that does not support the business district. There is, however, a supporting residential base nearby at the nearby Seattle Housing Authority's Yesler Terrace and other immediately surrounding neighborhoods such as Jackson Place.

Nascent capacity of community-based organizations. Given the relatively recent establishment of the neighborhood, there has been very little development of community-based capacity to assist in planning, organizing/mobilizing, and executing community development strategies.

Opportunities

Opportunity to build business and community capacity. The current gaps in community capacity to support community development and in many business' capacity to serve a broader customer base, are challenges that can also be identified as major opportunities.

Potential to leverage future developments for business support, neighborhood improvements, and potential customer base. Significant developments on the horizon may include the Dearborn Street Project, the redevelopment of Yesler Terrace, the installation of a Sound Transit trolley line, and other infill projects. The confluence of these projects represent major opportunities for Little Saigon to leverage for community benefit.

Strategic marketing to regional customer base. The emergence of Vietnamese business clusters in outer neighborhoods offers Little Saigon a prime opportunity to identify its comparative advantages and shape a strategic vision that could position the district as a premier destination attraction that is distinct from those in outlying areas.

IV. STRATEGIES AND TOOLS

The following section includes a set of Strategies and Tools developed in response to the overall objectives, outcomes and opportunities described in the previous sections. The Strategies and Tools are grouped into three categories: a) those being recommended for both the Chinatown/International District and Little Saigon, b) those being recommended specifically for the C/ID, and c) those being recommended specifically for Little Saigon.

Cultural Competency in Implementing Strategies
Cultural competency is noted here as an overriding element that should inform any implementation of strategies for these districts. Given the language- and cultural-specificity of most businesses and many stakeholders, effective implementation must be culturally-appropriate. There are numerous examples of areas where cultural competency, or the lack thereof, can profoundly alter the success of community development efforts. This factor plays into areas including: community organizing/mobilizing, recruitment of staff or volunteers, and mis-alignment of some City-led as well as community-based assistance programs. The development of strategies for this study was done with an eye toward ensuring cultural competency and additional discussion on this follows in relation to specific relevant strategies.

Shared Strategies

Strategy 1: APA Small Business Technical Assistance Initiative
Existing ethnic businesses in the C/ID and Little Saigon could benefit from assistance to help weather competition from outlying APA business districts. Assistance could help businesses to either take advantage of the prospective new customer base in the area, or sharpen existing regional niches. Business technical assistance (TA) takes many forms and can include: business planning, procuring financing, tax and labor laws advice, book-keeping skills, merchandising, and marketing and window display design.

Current Resources and Gaps. There are currently both capacity and resource gaps in the business TA network in Seattle around assistance to APA business communities. Among existing programs, the most closely relevant are currently focused on East African and African-American business communities in the Central District or, in the case of the Rainier Valley Community Development Fund, geographically limited to the Rainier Valley. Additionally, business TA is often provided by community development financial institutions (CDFIs), such as Community Capital Development or Cascadia Shore Bank; however, these are typically provided only as ancillary services to the CDFIs' small business loan activities. Finally, there are informal lending networks within APA communities that provide financial assistance, often at lower interest rates than those offered by mainstream micro-lenders; if so, it would be difficult for other or a new CDFI dedicated to the APA business communities to compete.[1]

Overall, the City's dedicated resources for business TA are limited, averaging only $100,000 annually, with no additional ongoing resources available.[2] While there may be options to obtain one-time special funding for businesses in the C/ID and Little Saigon, there would likely be no additional ongoing resources available and therefore could ultimately be unsustainable. During the course of this study, the state legislature passed a bill to support microenterprises, including

[1] Interview with Steve Johnson and Nancy Yamamoto. City of Seattle Office of Economic Development. May 2007.
[2] This is far below resources available for business TA in other cities, including San Francisco, which averages upward of $1 million per year for similar services through use of Community Development Block Grant Funds

start-up capital, training and technical assistance. While it is too early to discern for what and by how much this program might be applicable in the study areas, it is recommended that the program be monitored for possible assistance.

Small business TA partnership initiative

One potentially resource-efficient model for delivering culturally-appropriate TA to APA business in the C/ID and Little Saigon could involve partnering existing local organizations with expertise in cultural competency, organizing and outreach and with consultant technical services administered through an existing CDFI or existing financial institutions within the neighborhood.[3] Community organizations could lead targeted outreach and referral services, perhaps with some additional staff training in business assessment. These organizations could then receive credit for detailed referrals identifying the general type of assistance required. An existing CDFI could expand or create a pool of language- and culturally-competent business consultants who would provide tailored services to businesses.[4]

It is likely that the level of need for different services may vary widely among businesses as evidenced in Phase 1 interviews. Before detailed planning and resource allocation for TA is undertaken, it is recommended that an assessment of business need and TA demand be conducted in order to better tailor potential assistance. There may also be initial reticence or lack of interest on the part of business owners who may not have the time or be aware of the potential benefits that could be gleaned from TA assistance. Recent experiences in the Rainier Valley have underscored this issue and bolster the need for targeted, tailored and culturally-appropriate outreach and assistance.

Strategy 2: Regulatory Mechanisms

This strategy includes three categories of City-based regulatory mechanisms that could support community-oriented development in both sub-areas.

Zoning and land use regulatory protections. A number of regulatory restrictions could help preserve the character of the business districts and enhance the walkability and pedestrian appeal of the sub-areas. These tools are listed below and are recommended to be packaged in an overlay district or design guidelines, rather than built piecemeal into City code.

- restrictions on allowed street frontage of new buildings
- ground-floor retail requirement on Jackson and 12th
- minimum ground-floor ceiling height (i.e. 12 feet) to help create inviting retail space
- restrictions on allowed width of garage doors and curb cuts
- requiring garage doors on corner buildings to be located off of primary shopping streets
- restrictions on size of floorplate of retail storefronts
- creation of signage districts
- restrictions on businesses with multiple outlets or formula business plans

Code enforcement. Both sub-areas currently struggle with code violations related to garbage disposal, location of dumpsters, cleanliness of sidewalks, inappropriate uses on vacant and underutilized properties, and sidewalk vending that is not fully City-authorized and therefore without uniform guidelines. All of these detract from the ability of the business districts to fully draw in potential customers and therefore contribute to neighborhood vitality.

[3] C/ID currently has several existing community banks in the neighborhood. Little Saigon does not yet have any financial institutions located within its boundaries.

[4] Creating a pool of consultants who can effectively work with businesses may take time. It is unlikely that many such consultants currently exist as there has not previously been funding for such services. Retired successful small business owners are one potential resource.

- Implement a combined approach that includes both creative/targeted outreach to increase business' understanding of and buy-in to code intent, and increased code enforcement
- Address inappropriate uses on vacant and underutilized properties (e.g. storing old cars)
- Advocate with Seattle Department of Transportation (SDOT) to explicitly allow sidewalk vending and to develop guidelines to provide uniformity and organization to vending activity.

Public safety.
- Increased policing to improve public safety and security
- Unification of Little Saigon and C/ID areas under one precinct

Strategy 3: Community Development Financing Tools
The consultant examined a range of community development financing tools as potential strategies. These included: Local Assessment Districts (LIDs), impact fees, tax increment financing, community renewal designation, Preservation and Development Authority (PDA) designation, and Business Improvement Areas (BIAs). Among these 6 tools, the first four are discussed in this section as potential strategies applicable to both the C/ID and Little Saigon; the last two are discussed among the strategies specific to Little Saigon.

It should also be noted that the analysis of these tools is conceptual, and focuses on providing baseline information regarding the merits and limitations of each tool in supporting economic development and preservation in the study areas. Further analysis is needed, particularly legal analysis, to determine feasibility.

Local Assessment Districts (LIDs)
Local assessment districts (LIDs) are special assessment districts formed to finance capital improvements through assessments on benefiting properties. The primary financing mechanism is through the issuance of municipal bonds which are sold to investors to pay for the project upfront, which are then repaid through property owner assessments over time.

Washington state law (RCW 35.43 through 35.56) authorizes LIDs based on a Theory of Special Benefit which posits that properties may receive special benefits resulting from specific capital improvements that are above and beyond a general benefit. The existence of special benefits may provide a basis for formation of an LID. The following statutory criteria derive from the Theory of Special Benefit:
- Assessed properties must specifically benefit
- Assessments must be proportional to the specific benefit to the property, and
- An assessment cannot exceed the value of the benefit to the property.

The procedures to format an LID are well-defined by state statute. Two methods may begin the formation process: a) resolution of intention (led by a municipality's legislative body) or b) petition by at least 10 percent of potentially benefiting property owners. Either method of initiating an LID then leads to the following steps:
- An informational meeting
- Environmental checklist completed by local government
- Resolution of intent prepared and notice of formation hearing mailed and published in local newspaper for 2 weeks.
- The specific benefits and assessments are calculated (a range of methods can be used including per lot or connection, zone-termini, frontage and area, or special benefit analysis.
- Formation ordinance prepared and formation hearing held to consider whether to form LID.

- After passing the formation ordinance, there is provided a 30 day protest period, If the owners of the property within the proposed district who are subject to 60 percent of the dollar amount assessed file written protests, the project may not proceed
- Final assessment roll, final assessment hearing at which assessments on individual parcels are considered. Opportunities to protest specific assessments occur here.
- Assessment is levied.

Advantages of an LID include: a) cost of an improvement can be spread among property owners, b) may be able to take advantage of local government's ability to borrow money at lower interest rates, c) property owners not familiar with construction, contracting, engineering or financing can rely on the City to undertake the process for them.

Disadvantages or considerations include: a) LID processes can consume a significant amount of time and may be complex and b) they may be publicly controversial.[5]

Seattle Context. In Seattle, the City recently completed an LID to construct a streetcar line in the South Lake Union area, the first city LID in the last 15 years. This 1.3 mile line with 11 stops had a total design/construction budget of $50.5 million, of which $25 million was created through an LID among local property owners. The balance was funded with federal transportation grants, state funds, and proceeds from City property sales in the area. Final assessments were established in September of 2006 and property owners will be assessed annually for 18 years. No City general funds were/are to be tapped for construction or operating expenses.

Since formation of the streetcar LID, the City of Seattle has been in discussion regarding the feasibility and desirability of sustaining permanent internal staff capacity to support LID formation in other areas and for other purposes. While the establishment of an LID may be a useful tool to spur economic development in the C/ID and Little Saigon, a key factor will be whether the City chooses to dedicate financial and staff resources for LID capacity.[6]

Impact Fees

Impact fees are assessed on new development to cover costs incurred to provide public facilities to serve the new development. They are increasingly used where property taxes are insufficient to pay for the costs of new development and the property tax rates are high enough that it is difficult (or, as in Washington state, legally prohibited) to raise them further.

In Washington, impact fees are authorized in three ways:

- Voluntary impact fees (RCW 82.02.020)
- Growth Management Act Areas (RCW 82.02.050 - .100). Authorizes impact fees for roads, parks, recreation facilities, school facilities and fire facilities when not part of an existing fire district.

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[5] Municipal Research Services Center of Washington and American Public Works Association Washington Chapter. Washington State Local Improvement District Manual, Fifth Edition. Seattle: 2003.
City of Everett. "Local Improvement Districts." http://www.everettwa.org/default.aspx?ID=862.
City of Seattle Department of Transportation. "What is a Local Improvement District? Information Sheet."

[6] Interview with Mike Mann and Kim Nunes. City of Seattle Office of Policy and Management. May 21, 2007.
City of Seattle Office of Policy and Management. "South Lake Union Streetcar: Capital Financing and Operating and Maintenance Plan." Seattle: April 2005.
City of Seattle. "South Lake Union Streetcar LID." http://www.seattle.gov/transportation/stcar_slu.htm and http://www.seattle.gov/transportation/stcar_slu_lidfaq.htm

- State Environmental Policy Act (RCW 43.21C). Authorizes impact fees as mitigation for development impacts. Allows same uses as Growth Management Act plus water/sewer, bridges, and pedestrian/transit facilities.

Statutory criteria that must be fulfilled include: a) reasonable relationship between development and impact, b) impact is specifically and uniquely attributable to the development, c) fees must be applied fairly, and d) there is not a "taking" without just compensation.

Considerations associated with impact fees include: a) They may be used to pay for only for incremental impact of new development, not to correct existing deficiencies in services or infrastructure, and b) they may shift a cost burden onto housing prices as developers pass the cost of the fees onto homebuyers; this may decrease housing affordability.[7]

Seattle Context. In Seattle, non-infrastructure impact fees have not been assessed to-date. In the past year, the City completed analysis for potential open space impact fees in three geographic areas; however, the proposal did not garner the needed support to obtain Council approval and has been shelved indefinitely. This strategy recommends impact fees as a potentially useful tool in the C/ID and Little Saigon; however, it would require effort to build community and City support.[8]

Tax Increment Financing (TIF)

Tax increment financing allows local governments to build infrastructure to spur economic activity, and to pay for that infrastructure with the additional property taxes generated by the new economic activity. Until 2006, Washington State has not had TIF, even as a reduction in the limit on property tax increases to 101% limit exacerbated the inability of local governments to pay for infrastructure needed to spur economic development.

In 2006, the Washington state legislature passed the Local Infrastructure Financing Tool Program (LIFT) (Ch 181 ESSHB 2673). Under LIFT, a local government may create a revenue development area (RDA) in which the local government plans to invest a significant amount of public and private funds for infrastructure to spur economic development and affordable housing. The state will match new local construction property tax revenues with an equal amount of new state sales tax revenues from the same geographic area.

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[7] Carrion, Carmen and Lawrence Libby. "Development Impact Fees: A Primer." Columbus, Ohio.
City of Seattle Office of Policy and Management. "Statutory Alternatives for Mitigation of Development Impacts." Seattle: November 2003. Duncan Associates. "2005 National Impact Fee Survey." Austin, Texas: 2005.
Municipal Research Services Center of Washington. "Impact Fees."
http://www.mrsc.org/subjects/planning/impactpg.aspx
Nelson, Arthur C. and Mitch Moody. "Paying for Prosperity: Impact Fees and Job Growth." June 2003.

[8] Interview with Kenny Pittman. City of Seattle Office of Policy and Management. May 18, 2007.
City of Seattle Office of Policy and Management. "Impact Fee Methodology and Tables." Seattle: November 2006.
City of Seattle Office of Policy and Management. "Park and Open Space Impact Fee Proposal." Seattle: November 2006.
City of Seattle Office of Policy and Management. "Park and Open Space Impact Fee Proposal Fact Sheet." Seattle: November 2006.
City of Seattle Office of Policy and Management. "State Statutory Authority to Mitigate Development Impacts: Parks, Open Space and Recreation Facilities." Seattle: November 2003.
City of Seattle Office of Policy and Management. "Statutory Alternatives for Mitigation of Development Impacts." Seattle: November 2003.

LIFT identified three pilot projects (in Bellingham, Spokane and Vancouver) that could tap into earmarked funds for TIF projects in those jurisdictions. An additional tranche of $5 million was set aside for other jurisdictions to request funding in a competitive process. The program includes various requirements and procedures, including: a) taxable property within an RDA may not exceed $1 billion, b) average assessed value per square foot of taxable land within the TIF area may not exceed $70 per square foot (in Seattle, many areas above this), c) may not include an area containing more than 25 percent of the sponsoring jurisdiction's assessed value, d) limited to contiguous parcels, e) boundaries may not be adjusted after it is created, f) only one TIF area allowed in each county, which may disadvantage larger counties.[9]

Seattle Context. Given the requirements of LIFT noted above, it is not yet clear whether the city of Seattle would have a potential TIF area to propose. This strategy recommends that the City determine whether there might be an area of the City which could be eligible to compete for LIFT funds and if so, to consider whether the C/ID or Little Saigon could be considered.

Community Renewal

Washington state community renewal law (RCW 35.81) authorizes community renewal designation in local municipalities. This law, formerly urban renewal law, provides for local governments to carry out activities in support of economic development, of which the primary tool is land acquisition, assembly and development, both voluntarily and through condemnation using the power of eminent domain.

The process of obtaining a community renewal designation involves several steps of which the most significant ones are: City determination of blight in proposed community renewal area, development of a Community Renewal Plan, approval by City Council, selection/formation of community renewal agency and establishment of a community renewal board.

The primary advantage of community renewal designation is the ability for local governments to acquire, assemble and dispose/develop land to support community development goals. Particularly of value is the ability to use eminent domain when necessary in support of the community renewal plan.

Disadvantages/considerations include:

- Potential negative public perceptions that linger from memories of impacts of previous urban renewal law, particularly around the use of eminent domain.
- Potential financial costs to local government of holding land for too long if timing of land acquisition and disposal are inaccurate
- Need to define area (i.e. specific parcels) and have clear vision and action plan
- May need to tailor community renewal plan and guidelines to be politically acceptable (e.g. restrictions on use of eminent domain, expanded community oversight roles)

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[9] Municipal Research Services Center of Washington. "Tax Increment Financing." http://www.mrsc.org/subjects/econ/ed-revitalization.aspx
Reich, Jay. Preston Gates & Ellis. "Tax Increment Financing: Questions and Answers." Seattle: July 2002.
Spitzer, Hugh. "The new tax increment financing law is loaded with hurdles." *Puget Sound Business Journal* Seattle: April 21, 2006.
Thomas, Emory Jr. "Washington finally gets an economic development LIFT." *Puget Sound Business Journal* Seattle: March 24, 2006.
Washington State Legislature. "Engrossed Second Substitute House Bill 2673." Olympia, Washington: 2006.
Washington State Legislature. "House Bill Report: E2SHB 2673." Olympia, Washington: 2006.

Seattle Context. In 2006, the City of Seattle engaged in a community dialog to explore possible community renewal designation in Southeast Seattle. After nearly a year of meetings and discussion, there was vocal opposition from parts of the community that ultimately led to indefinite shelving of the initiative. While this strategy recommends community renewal designation as a potentially useful tool for C/ID and Little Saigon, it would need to be explored with an awareness of the political sensitivities and potential controversy that could be ignited through exploration of the tool.

Strategy 4: Philanthropy

Philanthropic resources are another area that should be explored further as potential support for implementation of community development strategies. While this study was not scoped to do an exhaustive analysis of potential resources, a preliminary scan of Seattle-based philanthropic organizations that fund in relevant issue areas, particularly for seed funds to support capacity building, include the following:

- Equality Network Foundation. A micro-foundation that provides grants from $500 to $5,000, with a focus on economic equality and social justice.
- Kongsgaard-Goldman Foundation. Provides technical assistance (TA) grants up to $1,500 to assist with organizational capacity building. Their human rights/civic development issue area includes community capacity building, advocacy, and public policy. Funds can support operating and project expenses.
- The Norcliffe Foundation. Interest areas include civic improvement and historic preservation. Funds capital, operating, land acquisition, start-up funds and projects.
- Washington Mutual Bank Corporate Giving Program. Supports affordable housing and community development (operating, capacity building, and capital expenses), strengthening existing small businesses, and support for low- and moderate-income individuals.
- Vulcan Inc. Corporate Giving Program. Supports neighborhood development, culture/diversity. Is especially interested in neighborhoods where they do business (of which the C/ID and Little Saigon are included).
- Social Justice Fund Northwest. Several relevant grant programs: 1-year grants of up to $10,000 for operating support or projects, up to $3,000 for TA for organizational capacity, or up to $1,000 for rapid response projects. Also has 3-year grants up to $15,000 for operating support and projects, and capacity building grants between $15,000 to $25,000 per year for three years.
- The Seattle Foundation. Community Grantmaking Program is the flagship grant program. Interest areas include: economy, neighborhoods and communities, arts/culture. Funds operating and capital expenses.
- Safeco Corporation Contributions Program. Signature programs include: Urban Parks (pocket parks) and Hometown Giving (Seattle area). Safeco has put its giving on hold temporarily while restructuring its program structures, but will resume in the future.[10]

Specific to International District

Strategy 1: Retail Tenant Strategy

This strategy focuses on recruitment of new retail tenants in future mixed-use development to help maintain the cultural integrity and independent business character of C/ID. The Chinatown-International District Business Improvement Association (BIA) might be an appropriate vehicle

[10] The Foundation Center. "Foundation Finder." http://foundationcenter.org/

to lead this effort, provided there is support for added capacity and TA if needed. The initiative would work with major property owners to achieve consensus on:

- targeted new business types for the district
- shared commercial brokerage services to help attract businesses as spaces come available

Businesses would be identified that could both complement the district's cultural identity and be viable from a market perspective. To help achieve this balance, inclusion of an appropriate commercial broker in the consensus-building process is recommended.

Four key elements inform the proposed approach:

- Strong participation and buy-in of property owners in creation of the strategy and commitment to implement through leasing of space in their properties. While this level of consensus can be difficult to achieve, the existence of the BIA and the long tenures of existing ethnic businesses are positive signs.
- Consideration of gaps in businesses offering everyday needs and specialty items and how such businesses could contribute to cultural identity of district. Consideration should be given to ways in which new daily-needs businesses can contribute to the cultural identity of the district; for example, leasing to independents rather than chains, prioritizing APA-owned and operated businesses, etc. Better knowledge of the types of households that have moved into recently completed and occupied buildings is recommended to help understand the needs of the new residential population.
- Consensus on undesirable business types. This strategy recommends building consensus around the types of businesses that property owners and community stakeholders desire to avoid encouraging in the district.
- Shared commercial broker. To avoid duplicating businesses, it may be helpful for owners to use the same commercial broker, or communicate/coordinate regarding prospective tenants.

Strategy 2: Community Identity and Promotions

While the International District has an established regional reputation, the decline in retail revenues reflects a diminishment in the area's profile over the last decade. This strategy recommends that current efforts to promote the district be honed and expanded to better target and reach broader audiences, and that additional identity markers be installed at the intersection of South Jackson Street, 2nd Avenue South and 4th Avenue South to enhance the district's visibility to vehicles traveling on 4th Avenue South and pedestrians walking through the Pioneer Square area.

To implement this strategy, the CIDBIA, which currently operates various community marketing and promotional programs, might be an appropriate vehicle. Support could be provided to the CIDBIA to carry out a program of community branding. Steps include:

- Determine audience for expanded promotions, i.e. tourists, regional visitors to other South Downtown attractions, future residents, Downtown office workers, etc.
- Evaluate current program including identifying additional/alternative media outlets and products (e.g. branded business directory)
- Conduct an additional needs analysis on trends and location of APA population, demographic characteristics of new ID households, possible shopper intercept survey, etc.
- Pursue pedestrian crossing improvements at the Jackson Street/4th Avenue/2nd Avenue intersection to enhance visibility and pedestrian-accessibility of the area.
- Leverage potential physical improvements from King Street Station redevelopment.

Strategy 3: Historic TDRs
A significant portion of the Chinatown/ID and a small portion of Little Saigon just to the east of Interstate 5 are within the International District's Special Review District (ISRD), a historic preservation designation that protects the physical character of the neighborhood including the historic buildings. These buildings are prohibited from being razed and are required to undergo special review by the ISRD Board for any significant changes. In the event of potential zoning changes, particularly changes to increase height, these buildings would not be able to realize their full development potential due to historic preservation requirements. Yet it is also a City and community economic development goal to rehabilitate these buildings, many of which have remained vacant or underutilized over the years. This strategy recommends that the City, as part of developing proposed zoning changes, explore the potential for routing proceeds generated from new developments back into historic buildings.

Specific to Little Saigon

Strategy 1: Inter-agency Initiative
As discussed in the previous section, the Little Saigon business district has numerous challenges including the lack of adequate neighborhood infrastructure and residential base, the need for a coherent community-based vision for future development, and the lack of community and business capacity. At the same time, a constellation of future investments stand on the horizon with the redevelopment of Yesler Terrace, the proposed Dearborn Street Project, and a potential Sound Transit trolley extension. While it remains to be seen how and to what extent these forces will alter the district, it is certain that they will alter Little Saigon. As such, they represent major opportunities to leverage the various investments to support the positive development of Little Saigon.

Given the breadth of challenges and the multiplicity of future investment opportunities, it is imperative that Little Saigon be given priority focus from the highest levels of leadership in the City of Seattle, and other governing bodies as appropriate. This strategy recommends:

1. The formation of a Mayor-initiated, inter-agency initiative to serve as a central point to coordinate policy development and project coordination. Key partners to include:
    - Key City departments (Mayor's Office, City Council, Department of Planning and Development, Office of Economic Development, Department of Neighborhoods, Office of Policy and Management, Department of Transportation, Office of Housing)
    - The Seattle Housing Authority
    - King County Metro
    - Sound Transit
    - Key property and business owners
2. The inter-agency group is recommended to be either City-led or community-led. Leadership could also be a shared responsibility between the City and community.
3. Dedication of at least a 1.0-FTE City senior staff with direct access to Executive and Council offices for an initial period of two years. Alternatively, staffing could be community-based. Advantages of staffing being housed at the City include: closer access to policy decision making, closer access to technical analysis support, easier liaison with other governmental agencies, and an ability to use a "neutral" position to coordinate multiple parties. Advantages of community-based staff include: closer connection to community vision and other organizing efforts, greater ability to advocate for community, and ability to "ground-truth."
4. It is recommended that institutional partners, in addition to the City, provide shared resources to support staffing capacity.

5. While a detailed workplan would need to be developed after formation of the group, key elements should include:
    - mapping timeline of individual projects
    - coordination with community-driven vision development
    - identification of opportunities to implement community vision through individual projects
    - coordination/development of resource leverage to support implementation

Strategy 2: Targeted Outreach & Vision Building

In concert with Strategy 1, it is recommended that a targeted outreach and vision building effort be spearheaded in Little Saigon, and that support be sought to build the community capacity to support such an initiative. Key characteristics of this initiative would include:

- A focused effort to mobilize/organize community stakeholders, especially business and property owners, toward a shared vision.
- Strategic decision on mobilizing: whether to target a durable critical mass or reach all stakeholders, given the challenges of comprehensive community mobilizing in Little Saigon.
- Strong orientation toward implementation for results, especially in coordination with tangible partnership opportunities, not just planning/visioning. In particular, identification of "quick wins" to build momentum and demonstrate success.
- Harnessing strengths and knowledge across generations. The composition of Little Saigon business owners includes both older entrepreneurs, many of whom held other occupations in Vietnam prior to arriving in the United States and are fonts of wisdom about the community in general, and younger, newer entrepreneurs who may have emigrated from Vietnam at a young age or were born in the United States, were likely more formally educated in the U.S., and may have more familiarity with and knowledge of mainstream customer base. There is an opportunity to harness the respective knowledge of these two groups synergistically to achieve community goals.
- Cultural competency. This strategy is, among all the recommendations in this study, perhaps one of the most crucial to be carried out in a culturally competent way, given the intensive interaction with and participation from community members inherent in the work. This is especially true for the Vietnamese-American community members, many of whom can remain more closely tied to traditional ways given the relatively recent emigration of this group compared with other immigrant communities. Additionally, Vietnamese-American culture is deeply characterized by strong sociocultural stratification. These distinctions can cleave along numerous lines: age, gender, class, region of origin, and other factors. As a result, the success and effectiveness of outreach and mobilizing work, whether it be via a volunteer, non-profit staff, technical expert, or government staff, are all crucially tied to cultural competency.
- City of Seattle support, both politically and financially, will be needed to enable this initiative to gain traction over an adequate window of time to carry out the work.
- Identifying comparative advantages. While the formation of a community development vision would be a major outcome of this strategy, and therefore premature to define in this study, the consultant team does recommend attention to strategically identifying Little Saigon's comparative advantages as part of the vision building. In particular, the emergence of outlying Vietnamese business districts in areas including the Rainier Valley, Kent and Renton, are significant factors in considering how Little Saigon could best position itself.

  For example, these outlying districts primarily follow a suburban strip mall pattern of development, with no real sense of place connected to them nor diversification of activities. Little Saigon could define for itself a different vision: that of becoming not only a real

destination attraction but a sustainable neighborhood with a strong and diverse economic and social fabric. Rather than pursuing ways to "shoehorn" the same strip-mall, car-oriented development model into Little Saigon's tight area, the district could re-focus on adding a critical mass of residents and activities, and advocating for improvements to the pedestrian environment to enhance the livability of the neighborhood. This vision could even be combined with that voiced by some local business owners, of developing an "Old Town" in Vietnam based on authentic models from traditional culture.

Strategy 3: Business Ownership Initiative

As noted in Phases 1 and 2 of this study, most Little Saigon business owners do not own their property, and it has been a longstanding desire of the part of many to be able to own their properties. In the course of the business owner interviews conducted in Phase 1, several business owners described efforts to achieve property ownership, both by purchasing other property and relocating and purchasing the property they currently lease. However, all encountered barriers to achieving ownership, due to prohibitively high cost of land and properties in Little Saigon, and the relatively small scale of capital held by entrepreneurs individually. As a result, there has been some discussion among entrepreneurs about a concept of pooling resources to build a joint development with commercial-condominium units for purchase by individual owners. The Vietnamese-American Economic Development Association (VAEDA) and HomeSight, an affordable housing developer in the Rainier Valley, have also explored this idea.

This strategy recommends an initiative to support such a project in Little Saigon. The consultant team researched commercial-condo projects nationally and found it to be a strongly growing trend, especially among entrepreneurs who prefer to be in the "driver's seat" and who have a vision and want a stake in the future of the neighborhood. Nationally, most commercial-condos are developed as part of mixed-use projects. Many aspects of the projects are similar to residential condos: a developer purchases the property, retrofits building spaces, and clients purchase units and complete tenant improvements. A condo association owns the land, establishes bylaws and CC&Rs, and has a Board, while a professional management company usually manages the property. However, there are key differences, such as some elements that need to be considered in the condo association bylaws, and decisions about allowed retail uses.

Relevant examples include:

- Business Condos USA, the nation's largest commercial condo developer, focusing on unanchored strip malls focus. 85% of their buyers are local entrepreneurs.
- Silver Companies, which is developing an enclosed mall in Washington, D.C., showcasing global products, many of whose owners are new immigrant entrepreneurs.
- Philadelphia's Chinatown, where several mixed-use condos are attracting Asian entrepreneurs in the neighborhood who want to live above their businesses. One project in particular, the Pearl Condominiums, is a partnership of a mainstream developer and Chinatown real estate broker.
- Sacramento's Little Saigon Plaza, a pedestrian-friendly, urban infill project. Approximately 98 of 200 spaces are commercial condos and there is currently a waiting list.

Advantages to a commercial-condo include: a) flexibility to tailor tenant improvements, b) owner is not subject to changing rental market, c) property appreciation goes to the owner, d) owner

has more control over decision making. Considerations include: a) higher maintenance and repair costs, b) more collective decisions, c) associations may restrict permitted uses.[11]

Next steps recommendations for Little Saigon

- Review exploratory efforts to-date
- Identify pool of interested business owners
- Seed funds for project manager
- Explore opportunities to partner with for-profit commercial/mixed-use developer
- Due diligence to find key expertise/team members: housing partner, cultural expertise, legal assistance

Strategy 4: Community Financing Tools

Among the six financing tools examined as part of this study, the two below, preservation and development authorities (PDAs) and business improvement areas (BIAs) are discussed as recommended strategies specific to Little Saigon.

Preservation and Development Authorities (PDAs)

Washington state law authorizes PDAs under RCW 35.21.730. The statutory purpose of PDAs is "to improve administration of federal grants or programs, improve governmental efficiency, and improve general living conditions in the urban areas of the state." They were initially enacted to authorize counties, cities, and towns to participate in and implement federally-assisted programs. PDAs are unique, independent entities of local government, which are legally separate from the City. This allows accomplishment of a broad set of public purposes without having to assume such activities into the regular functions of City government.

PDAs, which function essentially as sub-agencies of a city, town, or county, are subject to state constitutional restrictions that apply to local governments including: prohibitions on gifting of public funds and lending of credit, public disclosure law, Open Public Meetings Act, conflict of interest prohibitions, campaigning provisions, and ethics provisions. PDAs must also satisfy liabilities exclusively from their own assets. PDA financing tends to be project-specific, often backed by a City guarantee.

PDAs can only perform public functions that the municipality can lawfully do, including:

- Own and sell real and personal property
- Receive, loan and borrow funds from municipality and others (does not violate lending/gifting limits)
- Issue bonds (but cannot levy taxes, or have eminent domain)
- Draw private sector support and expertise

Advantages of a PDA include:

- Can be more nimble and flexible in implementing community projects and providing efficient services with streamlined procedures

[11] Carlquist, Mark. "An Alternative to Renting or Leasing Commercial Space: Office Condominiums." Los Gatos, California.
Johnson, Kelly. "Construction set for Asian shopping center in South Sac." *Sacramento Business Journal*: October 28, 2005.
Popovec, Jennifer. "A Piece of the Pie." *Retail Traffic*. March 1, 2007.
http://www.knowledgeplex.org/news/262511.html
Tuchman, Michael and Mark Pearlstein. Levenfeld Pearlstein LLC. "Commercial Condominiums on the Rise in Chicago." Chicago: 2006.
Young, Earni. "Living over the store, Chinatown condo-style." *Philadelphia Daily News*: April 27, 2007.

- Can be closer to constituencies and allow direct community participation in projects
- Can combine public taxes and private donations.
- Have flexibility under state law to administer federal funds
- Can combine public taxes and private donations.
- May qualify for tax-exempt borrowing rates.

Potential disadvantages/considerations:

- Best used for: a) complex, unique or special purpose project that need exclusive focus, b) public/private joint ventures, or c) projects entrepreneurial in nature or represent a business risk the municipality is unwilling to assume
- Less City control because of separation from government, but this could also be positive because reduces risk and liability to City and increases autonomy of PDA
- Often must rely heavily on volunteers
- When project-specific initial funding sources end, may have challenges remaining financially sustainable.[12]

Seattle Context. There are currently eight PDAs in the City of Seattle, including the Seattle Chinatown-International District Preservation and Development Authority (SCIDPDA) whose boundaries encompass C/ID. This proximity to Little Saigon may be a significant consideration should Little Saigon consider formation of a PDA. Another option would be to consider the possibility for expansion or partnership with existing organizations.

Additionally, very recently the state legislature passed SSB 6156, to establish a PDA in the Pioneer Square and C/ID areas. It is not yet clear what the specific purpose or project intent for this PDA is but it may represent a helpful tool for Little Saigon.[13]

Business Improvement Area (BIA)

Business improvement areas (BIAs) are a local self-help funding mechanism that allows businesses and property owners within a defined area to establish a special assessment district. Funds collected are used for activities to support the function and maintenance of the business district including marketing/promotions, security, maintenance of public areas, and parking management.

In Washington State, BIAs are authorized in RCW 35.87A. The formation process requires an initiation petition signed by potential ratepayers representing 60% of the assessable value in the proposed area. The legislative authority of the local government passes an initiation resolution, holds a hearing and decides whether to establish an ordinance. If a BIA is formed, assessments are then calculated and may be based on square footage, assessed land value and/or business and occupancy tax revenue.

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[12] City of Seattle. "Public Development Authorities." http://www.seattle.gov/html/citizen/pda.htm
Gerry, Johnson. Preston, Gates and Ellis, LLP. "Efficient and Effective Uses of Public Corporations/PDAs." Seattle.
League of Women Voters of Seattle. "Public Development Authorities in Seattle." Seattle: 1989.
Municipal Research Services Center of Washington. "Public Development Authorities." http://www.mrsc.org/Subjects/Econ/ed-pda.aspx
Preston, Gates and Ellis, LLP. "City and County Options for Creative Financing: PFDs, PDAs, and 501(c)(3)s. Seattle: 2003.
Stout, Donald. City of Seattle Law Department. "Public Development Authorities in Seattle." City of Seattle: 1992.
[13] Washington State Legislature. "Final Bill Report: SSB 6156." Olympia, Washington: 2007.
Washington State Legislature. "Substitute Senate Bill 6156." Olympia, Washington: 2007.

Advantages of a BIA include: a) control by businesses and/or property owners, b) stakeholders have a device to enhance areas with common economic interest, c) allows for new services or higher service levels than those provided by city government.

Disadvantages/considerations include: a) can require significant effort and time to put together, b) can be very politically sensitive, and c) can be subject to fluctuating revenues if assessments are based on business revenues or property values.[14]

Seattle Context. Seattle currently has 6 BIAs, including one for C/ID. The City's Office of Economic Development (OED) supports the formation of BIAs with staff technical assistance. Once a BIA is established, assessments are collected by the City's Department of Finance (DOF) and disbursed to the BIA, which is responsible for the financial management of the funds. The BIA is overseen by a ratepayer's board, which develops the program and budget. In recent years, stakeholders have attempted to form a BIA in Little Saigon but have been unsuccessful. This strategy includes BIA as a potential tool in this area because the consultant team believes it can still be of use, and could meet with greater success if tied-in to broader capacity-building efforts or a community-based development project as described in Strategies 1, 2 and 3.

Strategy 5: Business Incentives

The impact analysis in Phase 2 noted the potential for existing businesses in Little Saigon to experience adverse impacts from various sources of future change. Adverse impacts could include temporary or permanent increases in rent, and possibly displacement. Incentives to help support and strengthen businesses in the face of potential challenges could include:

- Waiving business and occupancy taxes during the critical period in which businesses may experience adverse impacts.
- Renewing the City of Seattle's façade improvement program, and simplifying the procedures and process for a business to apply and receive funds through the program.

Strategy 6: Physical Improvements

Improvements to the physical environment of Little Saigon would significantly contribute to the customer appeal of the business district, and enhance the livability and workability of the area. Two specific areas are recommended under this strategy:

- Follow through with Sound Transit trolley plans on South Jackson Street. Since 2006, Sound Transit staff have been analyzing options for a "transit connector" that would link the Sound Transit light rail line to First Hill. An April 2007 analysis of several options found highest ridership and widespread community support for a streetcar or bus connector that would run east on South Jackson Street and north on Broadway Avenue.[15]
- "Living Streets" streetscape improvements. This strategy recommends an assessment of the feasibility of San Francisco's "Living Streets" model of streetscape improvements.[16]
    - Goal: create a more intimate, residential-scale that prioritizes pedestrian activity
    - Targets low-traffic streets that are not critical thoroughfares but are needlessly wide, have few pedestrian amenities and little landscaping.

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[14] City of Seattle. "Business Improvement Area Handbook." Seattle: 2001.
City of Seattle. "Business Improvement Areas." http://www.seattle.gov/economicdevelopment/support_tools.htm
Mitchell, Jerry. "Business Improvement Districts and Innovative Service Delivery." New York: Nov. 1999.
Municipal Research Services Center of Washington. "Business Improvement Areas."
http://www.mrsc.org/Subjects/PubWorks/lidpg.aspx

[15] Sound Transit. "First Hill Transit Connector Alternatives Summary Report." Seattle: April 17, 2007.

[16] City of San Francisco. "Rincon Hill Plan." San Francisco: 2005.

- Actions could include:
    - Widen sidewalks up to 32 feet on one side by removing a traffic lane
    - Add significant level of pocket parks, plaza spaces, decorative paving, lighting, seating, and trees
    - Explore urban design options for breaking up large block sizes

Strategy 7: Leveraging Private Investment
Numerous potential private and public developments in and near Little Saigon present major opportunities to leverage for community-oriented development. This strategy recommends a focused assessment of what those opportunities will be and how best the community can leverage them. Two specific developments, the proposed Dearborn Street Project and the redevelopment of Yesler Terrace, offer prime opportunities. The following paragraphs, while not exhaustive, include suggestions of how each project might be leveraged for community benefit.

- Dearborn Street Project
    - Contribution to re-location assistance for industrial businesses
    - Capture retail sales tax revenue from Dearborn Street Project for community-supporting activities and projects. Next Steps: assess anticipated level of annual sales tax revenue from project
    - Additional supportive actions: a) co-operative advertising with Little Saigon businesses, b) integrate multilingual wayfinding to Little Saigon into project signage, c) substitute other restaurant types for proposed Asian restaurants to reduce impact of potential competition
- Yesler Terrace
    - Community engagement in current planning process led by Seattle Housing Authority to ensure community vision is integrated as planning proceeds
    - Seek opportunities to leverage investment for community benefits

Strategy 8: APA-Oriented Senior Housing
Rationale. Within ethnic communities, elders often have the strongest affinities and preferences, if not requirements, for proximity to ethnically-based stores, services, and community social and cultural activities. These affinities are built due to attachments to cultural traditions, language barriers and mobility limitations. Consequently, seniors are a sub-set of the community that can provide a strong catalyst for a residential base to support the business district. Further, seniors will often “pull in” extended family members--children and grandchildren--to add to the local customer base when these family members visit them, or even choose to locate in proximity to them, in accordance with traditional values. Finally, community elders provide connections to authentic culture and traditions that are a vital part of preserving the community.

A recent case is that of the Vietnamese-American community in New Orleans after hurricane Katrina, most of whom evacuated to Houston. Many families’ relocation decisions were driven by the needs of senior members who needed to return to the social networks and economic activities that existed in close-knit neighborhoods prior to the hurricane. They were often the decision point that led their children and grandchildren to return to New Orleans and rebuild. As more and more families returned, a critical mass of customer base formed that allowed businesses to re-open and begin to re-establish the business community.

Opportunities. Several opportunities offer vehicles to pursue senior housing in Little Saigon.
- In the short-term, the Dearborn Street Project’s housing units could be apportioned to include Vietnamese- or APA-oriented senior housing.

- In the medium-term, Yesler Terrace redevelopment could focus on this type of housing.
- Longer-term, independent residential projects could be pursued in the area, potentially through partnerships with existing affordable housing developers or through new community-based housing development capacity.

Implementation

The table below summarizes the range of strategies and tools previously discussed and recommends lead implementers, estimated time required and type of additional resources needed for implementation.

Strategy	Implementer(s)	Implementation Requirements	Timeframe
Shared Strategies			
Strategy 1: APA Small Business Technical Assistance Initiative	• Lead: Community organizations, • Support: City OED	funds, partnering, analysis, outreach	6 months – 1 year
Strategy 2: Regulatory Mechanisms	• Lead: City DPD • Support: Other departments	code development, legislation	1 – 2 years
Strategy 3: Community Development Financing Tools	• Lead: City • Support: community, state legislature	analysis, outreach, coordination	2 – 3 years
Strategy 4: Philanthropy	• Lead: community • Support: City	research, coordination	ongoing
Specific to International District			
Strategy 1: Retail Tenant Strategy	• Lead: community • Support: City	funds, partnering and coordination	3 months - ongoing
Strategy 2: Community Identity And Promotions	• Lead: community • Support: City	funds, partnering and coordination	6 months – ongoing
Strategy 3: Historic TDRs	• Lead: City	code development, legislation	1 – 2 years
Specific to Little Saigon			
Strategy 1: Inter-agency Initiative	• Lead: community • Support: City	staffing, coordination	1 – 3 years
Strategy 2: Targeted Outreach & Vision Building	• Lead: community • Support: City, private sector	funds, staffing, coordination	1 – 2 years
Strategy 3: Business Ownership Initiative	• Lead: community (BIA), City (PDA)	funds, staffing, coordination	3 – 5 years
Strategy 4: Community Development Financing Tools	• Lead: City	analysis, outreach, coordination	2 – 3 years
Strategy 5: Business Incentives	• Lead: City		
Strategy 6: Physical Improvements	• Lead: City, private sector • Support: community	analysis, agency coordination	3 – 5 years
Strategy 7: Leveraging Private Investment	• Lead: City, private developers • Support: community	partnering and coordination	ongoing
Strategy 8: Senior Housing	• Lead: private developers • Support: community, City	partnering and coordination	ongoing

Appendices

Appendix A. Profiles: Small Business and Commercial District Programs in San Francisco

The following program descriptions are intended to provide City and community organizations' staff with an understanding of how well-established commercial district revitalization and business technical assistance programs work in another city. Various aspects of these programs may be relevant to the C/ID, Little Saigon and Seattle situation. A difference is that both programs have significantly more resources than is currently the case in Seattle.

Comprehensive Commercial District Strengthening: San Francisco Neighborhood Marketplace Initiative

The San Francisco Neighborhood Marketplace Initiative (NMI) is a comprehensive commercial corridor revitalization program dedicated to the strengthening of retail districts that serve low and moderate income, ethnically diverse neighborhoods. It is a joint initiative of Bay Area Local Initiative Support Corporation (LISC) and the Mayor's Office of Economic & Workforce Development (MOEWD), and is also supported by the Mayor's Office of Community Development, the Evelyn and Walter Haas Jr. and Sr. Funds, the Goldman Fund (local philanthropies) and State Farm Insurance.

Origin and Resources

The program was initiated in 2003, when LISC approached MOEWD regarding a new initiative to strengthen struggling commercial districts through support of local community organizing efforts. The program now operates in seven San Francisco commercial districts, with 3 dedicated LISC staff, 2 MOEWD staff and 3 full-time and 2 part-time staff in local community-based organizations (CBOs) that are funded by grants from LISC, General Fund grants from MOEWD, and, in some districts, Community Development Block Grant (CDBG) Economic Development Fund grants from the Mayor's Office of Community Development. The program also receives significant staff support from 7 pre-existing Neighborhood Economic Development Organizations (described below) that provide small business technical support, financial packaging services and loans and have different cultural and geographic orientations.

Purpose

The overarching objective of the program is to help local CBOs, merchants and residents attain a sufficient level of self-sustaining organization to operate ongoing district maintenance, promotions, and business attraction programs while connecting local businesses with technical assistance programs and working with the City on significant capital improvement and catalyst real estate projects. The initiative aims to build the capacity of existing organizations in each corridor, but has also led to the expansion of CBOs in adjacent communities, as well as the creation of new organizations.

Implementation

Each district program is initiated with a planning phase that involves local residents, merchants, community leaders and neighborhood organizations in developing a distinct vision of the district and a plan of goals and objectives to achieve that vision.[17] Local CBOs are then invited to apply for grant funds from LISC and MOEWD to hire staff to work with the community to implement the plan, or detailed work program, as it is further developed. Funded CBOs have been diverse and include a community development corporation (CDC) from an adjacent community focused on affordable housing development that was funded to work with a

[17] In several districts, separate merchant groups were organized given business owner time constraints and special issues.

particular resident organization, a local family center, and a coalition of a business resource center (a NEDO), an affordable housing CDC and a community digital education and arts non-profit.

The staff person receives significant support from LISC in regards to community organizing, event planning (neighborhood festivals), promotions, implementation of supplementary maintenance programs or other community priorities, and fund-raising in support of these programs. The local staffer also provides local businesses with referrals to the appropriate NEDO. MOEWD staff support the program by assisting with business attraction, communication with property owners, working on catalyst joint development projects (i.e. arts center), monitoring new development proposals and inviting developers to community meetings, assisting with code enforcement issues and convening/involving other City departments or public agencies as necessary. Ultimately, the hope is that with sufficient organizational capacity and strong relations with merchants and property owners, corridors will become Community Benefit Districts, San Francisco's equivalent of a Business Improvement Area.

Websites for more information:
Bay Area LISC website -
http://www.bayarealisc.org/bay_area/programs/commercial_8244/neighborhood_8255.shtml
MOEWD website - http://www.sfgov.org/site/moed_page.asp?id=33312

Small Business Technical Assistance:
San Francisco Neighborhood Economic Development Organizations

In San Francisco, small business technical assistance, training and loan packaging is provided by a network of non-profit service providers, or neighborhood economic development organizations (NEDOs). The ten existing NEDOs vary in age, types of services provided, and cultural and geographic orientation, but all receive some degree of Community Development Block Grant funding from the Mayor's Office of Community Development, for which they must re-apply each year. The NEDOs also pursue other funding sources to support their economic development, or other community development activities. Small business services provided include entrepreneurship and business planning classes, start-up incubator space, as well as one-on-one technical assistance in a wide array of areas, including general management advice, business planning, financial analysis and projections, bookkeeping and accounting, budgeting, permitting assistance, marketing, loan packaging, lease consultations, business feasibility analysis and real estate/business acquisitions.

The Mayor's Office of Community Development disburses between $1 and $1.5 million in CDBG economic development and micro-enterprise grant funds annually to small business support programs.[18] In addition, the San Francisco Redevelopment Agency also gives funding from tax-increment financing to two of the NEDOs that provide assistance and loan packaging to small businesses in three different redevelopment areas.

The network includes three organizations that offer business technical assistance and/or loan packaging services to San Francisco's various Asian communities:

[18] By comparison, the City of Seattle's Office of Economic Development has approximately $100,000 in annual funding available for business technical assistance; there are currently legal barriers to using local funds for this purpose.

- Asian Inc. is a 36-year-old technical assistance non-profit that provides housing, small business and social services to Asian American communities in Northern California. Located in the central mid-Market area (as well as Oakland and San Jose), Asian Inc. provides business technical assistance in Chinese and other Asian languages. www.asianinc.org
- Southeast Asian Community Center (SEACC). SEACC is a 31-year-old community development organization that serves Bay area refugees and immigrants from Southeast Asia from a headquarters at the edge of Little Saigon in the Tenderloin area (central San Francisco), as well as two other offices in Oakland and San Jose. SEACC provides small business technical assistance including licensing and permits, marketing, accounting, business plans, and loan applications, as well operating a microloan program (SBA 7(m) program). Loans are from $5,000 to $35,000, usually for 3-4 years, and interest rates typically range from 3-5% over prime. Assistance is available in the Vietnamese and Filipino languages, as well as English. www.seacc.us
- Northeast Community Federal Credit Union (Northeast) is a Community Development Financial Institution that provides small business loans, as well as other financial services aimed at low and moderate-income individuals, at its main office in Chinatown, as well as branch offices in the Tenderloin, SOMA and Visitacion Valley (outer southeast San Francisco). Services are available in Chinese languages. In partnership with SEACC, Northeast also operates a business training and information program called Asian Pacific Islander Business and Information Services (APIBIS); its 2006/07 free workshop series included the following topics: "Understanding Customs Regulations and Procedures", "How to Import Goods to America," "How to Do Business with the Government: Federal Contracts," "How to Start Your Business: Chinese Traditional Healing," "How to Start an E-business," "How to Purchase a Business: Traditional & Franchise," "How to Take Care of your Business Tax." www.necfcu.org

Other NEDOs

- Renaissance Entrepreneurship Center provides a wide array of entrepreneurship training and business planning courses, as well as a business incubator and financing resources center, and is located downtown. www.rencenter.org
- Women's Initiative for Self-Employment provides business training courses for women entrepreneurs, including classes in Spanish and is located in the Mission District, a historically Latino business district. www.womensinitiative.org
- Mission Economic Development Agency offers an array of bi-lingual (Spanish/English) business development services through a roster of consultants, and has a special childcare business program, as well as non-economic community development and planning programs. It is also located in the Mission District. www.medasf.org
- Urban Solutions is an economic development organization that operates business TA and loan packaging services, as well as running façade and tenant improvement, and business attraction and retention programs in the Fillmore (historically African-American) and SOMA neighborhoods. www.urbansolutionssf.org
- Small Business Development Center provides an array of marketing/sales, management, finance and distribution technical assistance through a large roster of specialized consultants www.sfsbdc.org
- Bayview Business Resource Center is a project of the Renaissance Center and provides business TA, loan packaging and incubator services to residents of Bayview/Hunters Point, a historically African-American area, where it is located. www.rencenter.org/bay
- LGBT Community Center is located at the edge of the Castro and provides members of San Francisco's lesbian, gay, bisexual and transgender communities with business TA. www.sfcenter.org

Appendix B. References and Resources

Carlquist, Mark. “An Alternative to Renting or Leasing Commercial Space: Office Condominiums.” Los Gatos, California.

Carrion, Carmen and Lawrence Libby. “Development Impact Fees: A Primer.” Columbus, Ohio.

City of Everett. “Local Improvement Districts.” http://www.everettwa.org/default.aspx?ID=862

City of San Francisco. “Rincon Hill Plan.” San Francisco: 2005.

City of Seattle Department of Transportation. “What is a Local Improvement District? Information Sheet.”

City of Seattle Office of Policy and Management. “Impact Fee Methodology and Tables.” Seattle: November 2006.

City of Seattle Office of Policy and Management. “Park and Open Space Impact Fee Proposal.” Seattle: November 2006.

City of Seattle Office of Policy and Management. “Park and Open Space Impact Fee Proposal Fact Sheet.” Seattle: November 2006.

City of Seattle Office of Policy and Management. “South Lake Union Streetcar: Capital Financing and Operating and Maintenance Plan.” Seattle: April 2005.
http://www.seattle.gov/transportation/docs/slu18FINAL%20SLU%20Streetcar%20Financing%20Report.pdf

City of Seattle Office of Policy and Management. “State Statutory Authority to Mitigate Development Impacts: Parks, Open Space and Recreation Facilities.” Seattle: November 2003.

City of Seattle Office of Policy and Management. “Statutory Alternatives for Mitigation of Development Impacts.” Seattle: November 2003.
City of Seattle. “Business Improvement Area Handbook.” Seattle: 2001.

City of Seattle. “Business Improvement Areas.”
http://www.seattle.gov/economicdevelopment/support_tools.htm

City of Seattle. “Public Development Authorities.” http://www.seattle.gov/html/citizen/pda.htm

City of Seattle. “South Lake Union Streetcar LID.” http://www.seattle.gov/transportation/stcar_slu.htm and http://www.seattle.gov/transportation/stcar_slu_lidfaq.htm

Duncan Associates. “2005 National Impact Fee Survey.” Austin, Texas: 2005.

The Foundation Center. “Foundation Finder.” http://foundationcenter.org/

Gerry, Johnson. Preston, Gates and Ellis, LLP. “Efficient and Effective Uses of Public Corporations/PDAs.” Seattle.

Houstoun, Lawrence O. “Business Improvement Districts and Urban Entertainment and Cultural Centers.” Philadelphia: 1998.

Interview with Kenny Pittman. City of Seattle Office of Policy and Management. May 18, 2007.

Interview with Mike Mann and Kim Nunes. City of Seattle Office of Policy and Management. May 21, 2007.

Interview with Steve Johnson and Nancy Yamamoto. City of Seattle Office of Economic Development. May 2007.

Johnson, Kelly. “Construction set for Asian shopping center in South Sac.” *Sacramento Business Journal*: October 28, 2005.

Kramer, Ari. “Groups unite to promote downtown neighborhoods.” *Puget Sound Business Journal*. Seattle: October 4, 2002.

League of Women Voters of Seattle. “Public Development Authorities in Seattle.” Seattle: 1989.

Mitchell, Jerry. “Business Improvement Districts and Innovative Service Delivery.” New York: Nov. 1999.

Municipal Research Services Center of Washington and American Public Works Association Washington Chapter. Washington State Local Improvement District Manual, Fifth Edition. Seattle: 2003.

Municipal Research Services Center of Washington. “Business Improvement Areas.” http://www.mrsc.org/Subjects/PubWorks/lidpg.aspx

Municipal Research Services Center of Washington. “Impact Fees.” http://www.mrsc.org/subjects/planning/impactpg.aspx

Municipal Research Services Center of Washington. “Public Development Authorities.” http://www.mrsc.org/Subjects/Econ/ed-pda.aspx

Municipal Research Services Center of Washington. “Tax Increment Financing.” http://www.mrsc.org/subjects/econ/ed-revitalization.aspx

Nelson, Arthur C. and Mitch Moody. “Paying for Prosperity: Impact Fees and Job Growth.” June 2003.

Popovec, Jennifer. “A Piece of the Pie.” *Retail Traffic*. March 1, 2007. http://www.knowledgeplex.org/news/262511.html

Preston, Gates and Ellis, LLP. “City and County Options for Creative Financing: PFDs, PDAs, and 501(c)(3)s. Seattle: 2003.

Reich, Jay, Stacy Cranshaw-Lewis and Deanne Gregory. Preston, Gates and Ellis, LLP. “Public Development Authorities.” 2003.

Reich, Jay. Preston Gates & Ellis. “Tax Increment Financing: Questions and Answers.” Seattle: July 2002.

Sound Transit. “First Hill Transit Connector Alternatives Summary Report.” Seattle: April 17, 2007.

Spitzer, Hugh. “The new tax increment financing law is loaded with hurdles.” *Puget Sound Business Journal*. Seattle: April 21, 2006.

Stout, Donald. City of Seattle Law Department. “Public Development Authorities in Seattle.” City of Seattle: 1992.

Thomas, Emory Jr. “Washington finally gets an economic development LIFT.” *Puget Sound Business Journal*. Seattle: March 24, 2006.

Tuchman, Michael and Mark Pearlstein. Levenfeld Pearlstein LLC. “Commercial Condominiums on the Rise in Chicago.” Chicago: 2006. http://64.233.167.104/search?q=cache:yBoXDKJVnKMJ:www.vastucommons.com/docs/Vastu_Heartland_Article.pdf+commercial+condominium+development&hl=en&ct=clnk&cd=7&gl=us

Washington State Legislature. “Engrossed Second Substitute House Bill 2673.” Olympia, Washington: 2006.

Washington State Legislature. “Final Bill Report: SSB 6156.” Olympia, Washington: 2007.

Washington State Legislature. “House Bill Report: E2SHB 2673.” Olympia, Washington: 2006.

Washington State Legislature. “Substitute Senate Bill 6156.” Olympia, Washington: 2007.

Young, Earni. “Living over the store, Chinatown condo-style.” *Philadelphia Daily News*: April 27, 2007. http://www.philly.com/dailynews/features/20070427_Earni_Young___Living_over_the_store__Chinatown_condo-style.html

Appendix C. Community Review Group Comments

Comment	Source	Response or Follow-up
Scope of Study		
Include analysis of current zoning, current land ownership and retail tenancy, current retail space costs.	Uwajimaya, Inc.	Completed as part of phase 1
Include long term objectives for Little Saigon business; current constraints affecting attainment of objectives.	Uwajimaya, Inc.	Completed as part of phases 1, 2 and 3
Analyzing impacts and benefits for property vs. business owners?	Office of Economic Development (OED)	Completed as part of phase 2
Hope that the work gets folded into a broader community/economic development strategy.	OED	Completed as part of phase 3
Define what the City's objectives are.	OED	Completed as part of phase 3
In crafting economic development strategies, consultants should learn about existing City resources available to assist businesses.	OED	Completed as part of phase 3
Is it possible to get some additional ownership information for the businesses and property owners, i.e. ethnicity? It would also be interesting to know their plans for expansion and succession.	OED	Completed as part of phase 1
Look at whether businesses have capacity to cope with and adapt to future change.	Uwajimaya, Inc.	Completed as part of phase 1
Address key land use analysis questions in the study.	ICDA	Completed as part of phase 2
Discuss/distinguish between development impacts that may occur as a result of overall market dynamics and ongoing trends, and incremental impacts tied specifically to zoning changes or Dearborn Street Project.	Dearborn Street Project	Completed as part of phases 2 and 3
Need to identify strategies for businesses to adapt to change regardless of South Downtown zoning alternatives.	Multiple group members	Completed as part of phase 3
Acknowledge range of factors that may influence development feasibility and discuss the level of rent necessary for new development	Dearborn Street Project	Completed as part of phases 2 and 3
Phase 1		
How to shape a vision for the future, given the diverse composition of the business community in Little Saigon. A somewhat chicken-and-egg problem between determining vision and determining intervention.	Multiple group members	Discussed in phase 3 report
Idea for capturing some of the proceeds or added value of the rezones and buying a block of land to explore proactive development possibilities	ICDA	Discussed in phase 3 report
Could the City commit staff for a multiyear dedicated effort?	Uwajimaya, Inc.	Discussed in phase 3 report
Phase 2		
Though Little Saigon doesn't currently have a residential base, potential	ICDA	Discussed in phase 2 report

future residential development could fuel residential gentrification.		
Retention of local dollars through local businesses: the multiplier effects may be even greater among ethnic sub-area markets.	ICDA	Discussed in phase 1 report
What is the spillover effect of people coming to Dearborn Project—discourage Little Saigon's market from continuing to come there?	ICDA	Discussed in phase 2 report
For Little Saigon customers, inconvenience of traffic and parking will likely outweigh advantages of accessing businesses in proximity to each other.	Vietnamese-American Economic Development Association (VAEDA)	Discussed in phase 2 report
Why is "Little Saigon impact #2" low? Believes that it should be higher than low.	ICDA	Discussed in phase 2 report
On "Little Saigon impact #2": timeframe will be more immediate than that indicated in the matrix. As well, redevelopment of Yesler Terrace will also add to the attractiveness of development of the area.	ICDA	Discussed in phase 2 report
Zoning to 125 feet may give current owners the false impression that their property is worth more than a developer could pay for it given market feasibility, effectively "overzoning" the property.	Dearborn Street Project	Discussed in phase 2 report
"Little Saigon impact #3": The potential positive impact is overstated. The majority of businesses in Little Saigon do not have the capacity to take advantage of the opportunities.	VAEDA	Discussed in phase 2 report
Phase 3		
ID/LS Strategy 1: Numerous financial institutions in the ID could play a role in this proposed strategy.	Uwajimaya, Inc.	Discussed in phase 3 report
ID/LS Strategy 2: Add "curb cuts" in addition to garage doors.	SCIDPDA	Discussed in phase 3 report
ID/LS Strategy 2: Dialog with SDOT about explicitly allowing sidewalk vending, and developing specific guidelines to organize the activity.	Multiple group members	Discussed in phase 3 report
ID Strategy 1: Resources required would need more than the "low level" indicated and time required would be longer.	ICDA	Discussed in phase 3 report
ID Strategy 2: King Street Station redevelopment is on the horizon and an opportunity to coordinate and leverage improvements.	Dearborn Street Project	Discussed in phase 3 report
LS Strategy 4: SCIDPDA or Interim could expand and/or partner to form such a structure for Little Saigon.	ICDA	Discussed in phase 3 report
Would be helpful if the report could make a concise summary statement about what strategy or strategies are the most critical.	ICDA, DPD	Discussed in phase 3 report

AN ASSESSMENT OF REAL ESTATE AND ECONOMIC CONDITIONS IN SOUTH DOWNTOWN NEIGHBORHOODS FOR *LIVABLE SOUTH DOWNTOWN* PLANNING

Table of Contents

AN ASSESSMENT OF REAL ESTATE AND ECONOMIC CONDITIONS IN SOUTH DOWNTOWN NEIGHBORHOODS FOR *LIVABLE SOUTH DOWNTOWN* PLANNING

INTRODUCTION

This report describes two areas of consultation with which BHC Consultants and Property Counselors were charged in support of the Department of Planning and Design's (DPD) *Livable South Downtown* planning initiative.

- A selected group of stakeholders with interests in the Pioneer Square, Chinatown/International District, and Little Saigon neighborhoods and the Stadium Transition Zone were interviewed using a structured questionnaire to assess the directions and alternatives under consideration in the planning process.

- Land use, housing, and economic analyses of current conditions and future trends within the South Downtown planning area were prepared and compared with related conditions and trends of the Center City.

The consultants met with the DPD's stakeholder group, with other city departments, and with other experts involved in real estate, development, and planning in the area.

Summary

The South Downtown neighborhoods are expected to change significantly over the next 20 years as part of the overall Center City growth in households and jobs. The Downtown Urban Center population is expected to double and employment is expected to increase by 50%. This will require development of more than 18,000 new housing units and 17.5 million square feet of office space. While most of the office development is expected to occur in the Commercial Core, residential development is expected to be concentrated in the Belltown, Pioneer Square and Chinatown/International District neighborhoods.

Current City adopted growth targets anticipate that Pioneer Square and Chinatown/International District will produce a total of 2,000 new housing units and 5,500 new jobs by 2024 under current zoning. However, if the zoning provisions for allowed uses and building heights are changed, the development capacity of South Downtown will change. In comparison to the other Downtown neighborhoods, the South Downtown neighborhoods currently feature lower housing prices and rental rates and lower land values, although the pace of development is much slower and there are not many truly comparable projects. Demand for condominiums and apartments is increasing in South Downtown. Several major projects are in the design or permitting stages.

Demand for retail space is strong throughout the Urban Center. This is also true for South Downtown, but the nature of current spaces and infrastructure inhibits redevelopment and infill. In particular, the cultural integrity of retail and restaurant business in

Chinatown/International District and Little Saigon is perceived as fragile although the character of the area is a regional attraction and an anchor for the surrounding communities.

The strong Downtown office market is driving considerable interest in development throughout the South Downtown. A number of major projects are on the drawing board. Land availability and cost as well as development costs in the context of the existing zoning constraints have negative affects on office development feasibility.

A wide range of opinions have been expressed about increasing the development capacity and opportunities for residential, office, and retail growth in the South Downtown. While most of the stakeholders support increased housing, there are mixed views about substantial increases in office space. In order to maintain a balanced and sustainable community, the stakeholders believe that existing neighborhood character should be preserved. This includes the historic, cultural, and urban design legacy offered by Pioneer Square, Chinatown/International District, and Little Saigon. It also means that public infrastructure and services need to be enhanced to meet the increased demand that will come with more residents, office workers, and visitors. So, in addition to the final zoning outcome of the *Livable South Downtown Plan*, many other areas of city policy and capital investment need to be addressed.

The analysis of residential and office development feasibility in South Downtown indicates that rental housing in new mid-rise projects is feasible, but is not in taller buildings although residential condominiums are feasible in taller buildings. Office projects are not feasible at today's rents, but should be by the time new taller buildings can be completed.

SECTION 1
ECONOMIC CONDITIONS AND OUTLOOK

National, state, and local economic conditions all influence the real estate marketplace. The type, amount, and timing of development in the South Downtown are a function of these influences. Many factors combine to determine project feasibility. These include short-term demand, land and construction costs, interest rates, zoning and building regulations, and competition between and among the neighborhoods as well as the overall Center City area. The City studies and monitors these activities and has developed data and analyses of current and future trends. This provides a realistic assessment of the market potential for South Downtown and a basis for identifying proposed land use actions and policies in the area.

State, Regional and City Forecasts

The state of Washington and the Prosperity Partnership and Puget Sound Regional Council (PSRC) employ models that estimate and forecast economic trends for population, employment and related land demands at the regional and county level. These models are based on a complex set of variables including census data, jurisdictional land use and development permit activity, the status of the national economy, and other factors. In addition, the Prosperity Partnership has engaged in an aggressive economic development program to maintain and sustain the economic health of the Central Puget Sound Region. The PSRC is currently updating the Regional Plan (Vision 2020+20). It anticipates that the four-county population will increase by another 1.5 million persons within the current adopted urban growth boundary. While the preferred regional growth strategy has not been adopted, the current "centers strategy" will continue to be a key shaper of growth. Consequently, metropolitan centers like downtown Seattle will be expected to accommodate sizable amounts of both residential and job growth. This context provides a lens through which the South Downtown neighborhoods can be viewed. The following information on the downtown commercial and residential market context is summarized from the environmental impact statement prepared for the "downtown height and density changes."

Employment Growth

According to data from the Washington State Employment Security Department (ESD), total covered employment in Downtown in 2000 was approximately 174,528 jobs, of which two-thirds is located in the Commercial Core. As a dense office center, Downtown is a center of financial, insurance, real estate and services (FIRES) employment. These employment categories employ more workers than all other Downtown employment categories taken together. Downtown accommodates considerable government employment, the second most common employment category, in federal, regional, county and city offices, primarily in the south end of the Commercial Core. Retail employment is the third most common employment category, particularly in the Chinatown/International District. Employment in the Manufacturing/Industrial Centers (Duwamish and Ballard/Interbay) and Hub Urban Villages represented 16% and 9% of the city's employment, respectively.

Employment growth information from the PSRC for 1980-2000 provides a longer-term perspective. Between 1980 and 2000, the city's net job growth was approximately 242,700 jobs (63% growth), including 71,000 additional jobs in Downtown (63% growth). Net job growth in Downtown during the 1980s was over twice as much as during the 1990s (49,600 versus 21,400 jobs). Downtown gained a greater portion of the city's total employment during the 1980s. Through the 1990s, Downtown maintained its share of approximately one-third of the jobs in Seattle. The financial/insurance/real estate/services sector was the leading employment category in terms of job growth in both Downtown Seattle and the city as a whole between 1980 and 2000, followed by the government/education and wholesale/trade/ communications/utilities (WTCU) sectors.

Population and Employment Projections
Four different sources indicate the amount of residential and employment growth that may occur in Downtown Seattle over the next twenty years:

- Projections from the Puget Sound Regional Council (PSRC);
- Market studies by Economics Research Associates (ERA);
- Targets from the City of Seattle's Comprehensive Plan; and
- Recent growth trends

All four of these sources predict the Downtown residential population will more than double over the next twenty years. Downtown employment, already strong, will continue to grow by as much as 50% over the next twenty years. The ERA projection of residential and employment growth in the Downtown Urban Center over the ten years between 2000 and 2010 was used as a basis for the twenty-year growth projection. Between 2000 and 2020, growth in Downtown Seattle is projected to equal 17,500 new households and 70,000 new jobs. In order to accommodate that amount of growth, an additional 18,375 new housing units, and 17.5 million square feet of office space would need to be added to the Downtown Urban Center. It was assumed that 90% of the growth in commercial space would occur within the Commercial Core consistent with the amount of capacity available and recent development trends. On the other hand, 60% of Downtown's residential growth was expected to take place in the Belltown, Pioneer Square and Chinatown/International District neighborhoods.

Comprehensive Plan Growth Targets
Seattle's Comprehensive Plan and the King County Countywide Planning Policies included twenty year "growth targets" or projections for residential and employment growth in the Downtown Urban Center. In addition, "planning estimates" identified how growth might be divided within the Urban Center. These targets and estimates present levels of growth that balance growth in Downtown with growth in the rest of King County in pursuit of City and County growth management goals. The "Urban Center" is a County designation indicating an area expected to accommodate a large share of employment.

Clearly, Seattle is currently experiencing a strong growth cycle of office and residential activity. The growth rate projection suggests that new office development in South Downtown might increase the competition for projected overall office growth in the entire Downtown. Similarly, Downtown residential projects in several neighborhoods/districts will compete to absorb the available demand. The total projected demand probably will not increase as a result of possible upzones in South Downtown, but the Center City's projected growth could be distributed differently depending on what properties are available, zoned and otherwise attractive for future development.

City Staff Growth Trends Analysis

The city staff continues to evaluate and calibrate these forecasts based on other information such as trends in historical growth rates, their relationship to current targets and how they may relate to potential future development of dwelling units and employment in the Downtown Urban Center. In addition, assessment of the "pipeline" of planned and proposed projects moving through the permitting process provides on-going updates to the supply and demand picture. The City's analysis helps to identify what may be a "reasonable high-end" of the potential growth that could occur, to be assessed in subsequent environmental reviews.

Residential Growth

The dwelling unit analysis is summarized below.

Table 1 - Analysis of Past and Future Downtown Household Growth Trends

	Growth 1990 – 2005		**Current target 2004 – 2024**		**Potential "High-End" Growth Estimate 2005 – 2030***
	Households	**% of total**	**Households**	**% of total**	**Households**
Belltown	5,057	58.0	4,700	47.0%	
Pioneer Square	337	4.0	1,000	10.0	2,500
Chinatown/ID	939	11.0	1,000	10.0	3,000
Denny Triangle	773	9.0	3,000	30.0	
Commercial Core	1,639	18.0	300	3.0	
Downtown Urban Center	8,745	100.0	10,000	100.0	

* High-end growth estimate studied in EIS is 6,000 *dwelling units*, which is comparable to this estimate considering typical dwelling unit vacancy rates.

Source: City of Seattle, Department of Planning and Development, September 2006

The Downtown Urban Center current target of 10,000 dwelling units is approximately one-half that for the Center City, which includes other neighborhoods surrounding Downtown. The current targets reflect 10% capture of total dwelling units each by both Pioneer Square and Chinatown/International District. These rates are equivalent to a growth of approximately 0.3 units per acre per year. The Downtown Urban Center as a whole grew at a rate of approximately 0.6 to 0.7 units per acre per year over the period 1990 to 2005. The 0.7 units per acre figure is interpreted by DPD staff

as a reasonable maximum long-term rate that could be achieved in neighborhoods such as Pioneer Square and Chinatown/ID. Such a rate would result in 2,500 and 3,000 units over a twenty four year period to 2030 in those neighborhoods.

Employment
The historical employment analysis is summarized below.

Table 2 - Historic Employment Growth Trends in Downtown Seattle

	Net Growth in Jobs 1995 – 2004	
	Jobs	**% of Total**
Belltown	2,309	32.2
Pioneer Square	(1,039)	(14.5)
Chinatown/ID	2,489	34.8
Commercial Core	(871)	(12.2)
Denny Triangle	4,272	60.0
TOTAL: Downtown Urban Center	7,160	100.0

Source: City of Seattle, Department of Planning and Development, February 2006

The employment target for the entire City of Seattle for the period 2004 to 2024 is 93,000 additional jobs of which 50,000 are projected to be captured in the Center City. The current commercial target for the period 2004 to 2024 is 3,500 jobs for Pioneer Square and 2,000 jobs for Chinatown/ID.

Preliminary DPD staff analysis suggests that more job growth than represented by the targets could occur if Livable South Downtown rezones occur, particularly in properties currently lying outside or partially outside these neighborhoods. These properties include the WOSCA property on 1st Avenue S., the "over-tracks" property west of 4th Avenue S., and the "Frye properties" located south of S. Dearborn Street. Future development on other properties in this vicinity along 1st and 4th Avenues S. and Airport Way S. could also contribute to future job growth. Considering their size, the largest of these properties have ample potential to accommodate more job growth, and if zoning is amended they could attract new development by the year 2030.

By extrapolating the current job targets for another 6 years until 2030 and adding in the growth that might occur on these properties, DPD staff indicates a reasonable projection of the "high-end" employment growth for the South Downtown study area could be as high as approximately 15,000-16,000 new jobs through the year 2030. To put this growth in context:

- It is similar to the 20-year job growth estimate for South Lake Union through 2024.
- It would require a pace of employment growth that is roughly twice as fast as represented by the current growth targets for the Pioneer Square and Chinatown/I.D. neighborhoods.
- The 16,000 additional jobs are comparable to 11% of Downtown's 2004 employment levels.

Observations on the Forecasts and Trends

The residential and commercial "high-end" growth estimates appear to represent an aggressive but plausible level of projected growth. They have been calculated in relation to Downtown Urban Center growth trends, with comparative analysis of growth rates for these neighborhoods and other neighborhoods within Downtown. The overall validity of these projections will be determined by actual investment decisions by property owners, developers, and employers. Additional analysis to further refine the projections is beyond the scope of this study.

Competitive Position of South Downtown Neighborhoods vs. Other Downtown Neighborhoods

Pioneer Square and Chinatown/International District have experienced much lower levels of residential and commercial development than the Commercial Core, Belltown and Denny Triangle areas. This is may be attributable to investor/property owner hesitance, perceptions about regulatory land use controls, or concerns about the nature of the physical and public safety environment. Consequently, these areas currently offer a somewhat lower cost alternative to development in the other areas due to land costs.

With continued pressure for development throughout Downtown and some eventual limitations on the supply of available properties in other parts of Downtown, areas such as Pioneer Square and Chinatown/International District are likely to capture a larger share of total development from other Center City neighborhoods such as Denny Triangle, South Lake Union, Capitol Hill, Uptown, First Hill, and Pike/Pine. The ability of the South Downtown neighborhoods to increase their capture rates and become more than a lower cost alternative will depend upon whether their competitive attributes can be improved over time. These attributes are described in more detail later in this section under "Market Characteristics and Outlook for the South Downtown Neighborhoods."

The following table summarizes several demographic and market indicators for Downtown Urban Center neighborhoods.

Table 3 - Economic Conditions in Downtown Seattle Neighborhoods

	Pioneer Square	Intl. Dist. Chinatown	Belltown	Denny Triangle	Commercial Core	Downtown Urban Center
Dwelling Units 2005	902	1,910	8,756	1,340	3,069	15,977
Increased DU 2000-2005	147	396	2,885	496	692	4,616
Employment-2004	9,848	6,588	19,691	19,679	89,504	145,310
Condominium Prices (/unit) Typical One Bedroom Unit	$300,000 to $500,000	$300,000 to $400,000	$400,000 to $600,000	$325,000 to $400,000	$450,000 to $600,000	
Condominium Prices (/sq. ft.)	$325 to $400	$350 to $450	$550 to $650	$500 to $650	$700 and up	
Office Rent-Avg. (/SF/yr fully serviced)	$19.15		$23.69		$26.48	
Land Value	$125 to $250	$100 to $150	$200 to $300	$200 to $300	$300 to $450	

Residential

The dwelling unit numbers demonstrate the prominence of Belltown as the major residential concentration in Downtown. Belltown accommodates 53% of all units and has captured 63% of new units in Downtown during the period between 2000 and 2005. In comparison, Pioneer Square has the lowest number of dwelling units in Downtown and the lowest amount of increase. The Chinatown/International District neighborhood has the next lowest amount of increase over that five-year period.

Condominium prices are one measure of the strength of the market for residential uses. There is a range of prices in each area, just as there is in a given building. The figures shown reflect the range on a per square foot basis as derived from New Home Trends data for individual projects. The highest prices are in the Downtown Core reflecting a small number of very high-priced units. Belltown has the next highest prices, followed closely by Denny Triangle. Pioneer Square and the Chinatown/International District neighborhoods have similar average prices, but in each case the figures are based on a small number of condominium projects and units. Apartment rents probably reflect a similar comparative profile, but available rent surveys aren't broken out for the same areas.

Employment

The Commercial Core has the largest employment concentration. Pioneer Square and International District/Chinatown are the smallest of the areas in terms of employment.

Office rent is a measure of the strength of the commercial real estate market. The average figures are derived from CB Richard Ellis quarterly market reports. The figures for Belltown are for the "Denny Regrade" area in the survey. The Commercial Core has the highest office rents followed by Belltown (Denny Regrade) and Pioneer Square. The survey doesn't break out data for International District and Denny Triangle, so no data are available on average rents. However, based on rent data for selected buildings, it's possible to infer that Denny Triangle commands rents that are similar to those in the Denny Regrade. Rents in the Chinatown/International District neighborhood are below those in Pioneer Square.

Land value depends upon underlying zoning and development potential as well as locational and attractiveness factors. With recent changes to the Downtown zoning code to allow additional heights, land prices should rise in the Commercial Core and Denny Triangle. Belltown (except a small portion), Pioneer Square and the Chinatown/International District neighborhoods were not included in the recent Downtown zoning changes, meaning there is no direct effect on land values in these neighborhoods. Belltown land values will continue to reflect that neighborhood's attractiveness for additional residential/mixed-use growth. This leaves the South Downtown neighborhoods with land values that are comparatively lower than most other portions of Downtown. There are a limited number of actual transactions to indicate current land values, and even year-old data may be significantly out of date. Given current zoning, estimated land values in Pioneer Square are approximately $150 to 250 per square feet; and values in Chinatown/I.D. are approximately $100 to $150 per square feet. These are roughly 25% lower than land values in Belltown and the Denny Triangle.

Market Outlook for the South Downtown Neighborhoods

Additional analysis of the South Downtown neighborhoods (Pioneer Square, Chinatown/International District, Little Saigon, and the Stadium Area) provides insights into their market characteristics and potential growth outlook. Conditions of each of these areas are described below in more detail followed by a description of the factors that will affect future levels of development.

Market characteristics of residential retail, office and industrial uses are summarized in the following table.

Table 4 - Economic Conditions in South Downtown Neighborhoods

	Pioneer Square	Intl. Dist. Chinatown	Intl. Dist. Little Saigon	Stadium So. Dearborn
Residential				
Type	Renovation Market & Subsidy	Renov./New Market & Subsidy	New Market	N/A
Price Range-Apt. (mkt.)	$1.50-2.00/sf/mo.	$1.40-1.75/sf/mo.	$1.50/sf/mo.	
Price Range-Condo	$325-400/sf	$300-450/sf	$300-350/sf	
Retail				
Type	Restaurant/Entrtmt Lifestyle/Misc.	Restaurant Markets/Misc.	Restaurant Markets/Misc.	Lifestyle/Misc.
Price Range	$9-25/sf/yr NNN	$6-18/sf/yr NNN	$6-18/sf/yr NNN	
Office				
Type	Major Tenants Misc. Services	Major Tenants Misc. Services	Misc. Services	Misc. Services
Price Range	$15-25/sf /yr gross	$7-20/sf/yr gross	$12-18/sf/yr NNN	
Industrial				
Type	Warehousing	N/A	N/A	Warehousing
Price Range				$.45 -.60/sf/mo NNN

Note: NNN means "triple net" in which tenants pay all operation and maintenance costs for their space separately from rent.

Residential
Residential development is occurring in Pioneer Square, Chinatown and Little Saigon.

Pioneer Square – much of the recent development has been renovations of existing buildings including:

- Lowman Building: Income restrictions
- Terry Denny Building: Rental lofts
- Corona: Rental lofts
- Fortson Place (2nd/Yesler): mixed-income apartments, under construction

New development is proposed for the Trolley Barn site on Occidental, the Johnson Building (at Occidental Avenue/Railroad Way), and 950+ residential units on the Kingdome North Parking Lot.

Chinatown/I.D. - renovation of the existing historic buildings for market–rate housing continues to be a challenge. Newer development includes

- 705 South Weller Street, (under construction)
- Empress on Fifth: (undergoing condo conversion)
- Washington Terrace: senior apartments
- Nihonmachi Terrace: family and senior apartments, income restricted

The rent leader for the area is Uwajimaya Village with monthly rents of $845 to $895 for studios, $1,025 to $1,375 for a typical one bedroom unit, and $1,325 to $1,895 for a two-bedroom unit. To date, the only project built as a condominium was the Fujisada on 5th Avenue. Units in the buildings are available for resale at $450,000 for a 1,000 square foot home. The Mosaic Apartments were recently converted to the Asia Condominiums, and units sold for prices ranging from $335 to $435 per square foot. The Empress is being converted to condominiums, but no price information is available.

Little Saigon - There has been only a limited amount of residential development in Little Saigon in the last decade. The Pacific Rim Center (completed in 2000/2001) has condominiums available for purchase prices of $300,000 or more. Approximately 10 of the 40 units have sold with the remainder becoming available for sale as leases expire.

Stadium Transition Area - Zoning prohibits residential development, and no residential development has occurred.

Residential Market Outlook:
Current residential development activity and a significant housing proposal in South Downtown (portion of Qwest Field's north lot) demonstrate that there is demand for this use. Much of the supply has been rental housing rather than condominiums. With the conversion of the Mosaic Apartments to the Asia Condominiums and further conversions underway, the supply of condominium units will increase. At the same

time rental rates are increasing. Rental rates in the newer apartments in the area are approximately $1.65 per square foot per month, well below the rental rates in Belltown of $2.00 per square foot or more, but high enough to support new construction with five floors of wood framing over a concrete base. Interested parties in the area indicate that the major constraint on housing development is the limited availability of sites.

Retail

There is a range in the types of retail space available in South Downtown, with a variety of businesses serving a broad regional market.

Pioneer Square features a strong concentration of restaurant and entertainment businesses as well as lifestyle tenants such as galleries, apparel, and furniture/furnishings. Rents in renovated buildings range from $1.40 per square foot per month in the Interurban Building at Occidental and Washington to $2.10 per square foot per month in the Grand Central Building.

Chinatown has a diverse mix of businesses ranging from the Uwajimaya upscale market to small markets and a variety of restaurants. Rents range from below $1 per square foot per month in ground floor space in non-profit operated residential buildings to $1.50 in renovated buildings such as 507 Maynard.

Little Saigon features a retail district that has emerged and grown over the past 20 years. There are several markets and restaurants as well as jewelers and miscellaneous small retailers. Several buildings have been built since 1990, including Jackson Square, 1207 Jackson, Rainier Center, and Pacific Rim Center. Rents in these buildings average $1.50 per square foot or more. These rents approach the levels found in new mixed use buildings within the City center. These levels suggest that additional retail is supportable in new mixed use buildings in South Downtown.

The Stadium Transition Area offers some retail development, including a few restaurants on First Avenue north and west of Safeco Field and several building supply and material showrooms along that avenue north and south of Safeco Field.

Retail Market Outlook:

The overall outlook for retail development in the region is strong. Population is growing and income levels continue to increase in real terms (net of inflation). Vacancy rates are low and there is upward pressure on rents. The average retail vacancy rate downtown is reported by CB Richard Ellis in their First Half 2006 Market View to be 3.23%, slightly higher than the rate in the region, but low in absolute terms. South Downtown will experience additional demand in three broad categories:

- Additional demand for convenience retail goods as population and employment in the area grow.
- Additional demand for comparison shopping goods for the southend market area because of easy access.

- Specialty retail demand associated with the unique shops and entertainment venues in the International District and Pioneer Square.

The latter category may provide a challenge. The cultural integrity of retail and restaurant business in Chinatown/International District and Little Saigon is perceived by stakeholders as fragile, although it also provides a collective "anchor" for the neighborhoods. Impacts of stadium events, rising rents, languishing building infrastructure, parking limitations, and lack of marketing are challenges to these businesses. Ownership transitions to younger generations may help to re-invigorate some, but the specter of competition from national retailers and more up-scale establishments is a concern. In spite of these general trends, Little Saigon has emerged as a distinct retail neighborhood over the past two decades, offering a mix of markets, restaurants, jewelers, and miscellaneous small businesses.

Interesting ideas voiced by community members include strategies to encourage new small businesses such as "Asian malls", markets and/or street vending. A night-time market such as the ones in Richmond, British Columbia and several other cities with Asian immigrant populations has been discussed for this area.

Office

South Downtown is an attractive location for office development because of the strong transportation connections for both highway and transit; the concentration of entertainment venues; and the mix of cultural and historic themes. In addition, sites may be available for office development outside the central historic neighborhoods, specifically around the stadiums and south of Dearborn.

Pioneer Square offers several renovated historic structures as well as the newer King Street Center occupied largely by the King County Department of Transportation. While NBBJ recently moved from the District, the space has been re-leased, and Starbucks has announced that it will lease the 83 King Street Building. Several prominent high tech firms are located in this area. Professional service firms are also concentrated in the area. Rent in the renovated buildings average $20 per square foot per year.

International District/Chinatown includes both the newer office buildings along 4th Avenue S. and older historical buildings. The newer office buildings house several major tenants such as Amazon.com and Vulcan. The older buildings accommodate smaller service businesses and a variety of non-profit agencies.

Little Saigon provides office space for many service firms. Most of these tenants are in upper floors of the newer retail/office buildings (such as the Pacific Rim Center). Rents are comparable to the retail space in those buildings at $1.50 per square foot ($18 per square foot per year).

The Stadium Transition area South of Downtown does not have any significant office buildings. However, an office complex with 320,000 square feet on a full block is

proposed on the Home Plate Parking site southwest of Safeco Field at 1st Avenue S./S. Atlantic Street.

Office Market Outlook:

The Seattle office market has strengthened considerably during 2006. According to year-end survey figures from Grubb and Ellis, the Central Business District (CBD) vacancy dropped from 13.4% at the end of 2005 to 9.8% in 2006. Class A building asking rents in the CBD increased from $26.39 to $29.46 on a fully serviced basis. Sales prices per square foot for existing buildings have set new highs, reflecting an expectation of further increases in rents. Dozens of new projects are under construction or pending. According to Colliers International, the amount of new space coming on line is expected to be:

2007: 830,000 square feet
2008: 1,723,000
2009: 4,323,000
2010: 1,150,000

These figures include projects in south downtown such as Stadium West and Stadium East (1.3 million square feet), but don't include the potential development over the railroad tracks east of Qwest Field. With continued growth in employment, the additional demand for office space should match this increase in supply.

In addition to the transportation access and cultural benefits of South Downtown, it also is home to large and growing employers such as Amazon.com and Starbucks. As these employers expand, South Downtown is a logical location.

Current office rents in South Downtown are not high enough to support the cost of new construction, but with the improving market conditions throughout Downtown, new development should be feasible within the next two years. The issue of feasibility of development of any of the uses is addressed in a Section 3 of this report.

Industrial

There are scattered industrial tenants in the Pioneer Square area (specifically Nordic Cold Storage on Occidental) and several industrial buildings in the Transition Area and South of Dearborn vicinity. Identified uses are primarily warehouses uses. Rents vary from $0.45 - $0.60 per square foot per month.

Industrial Market Outlook:

The regional industrial market has been very strong for several years. While the 3rd quarter vacancy rate for industrial space in the region has increased from 5.8% to 6.8% since the end of 2005 (CB Richard Ellis 3rd Quarter Market View), absorption has remained very strong. The Seattle Close-in market has the lowest vacancy rate at 3.4%. The Close-in Market benefits from proximity to the Port of Seattle container

terminals, and the rail and highway networks. The major constraint is shortage of suitable sites. Within the immediate South Downtown area, the proximity of the transportation facilities is a strong benefit, but there are frequent conflicts between industrial traffic and stadium event traffic.

Factors Influencing South Downtown Development

During the course of the stakeholder interviews, a number of other non-quantified factors related to future development in the South Downtown were discussed. These include better linkages to the rest of the Center City by public transportation, including the waterfront street car; more area-specific promotion to tourists, including cruise ship passengers; and more emphasis on the design of public streets and areas. Beyond the quantitative aspects of market conditions in these areas (described above), there are numerous qualitative factors that negatively and positively influence the marketability of these neighborhoods. The following tables provide a qualitative summary of existing and potential future factors.

Table 5 - Pioneer Square Development Influencing Factors

	Current		Likely Future
Uses	**Negative**	**Positive**	**Positive**
Residential	• Public safety and perceptions thereof • Neighborhood vs. tourism "feel" • Limited housing choices • Concentration of social services • Noise • Lack of residential services and amenities	• Lively pedestrian atmosphere • Entertainment venues • Specialized retail • Offices • Proximity to Downtown core • Views • Special character of buildings	• Increase in choices • Increase in volume • Increase in community-related retail • New low-income housing funds
Commercial (Office, Retail, Entertainment & Hospitality)	• Access & circulation • Limited sites and difficulty in redeveloping them in historic district • Stadium event traffic • Code limitations on hotels	• Public transportation • Pending projects (North Lot, Trolley Barn, & historic redevelopments) • Increased jobs • Proximity to Downtown core • Cheaper rents, unique spaces	• Enhanced waterfront access • Large mixed use projects • Increased concentration of residents
Industrial	• Limited potential • Increasing land prices • Concentration of public facilities • Congestion	• Possible uses in office configurations	

Table 6 - Chinatown/International District Development Influencing Factors

	Current		Likely Future
Uses	**Negative**	**Positive**	**Positive**
Residential	• Public safety and perception thereof • Limited housing choices • Lack of community-serving professional services • Infrastructure condition • Vacant upper floors in buildings	• Cultural character • Mix of residents (ages, households, etc.) • Presence of arts • Public transportation	• Extension of Streetcar • New low-income housing funds
Commercial (Office, Retail, Entertainment & Hospitality	• Public safety and perception thereof • Access & circulation • Limited sites and difficulty in redeveloping historic district • Stadium event traffic • Code limitations on hotels	• Public transportation	• Market-rate housing • Increased residential concentrations • Resources for increasing BIA role
Industrial	• Limited potential	• Possible uses in office configurations	

Table 7 - Little Saigon Development Influencing Factors

	Current		Likely Future
Uses	**Negative**	**Positive**	**Positive**
Residential	• Public safety and perception thereof • Limited housing choices • Lack of community-serving professional services • Infrastructure condition • Fragmented ownerships • Some uses (such as chicken processing plant) discourage new residential uses nearby	• Cultural character • Broader housing, retail & services pending in Goodwill Project	• Extension of streetcar • New low-income housing funds
Commercial (Office, Retail, Entertainment & Hospitality	• Public Safety • Access & circulation • Limited sites • Stadium event traffic • Infrastructure conditions	• Public transportation	• Linkage with Rainier Corridor redevelopment • Yesler Terrace redevelopment • Market-rate housing • Increased residential concentrations • Resources for increasing BIA

Table 7 - Little Saigon Development Influencing Factors

	Current		Likely Future
Uses	**Negative**	**Positive**	**Positive** role
Industrial	• Limited potential	• Possible uses in office configurations	

Table 8 - Stadium Area/South of Dearborn Development Influencing Factors

	Current		Future
Uses	**Negative**	**Positive**	**Positive**
Residential	• Zoning restricts housing development • Access & circulation • Lack of community services and amenities	• Entertainment venues	
Commercial (Office, Retail, Entertainment & Hospitality	• Access & circulation (1st Ave. S. corridor)	• Available sites • Access & circulation (south of Dearborn)	
Industrial	• Stadium event traffic		

SECTION 2
INTERVIEWS WITH SELECTED STAKEHOLDERS

(The interviews were conducted in March and April of 2006)

Methodology and Overview

Key South Downtown stakeholders were asked to provide insights and suggestions for the South Downtown Plan that will ensure its applicability to the current economic, social, and cultural conditions in the area. The method involved interviews with stakeholders to elicit their individual opinions about the state of the area, the issues under consideration, and the manner in which the Staff Report either does or does not address the issues, as well as how the Plan should be further refined.

This is not a true representative (or statistically valid) sample of all of the stakeholder interests within the South Downtown. The list of participants was provided by DPD and was selected to cover the broad range of property and business owners, developers, social service providers, and investors that are active in the area. Some are members of the DPD Advisory Group that participated in the formulation of the draft. A list of the participants is included in the appendix.

We are very grateful for their revealing insights and strong interests in making South Downtown livable. While the participants all have strong opinions about South Downtown overall, most offered perceptions and opinions about specific neighborhoods or subareas (Pioneer Square, Chinatown/International District, Little Saigon, and the stadium area).

Process

The DPD staff and consultants generated a list of questions to be used in the interviews. The questions covered project plans "in the pipeline", land uses or activities, the economic investment climate, zoning and permitting, and other city services. The questions were sent to the participants prior to the interviews. The interviews were informal and the participants were encouraged to use the questions as a basis for discussing their personal knowledge and perspectives. Some interviews were of individuals and some were of small groups of stakeholders with similar interests such as large scale developers, service providers, and community organizations. Draft notes from the interviews were circulated to the participants for their review to ensure accuracy. Since some of the information discussed is confidential, the results of the interviews have been compiled into this report without attribution to specific individuals' comments.

General Observations of Interviewees

Nearly all of the participants were optimistic about the future of South Downtown's development potential, particularly if zoning and land use permit procedures are simplified and height restrictions are lifted in some areas - although significant reservations occur as described below. The potential for much more residential, office, retail, and service uses is felt to be very strong. Social, cultural, and

community livability is dependent upon a much more complex context of policies and strategies than simple land use regulations offer. A wide range of city infrastructure and service commitments needs to be part of the holistic Plan to support the major increases in resident population and private investment anticipated.

Observations about development in the "pipeline"
The participants of the interviews were asked to provide information describing South Downtown development project in which they were involved. The following summarizes that information by neighborhood. **This is not a complete list of all known projects in the development pipeline.**

Pioneer Square – Several large projects are in planning, permitting, or occupancy that are expected to result in a net increase of several million square feet of office space; up to 1,000 dwelling units (mostly market rate); and several hundred thousand square feet of retail/restaurant/entertainment space. Most of this is, or will be, new construction, and therefore does not reflect the redevelopment of historic buildings.

Chinatown/International District – A fairly intensive amount of new infill development in the "core" around Uwajimaya Village is expected to occur in the near future. This may include one or two hotels as well as market rate housing and retail. Several residential projects have been recently occupied, including both market rate and subsidized units. Other development and redevelopment has been inhibited by a number of factors described below.

Little Saigon – Other than the Goodwill site redevelopment with 600,000 square feet of retail (including a new Goodwill outlet) and 500+ dwelling units, no major projects are known to be pending. Developers and investors are looking for potential sites.

South of Dearborn & Stadium Area – Immediately south of Dearborn and along Sixth Avenue South, a 6.5 acre site is being planned for a large office complex with open space features. Another 3-story office addition to an existing building is in design. Development in the Stadium Transition Area has lagged apparently due to uncertainty about city policy and the need for major infrastructure improvements. A 300,000 square foot office project near Safeco Field is in permitting.

The appendix includes more details regarding specific projects described in the interviews.

Interview Themes
Within the context of overall Downtown Seattle growth forecasts, and South Downtown's position, the interviews revealed stakeholders' opinions framed below in four themes:

- What uses should be encouraged in South Downtown neighborhoods that would support an increase in community livability?

- Is there, and will there continue to be a positive environment for real estate development?

- What kind of changes to current zoning and permitting procedures are needed to stimulate new activity? and,

- What other policies or actions should the city be considering to produce results?

What Land Uses Should be Encouraged?

"Housing, Housing, Housing"

There is almost unanimous consensus that additional housing will generate a critical mass of resident population which will stimulate the neighborhoods' economic viability, create safer streets, and help to protect community integrity. Several participants suggested raising the comprehensive plan aggregate neighborhood housing target to 10,000 units. There are concerns that South Downtown has more than its fair share of low income housing. Most participants believe that emphasis should be placed on market-rate housing, while there should always be opportunities for a range of incomes and housing types.

"Work force housing" is a popular concept, although there does not seem to be a clear understanding of what income range this product caters to, nor whether it can be developed without some financial assistance. Tax credit program limitations on incomes may be a problem. A mix of income levels of 1/3 market rate, 1/3 workforce, and 1/3 subsidized would create a general balance, if not an ideal allocation. Partnerships of for-profit and non-profit developers could be a way to combine mixed income housing at the project level.

While it is generally expected that most new housing will be in the form of multifamily apartments or condominiums and lofts, there may also be demand for ground-related attached units in some parts of the neighborhoods.

Retail

According to interviewees, retail uses are expected to continue to be a strong development type. In order to support a larger and more affluent resident population, the types of retail uses attracted to the area will likely be those that provide pharmacies, groceries, apparel, personal services, day care, and home furnishings that are more neighborhood-serving than tourist-oriented. These uses are likely to require larger floor plates than can be accommodated in many of the existing buildings. Entertainment uses such as theaters, and hospitality uses like hotels are virtually non-existent and are necessary to sustain both tourism and visitor activity. Restaurants are also valuable contributors to the attractiveness of South Downtown. However, many are struggling for a variety of reasons, and many of them may not be able to survive relocation and higher rents resulting from redevelopment, particularly if available off-street parking is lost.

Office
According to interviewees, office development in South Downtown appears to be a very strong use, particularly for projects that can produce substantial amounts of space and large floor plates for anchor tenants. The area does or will offer proximity to a variety of transportation facilities including highways, the ferry system, light rail, and commuter rail. The recent activity by Starbucks and Amazon.com are indicative of these advantages. As the resident population increases, demand for office space for personal services, professionals, and smaller businesses should increase.

Other uses mentioned included technology research and development, college/vocational education, and specialized manufacturing supporting the growing Seattle biotechnology industry.

Industrial
Generally, the feeling was that the City should be working to protect current businesses that are located south of the stadiums. There is a good diversity of uses, but land price escalation, traffic congestion, and speculation is impacting the businesses' cost of operations and their abilities to sustain property improvements.

Other Uses
Finally, there is a prevailing notion that much more open space is needed to serve the area, particularly safe recreation area for residents. While some of the larger projects will provide some of this to serve their own users, the city should be working to create community spaces that have broad appeal to everyone, including seniors and children.

What is the Investment Environment in South Downtown?

Presently, the strength of the economy is driving substantial interest for development in South Downtown. Apart from some concerns about interest rates and competing development in other parts of the region, the private market is active in site acquisition and project planning. Since the area is different geographically, culturally, and demographically than the rest of downtown, the components of projects require a sophisticated approach. One of the most important features is the attractive transportation nexus created by the light rail, commuter rail, Amtrak, freeway access, and excellent bus transit service. The relatively large land areas on the edges of Pioneer Square and south of Dearborn are attractive for large projects that can attract significant retail and office tenants.

For community-based organizations, non-profits, and existing businesses, these factors have a down side. Land values and development costs are increasing, while the smaller scale of projects and use of existing historic buildings further exacerbate the complexity of financing and delivering projects that meet the demands for more modest residential and commercial developments.

Competition for low interest loans and other forms of financing for low-income development is tough, requiring considerable sophistication. The income limits (rent caps) for family housing have not been increased in four years, yet operating costs of

housing have inflated. Recent state legislation is providing some new financing sources, but the decline in the Section 8 Program is threatening. Continuation of city "bridge" loans and broadening of the housing levy fund for market rate work force housing would be positive steps.

Long-time property owners are reluctant to invest in their buildings and/or partner with developers when the risks of losing revenue during development and displacing long-time tenants are considered serious inhibitions. Existing small businesses are typically "self-financed" and have limited access to capital for improvements and operations.

Little Saigon's role as a gathering place and shopping center for the regional Vietnamese community is evolving as competing businesses emerge in the suburbs and along Rainier Avenue South towards Columbia City. The Yesler Terrace residents are drawn to Little Saigon to shop, perhaps enlarging the market potential when it is redeveloped. The transit free-ride zone does not include Little Saigon – a further negative.

There are many opinions about the impacts of the stadiums on South Downtown. It is true that sporting and exhibition events attract large crowds that could generate retail and entertainment business. The ability of businesses to capture the benefits of this activity varies according to the type and time of the event, the type of business, and the efforts of the business owners to market to these potential customers. At the same time, these events also saturate area parking that inhibits "normal" business, and the sports fans tend not to patronize local businesses – at least in Chinatown/ID and Little Saigon. In the stadium transition zone, the investment climate is clouded by speculation, concerns about continued declining freight mobility, and the City's inattention to needed infrastructure improvements.

Opinions about Zoning and Land Use Planning: Comments Related to Livable South Downtown Draft Recommendations

The interviewees generally had positive viewpoints on the current status of the South Downtown Plan (as drafted in March, 2006). As essentially a "zoning scheme", it offers the potential of producing some basic incentives for new development. However, there are some major concerns. The proposed 120 foot height limit is difficult from a construction economics standpoint. There should be further analysis of heights that would support "high rise" concrete or steel construction. Bigger buildings require larger sites, which are difficult to assemble in some parts of the area. Beyond the question of the zoning envelopes, the location of proposed land use designations and height increases and the regulation of uses also generated considerable comment.

Some wonder why the Charles Street Yards are not included in the proposal. This is a major development or open space opportunity. The old "Commercial" and "Industrial Commercial" zoning on the periphery should be considered for possible changes to designations that would support mixed use development. And, the portion of Little

Saigon north of Jackson between Main and Boren should be considered for changes to increase density given its proximity, view potentials, and redevelopment potential. In all cases, the potential capacity of the land use proposals needs to be carefully analyzed with respect to traffic generation, design quality, utility capacity, and parking. The city should consider development of public short term parking facility(s) that would support local businesses.

Beyond the physical characteristics of the proposal, the Plan must give careful consideration to streamlining the code and the permitting procedures. Overlapping development standards, public works standards, special review standards, and other city processes have inhibited development and redevelopment planning for smaller projects in particular, although this is true for the large ones too. Standards should be used to guide development based on design, not uses. Hotels are treated the same as office buildings in the current FAR provisions, which affects project planning. Perhaps the TDR program should be extended to South Downtown.

The Plan should also have a strong public realm urban design component including location and design of open spaces, streetscape improvements, and pedestrian linkages. Planning should seek to provide north-south pedestrian connections within the long east-west blocks in Little Saigon, and better connections should be made between Chinatown/ID and Pioneer Square. This component is needed to coordinate improvements and connections throughout South Downtown. While each neighborhood should maintain its own identity, way-finding systems and area-wide infrastructure improvements need to be coordinated. This includes coordination with other plans and programs addressing surrounding areas and projects such as the Viaduct, Rainier Avenue, and SODO. Existing design guidelines should be re-examined and where they do not apply to some areas, be extended.

The Plan should also have a sustainability component that outlines energy strategies that could balance "first-costs" of conservation measures with long-term savings in energy costs. This could include an area-wide approach using an organization like a PDA to finance and operate facilities.

Opinions About Other City Policies And Actions

This portion of the interviews generated a much broader, diverse set of comments, many of which are specific to the individual neighborhoods. The most prevalent comments pertained to the need for increased public safety. There is a strong opinion throughout the area that the streets, parks, and other public spaces are inadequately policed, maintained and lit, resulting in drug dealing, gang activity, and concentrations of homeless persons. While there is some community attention to this issue (Chinatown/I.D. BIA), funding is not adequate to provide other than incidental policing. Further, many residents, particularly the elderly, are reluctant to report crimes, either because of difficulties with language or unfamiliarity with the system or process. A police substation in a prominent location like Hing Hay Park should be considered. In addition, the quality of the public realm is considered to be a road block to creating a livable community. This ranges from the condition of the streets

and sidewalks, crosswalks, storm water management, litter control, traffic control, and urban design treatments that are perceived as outdated.

Beyond public safety, overall code enforcement is inadequate. This includes inspection and identification of buildings and areas where structural, fire prevention, or public health violations threaten the surroundings. In the stadium area, parking enforcement is a particular problem where business driveways and "no parking" loading zones are often blocked.

In the area of transportation, there is consensus that the streetcar should be extended east on Jackson to 23rd, and possibly further north along Broadway and down to Safeco Field so that it would become more integrated with both local circulation needs and the intermodal terminal. The entire South Downtown should be included in the free-ride zone. Freeway access could possibly be improved by reconfiguring and signalizing the Dearborn off-ramp intersection to allow traffic to continue north across Dearborn to Weller. Arterial speed limits should be evaluated and enforced. A non-motorized transportation plan is needed to integrate the planning and design of walks, trails, bikeways, and transit facilities and service with the infrastructure "grid". This should consider neighborhood-level pedestrian linkages as well as inter-neighborhood linkages.

Beyond the suggested code amendments outlined above, the city's permitting system should be streamlined to minimize the complexities involving overlapping reviews that occur in much of South Downtown. Requirements coming from special reviews and city departments frequently complicate the design of smaller projects involving rehabilitation of old buildings. Ideally, the city would manage the permitting process with project leaders who could provide more hands-on assistance and communication with applicants, providing answers to policy questions and code interpretations and coordinating reviews by all departments. Deferral of permit fees, utility connection charges and sales tax on construction would all be valuable incentives, particularly for redevelopment projects where revenues from current uses are terminated during construction.

Programs and policies oriented towards public support of affordable housing and business need attention. Non-profit housing developers/operators are challenged by diminishing financing in the face of escalating land and development costs. While some of these challenges could be resolved by related permitting and community parking strategies mentioned above, there still remains a perception that projects will be harder and harder to implement, and that leasing and management of commercial portions of properties will be difficult as rents and business operations costs increase.

Some housing-related strategies suggested for consideration include:

- Incorporate inclusionary zoning and/or increased methods for for-profit and non-profit developers to partner in mixed-income projects;
- Pursue land banking to "freeze" land costs for projects;

- Prepare an analysis of income qualification criteria for households that are spending more than 30% of their incomes on housing;
- Engage the Office of Housing in a proactive role of education, facilitation, and financial support of projects.

Some business-related strategies suggested for consideration include:

- South Downtown marketing program to encourage visitors such as cruise ship passengers and regional shoppers emphasizing the cultures, dining, and unique retail opportunities;
- Performing arts center that leverages the vitality of local theater, dance, and other artists;
- Small business assistance in cash flow management, financing, accounting, marketing, and dealing with relocation when existing spaces are being redeveloped;
- Organizational and funding assistance in forming or expanding BIAs to provide localized services such as street cleaning, public safety, and advertising;
- Facilities or methods for small business "incubators".
- Parking strategy to meet ongoing business needs as well as demands for special events and regional facilities.

Finally, implementation of the South Downtown Plan through public investment should be carefully coordinated with the adopted goals, policies, regulations and strategies of the Greater Duwamish Manufacturing and Industrial Center Plan to ensure that conflicts of land use, land speculation, freight mobility, and stadium events have no further impacts on the sustainability of the industrial area's vitality and its businesses.

SECTION 3
DEVELOPMENT FEASIBILITY UNDER CURRENT AND POSSIBLE FUTURE ZONING

Purpose and Method

The Livable South Downtown project is intended to identify and implement land use actions that will encourage people to live, work, and play in South Downtown Seattle. Potential plan elements are being evaluated to determine their economic impact in general, and the extent to which the plan will provide incentives for private development. To this end, a series of proforma analyses was prepared to compare the feasibility of development under current zoning with the feasibility under alternative future zoning.

Land availability and cost, market demand, development cost, financing, and permitting are the factors that influence development feasibility now and in the future. The following table summarizes how these factors appear to be working in the South Downtown:

Table 9 – Financial Feasibility Factors

	Pioneer Square	Chinatown/ID	Little Saigon	Stadium Area
Land Availability	Limited sites other than WOSCA, North Lot, Trolley Site, & "Over Tracks"	Limited sites, many constrained by ownerships	Limited sites, many constrained by ownerships	--
Land Cost	--	--	--	--
Market Demand	Appears strong for office and retail;	Possibly strong, but affected by land availability, cost, and condition of the area	Depends on outside influences such as Goodwill, and surrounding area development;	--
Development Cost	Constraints offered by soils conditions, water table, height limits	Affected by potential project limitations of parcel sizes and costs, and special reviews;	--	--
Financing	--	--	--	--
Permitting	Overlapping design review requirements; current code provisions are complex	Overlapping design review requirements; current code provisions are complex	--	--

These factors can be reflected in a series of assumptions in the proforma analysis of various land use alternatives. The proforma analysis compares the cost of development to completed value to determine the developer profit. The developer profit for any development plan is compared to a target rate of 15% of development costs to identify whether that option is feasible. The 15% rate is considered a typical

rate falling within a range of 10% to 20%. Such a rate provides adequate incentive for a developer to assume the risk associated with development. Developer profit levels can also be compared among alternative development or zoning scenarios to determine the increase (or decrease) in value associated with the assumed change in development parameters. The level of increased profit is adjusted to reflect a fair return on the increased cost of development under more dense development alternatives. In this analysis, the increased profit is adjusted for a 20% return on additional development cost, reflecting a stronger incentive for denser development. The value of the completed development is estimated as the net sales proceeds in the case of a residential condominium project, or the capitalized value of the operating income in a stabilized year for a rental project.

The following presents a description of alternatives, a summary of assumptions, and a discussion of results.

Description of Alternatives

Department of Planning and Development (DPD) staff identified nine cases for existing zoning and several alternative zoning designations for each. Staff identified the physical parameters for each case. An apartment case and a condominium case are described for each residential alternative, because the economics of the two product types can differ. The analysis indicates the conditions for feasibility for each type for each zoning alternative. Results are compared separately across apartment alternatives and condominium alternatives. Based on evidence from recent projects, condominiums are assumed to be larger at 950 square feet on average compared to apartments at 800 square feet, and parking for condominiums is assumed at 1.0 space per units on average, compared to .75 spaces per unit for apartments.

#1. Base Case NC3 65 and NC 3 85 Alternatives

	NC3 65 Case	NC3 85 Case	NC3 65 Case	NC3 85 Case
Site Area (Square Feet)	22,800	22,800	22,800	22,800
Gross Building Area	97,400	114,100	97,400	114,100
Net Building Area	83,930	98,125	81,350	95,044
Principal Use	Apartments	Apartments	Condominium	Condominium
Dwelling Units	91	109	78	94
Commercial Net building Area	10,830	10,830	10,830	10,830
Parking (Stalls)	68	82	78	94

#2. Base Case NC3 65 and DMR 125 Alternative

	NC3 65 Case	DMR 125 Case	NC3 65 Case	DMR 125 Case
Site Area (Square Feet)	22,800	22,800	22,800	22,800
Gross Building Area	97,400	184,500	97,400	184,500
Net Building Area	83,930	157,965	81,350	152,772
Principal Use	Apartments	Apartments	Condominiums	Condominiums
Dwelling Units	91	184	78	158
Commercial Net building Area	10,830	10,830	10,830	10,830
Parking (Stalls)	68	138	78	158

#3. Base Case IDM 75/85 and IDM 125 Alternatives

	IDM 75/85	IDM 125 Case	IDM 75/85	IDM 125 Case
Site Area (Square Feet)	28,800	28,800	28,800	28,800
Gross Building Area	158,700	236,200	158,700	236,200
Net Building Area	136,335	202,210	132,006	195,556
Principal Use	Apartments	Apartments	Condominiums	Condominiums
Dwelling Units	153	236	131	202
Commercial Net building Area	13,680	13,680	13,680	13,680
Parking (Stalls)	115	177	131	202

#4. Base Case IG2 U 85 and Alternatives

	IG2 U 85	IC 125 Case	DMC 150	SDM 125/150	SDM 125/150
Site Area (Square Feet)	61,440	61,440	61,440	61,440	61,440
Gross Building Area	150,000	234,320	440,000	428,500	428,500
Net Building Area	137,500	213,388	396,000	373,725	366,270
Principal Use	Office	Office	Office	Office/Apt.	Office/Condo
Dwelling Units	-	-	-	249	240
Commercial Net building Area	137,500	213,388	396,000	162,500	162,500
Parking (Stalls)	243	295	430	429	429

#5. Base Case C2 85 and DMC 150 and SDM 125/150 Mixed Alternatives

	C2 85	DMC 150	SDM125/150 Mixed	SDM 125/150 Residential	SDM125/150 Mixed	SDM 125/150 Residential
Site Area (Square Feet)	27,360	27,360	27,360	23,360	27,360	23,360
Gross Building Area	123,000	200,000	181,520	127,100	181,520	127,100
Net Building Area	111,530	180,475	159,916	109,535	159,916	106,172
Principal Use	Office	Office	Office/Apt.	Apartments	Office/Condo	Condominiums
Dwelling Units	-	-	82	112	82	102
Commercial Net building Area	111,530	180,475	90,148	14,250	90,148	14,250
Parking (Stalls)	154	200	177	112	177	102

#6. Base Case IDM 100/120 and IDR150, IDM 180 Alternatives

	IDM 100/120	IDR 150	IDM 180	IDM 100/120	IDR 150	IDM 180
Site Area (Square Feet)	21,600	21,600	21,600	21,600	21,600	21,600
Gross Building Area	182,250	182,310	276,800	182,250	182,310	276,800
Net Building Area	154,913	156,044	223,690	149,445	150,898	223,690
Principal Use	Apartments	Apartments	Apartments	Condominiums	Condominiums	Condominiums
Dwelling Units	194	182	233	166	156	220
Commercial Net building Area	-	10,260	14,250	-	10,260	14,250
Parking (Stalls)	146	137	175	166	156	220

#7. Base Case IDM 100/120 and IDR 150 and IDM 240 Alternatives

	IDM 100/120	IDR 150	IDM 240	IDM 100/120	IDR 150	IDM 240
Site Area (Square Feet)	21,600	21,600	21,600	21,600	21,600	21,600
Gross Building Area	182,250	182,310	237,900	182,250	182,310	237,900
Net Building Area	154,913	156,044	192,570	149,445	150,890	192,570
Principal Use	Apartments	Apartments	Apartments	Condominiums	Condominiums	Condominiums
Dwelling Units	194	182	210	166	156	188
Commercial Net building Area	-	10,260	14,250	-	10,260	14,250
Parking (Stalls)	146	137	158	166	156	188

#8. Base Case PSM 100 and PSM 130 Alternatives

	PSM 100	PSM 130	PSM 100	PSM 130
Site Area (Square Feet)	12,960	12,960	12,960	12,960
Gross Building Area	59,405	112,330	59,405	59,405
Net Building Area	51,142	96,129	49,555	92,953
Principal Use	Apartments	Apartments	Condominiums	Condominiums
Dwelling Units	56	112	48	96
Commercial Net building Area	6,156	6,156	6,156	6,156
Parking (Stalls)	42	84	48	96

#9. Base Case C2 85 and IDM 125 Alternatives

	C2 85	IDM 125	C2 85	IDM 125
Site Area (Square Feet)	27,360	27,360	27,360	27,360
Gross Building Area	136,800	255,240	136,800	255,240
Net Building Area	117,648	218,322	113,954	211,075
Principal Use	Apartments	Apartments	Condominiums	Condominiums
Dwelling Units	131	257	112	220
Commercial Net building Area	12,996	12,996	12,996	12,996
Parking (Stalls)	98	193	112	220

Assumptions

The key assumptions in the analysis are related to revenues and costs. Generally rents and sales process increase with height, and the costs of construction increase as well. The key assumptions are summarized in the following table:

Table 10 – Cost Estimating Assumptions

	Height					
	65'	**85'**	**125'**	**150'**	**180'**	**240'**
Apartment Rent (/sq. ft./yr.)	26.00	26.50	28.00	28.50	29.00	30.00
Apartment Exp. (/sq. ft./yr.)	7.65	7.65	7.65	7.65	7.65	7.65
Condo Sales Price (/sq. ft.)	475.00	525.00	625.00	675.00	700.00	750.00
Condo Sales Costs (% of Price)	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Office Rent (/sq. ft./yr)	38.00	38.00	38.00	38.00		
Office Expense (/sq.ft./yr.)	10.00	10.00	10.00	10.00		
Retail Rent (/sq. ft./yr)	20.00	20.00	20.00	20.00	20.00	20.00
Capitalization Rate						
Apartments	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Office	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
Retail	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%
Parking Rent						
Apartments (/sp./mo.)	95.00	95.00	95.00	95.00	95.00	95.00
Office (/sp./mo.)	150.00	150.00	150.00	150.00	150.00	150.00
Construction Cost						
Apartments (/sq. ft.)	115.00	120.00	191.00	210.00	212.00	216.00
Condominiums (/sq. ft.)	140.00	150.00	224.00	235.00	237.00	241.00
Office (/sq. ft.)	200.00	200.00	200.00	200.00		
Retail (/sq. ft.)	170.00	170.00	170.00	170.00		
Underground Parking (/sp.)	22,500	24,000	29,000	31,000	31,500	32,000
Aboveground Parking (/sp)	15,000	15,000	15,000	15,000	15,000	15,000
Soft Costs						
Apartments (% of constr.)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Condominiums (% of constr.)	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%
Office (% of constr.)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Retail (% of constr.)	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%

Construction costs reflect today's prices. Rents and sales prices reflect estimated market conditions at the completion of the projects. The rents and prices are well above current rates in the south Downtown area, but are considered to be realistic for two years from now assuming that the area experiences development pressures similar to other areas of the center city.

Land prices are identified for the base cases and assumed at the same level for each alternative. The implicit assumption is that any increased value resulting from the higher density accrues to the project and not the land. Assumed prices vary from $60

per square foot for the industrial zones to $150 per square foot for the Pioneer Square zones.

Results

The results of the analysis can be expressed in terms of absolute feasibility – meeting the target rate or not – or in terms of the increased performance of alternatives in comparison with the base cases. A particular case is considered feasible if the developer profit exceeds 15%. The alternatives are compared in terms of the increased profit after adjusting for a suitable return on the extra cost of development (assumed 20% of cost reflecting a higher incentive).

#1. Base Case NC3 65 and NC 3 85 Alternatives

	NC3 65 Case Apartments	NC3 85 Case Apartments	NC3 65 Case Condominium	NC3 85 Case Condominium
Capitalized Value of Income Stream	22,692,148	27,299,069	2,324,840	2,324,840
Sale Proceeds from Condominiums	-	-	30,817,240	38,738,440
Development Cost	19,693,214	23,414,798	23,974,764	28,299,246
Developer Profit	2,998,934	3,884,271	9,167,316	12,764,034
Developer Profit as % of Cost	15.2%	16.6%	38.2%	45.1%
Increased Profit		885,337		3,596,718
Increased Profit after 20% Return		141,020		2,731,822

#2. Base Case NC3 65 and DMR 125 Alternative

	NC3 65 Case Apartments	DMR 125 Case Apartments	NC3 65 Case Condominiums	DMR 125 Case Condominiums
Capitalized Value of Income Stream	22,692,148	47,640,659	2,324,840	2,324,840
Sale Proceeds from Condominiums	-	-	30,817,240	81,616,650
Development Cost	19,693,214	52,842,894	23,974,764	64,819,024
Developer Profit	2,998,934	(5,202,235)	9,167,316	19,122,466
Developer Profit as % of Cost	15.2%	-9.8%	38.2%	29.5%
Increased Profit		(8,201,168)		9,955,150
Increased Profit after 20% Return		(14,831,104)		1,786,298

#3. Base Case IDM 75/85 and IDM 125 Alternatives

	IDM 75/85 Apartments	IDM 125 Case Apartments	IDM 75/85 Condominiums	IDM 125 Case Condominiums
Capitalized Value of Income Stream	38,023,238	61,004,694	2,936,640	2,591,153
Sale Proceeds from Condominiums	-	-	57,151,458	104,578,700
Development Cost	32,855,200	68,204,304	41,134,985	83,524,934
Developer Profit	5,168,038	(7,199,610)	18,953,113	23,644,919
Developer Profit as % of Cost	15.7%	-10.6%	46.1%	28.3%
Increased Profit		(12,367,648)		4,691,806
Increased Profit after 20% Return		(19,437,469)		(3,786,184)

#4. Base Case IG2 U 85 and Alternatives

	IG2 U 85 Office	IC 125 Case Office	DMC 150 Office	SDM 125/150 Office/Apt.	SDM 125/150 Office/Condo
Capitalized Value of Income Stream	51,205,714	80,838,240	158,708,571	125,272,301	63,955,714
Sale Proceeds from Condominiums	-	-	-	-	112,481,040
Development Cost	46,750,510	73,081,739	136,538,550	128,075,420	144,220,505
Developer Profit	4,455,204	7,756,501	22,170,021	(2,803,119)	32,216,249
Developer Profit as % of Cost	9.5%	10.6%	16.2%	-2.2%	22.3%
Increased Profit		3,301,296	17,714,817	(7,258,323)	27,761,045
Increased Profit after 20% Return		(1,964,950)	(242,791)	(23,523,305)	8,267,046

#5. Base Case C2 85 and DMC 150 and SDM 125/150 Mixed Alternatives

	C2 85 Office	DMC 150 Office	SDM125/150 Mixed Office/Apt.	SDM 125/150 Residential Apartments	SDM125/150 Mixed Office/Condo	SDM 125/150 Residential Condominiums
Capitalized Value of Income Stream	43,449,600	71,235,214	54,658,029	31,074,610	34,409,349	3,420,000
Sale Proceeds from Condominiums	-	-	-	-	38,511,936	57,083,562
Development Cost	35,016,654	62,662,130	54,630,637	36,930,090	59,940,619	45,525,787
Developer Profit	8,432,946	8,573,084	27,391	(5,855,480)	12,980,665	14,977,775
Developer Profit as % of Cost	24.1%	13.7%	0.1%	-15.9%	21.7%	32.9%
Increased Profit		140,138	(8,405,555)	(14,288,426)	4,547,719	6,544,829
Increased Profit after 20% Return		(5,388,957)	(12,328,352)	(14,671,114)	(437,074)	4,443,002

#6. Base Case IDM 100/120 and IDR150, IDM 180 Alternatives

	IDM 100/120 Apartments	IDR 150 Apartments	IDM 180 Apartments	IDM 100/120 Condominiums	IDR 150 Condominiums	IDM 180 Condominiums
Capitalized Value of Income Stream	47,723,567	48,432,008	70,610,092	-	2,462,400	3,420,000
Sale Proceeds from Condominiums	-	-	-	85,930,875	87,336,322	134,879,360
Development Cost	53,437,480	57,023,423	85,444,794	66,066,620	67,328,340	102,076,888
Developer Profit	(5,713,913)	(8,591,416)	(14,834,702)	19,864,255	22,470,383	36,222,472
Developer Profit as % of Cost	-10.7%	-15.1%	-17.4%	30.1%	33.4%	35.5%
Increased Profit		(2,877,503)	(9,120,789)		2,606,127	16,358,217
Increased Profit after 20% Return		(3,594,692)	(15,522,252)		2,353,784	9,156,163

#7. Base Case IDM 100/120 and IDR 150 and IDM 240 Alternatives

	IDM 100/120 Apartments	IDR 150 Apartments	IDM 240 Apartments	IDM 100/120 Condominiums	IDR 150 Condominiums	IDM 240 Condominiums
Capitalized Value of Income Stream	47,723,567	44,170,644	58,178,215	-	2,462,400	3,420,000
Sale Proceeds from Condominiums	-	-	-	85,930,875	87,331,230	123,040,800
Development Cost	53,437,480	56,935,743	74,668,010	66,066,620	67,218,233	88,405,751
Developer Profit	(5,713,913)	(12,765,100)	(16,489,795)	19,864,255	22,575,397	38,055,049
Developer Profit as % of Cost	-10.7%	-22.4%	-22.1%	30.1%	33.6%	43.0%
Increased Profit		(7,051,187)	(10,775,882)	-	2,711,142	18,190,794
Increased Profit after 20% Return		(7,750,839)	(15,021,988)	-	2,480,819	13,722,968

#8. Base Case PSM 100 and PSM 130 Alternatives

	PSM 100 Apartments	PSM 130 Apartments	PSM 100 Condominiums	PSM 130 Condominiums
Capitalized Value of Income Stream	14,671,786	29,181,115	1,477,440	1,477,440
Sale Proceeds from Condominiums	-	-	21,959,641	49,908,275
Development Cost	14,969,037	31,516,321	17,778,206	38,644,816
Developer Profit	(297,251)	(2,335,206)	5,658,875	12,740,899
Developer Profit as % of Cost	-2.0%	-7.4%	31.8%	33.0%
Increased Profit		(2,037,955)	-	7,082,024
Increased Profit after 20% Return		(5,347,412)	-	2,908,702

#9. Base Case C2 85 and IDM 125 Alternatives

	C2 85 Apartments	IDM 125 Apartments	C2 85 Condominiums	IDM 125 Condominiums
Capitalized Value of Income Stream	33,053,598	66,364,389	3,119,040	3,119,040
Sale Proceeds from Condominiums	-	-	48,762,907	113,895,540
Development Cost	28,478,359	72,564,305	34,668,319	89,186,909
Developer Profit	4,575,239	(6,199,916)	17,213,628	27,827,671
Developer Profit as % of Cost	16.1%	-8.5%	49.7%	31.2%
Increased Profit		(10,775,155)		10,614,043
Increased Profit after 20% Return		(19,592,344)		(289,675)

Conclusions

The results of the analysis suggest the following conclusions.

1. Apartment cases in the 65' and 85' zones are feasible. The relatively inexpensive wood frame construction allows for feasible development. The apartment scenarios in the taller buildings generally aren't feasible given the rent and cost assumptions. Market rents aren't high enough to support the higher cost of concrete and steel construction.

2. Condominium cases are feasible. Market prices are high enough to support the higher construction costs in the taller building cases.

3. Office uses are feasible at the stated rents for the larger cases. These rents are not achievable today, but are likely to be achievable in two years when a new project is completed. The larger buildings are more feasible because the unit construction costs are similar, but the cost of land is spread over more rentable square feet.

4. The taller height residential cases generally provide greater developer profit after adjusting for return on additional cost, except for the 125' cases as alternatives to 65' or 85' cases. While the 125' condominiums are feasible in absolute terms, the incremental returns beyond those of the lower height cases don't justify the additional investment.

APPENDIX

Participants in the Interviews

Bert Gregory, Mithun
David Huchthausen, Somerset Properties
Tom Im, Inter-Im
Ken Katahira, Inter-Im
Jim Koh, Coho Real Estate
Chris Koh, Coho Real Estate
Alan Kurimura, Uwajimaya
Paul Lambros, Plymouth Housing Group
Joel Lavin, Sacotte Construction
Paul Liao, Pacific Rim Center, LLC.
Quang Nguyen, Vietnamese American Economic Development Association
Tam Nguyen, Saigon Bistro
Jim Potter, Kauri Investments, Ltd.
Greg Smith, Urban Visions
Frank Stagen, Nitze-Stagen
Sue Taoka, Chinatown/International District PDA
Daryl Vange, Ravenhurst Development, Inc.
Bill Vivian, Gull Industries
Tim Wang, Chinatown/International District PDA

Pipeline Projects

(Projects described by the participants, not including other projects pending in South Downtown)

Pioneer Square

- Qwest North Lot development proposals 900+ residential units and complementary ground-floor retail uses proposed in buildings ranging up to 150 feet in height..

- BNSF air rights development along Fourth Avenue - 10 acre site with 1.3-1.5 million square feet of office/residential and expansion of the intermodal terminal and exhibition hall with parking and a promenade at the Fourth Avenue level, between King Street Station and Royal Brougham.

- Johnson Building rehabilitation at Railroad Way and Occidental – joint project with Historic Seattle, features 68 medium priced condominiums.

- Merrill Place block - potential 200,000 square feet addition along the western side of the property.

- Reedo Building rehabilitation at 542 First Avenue S. - retail and office uses.

- Starbucks - recently acquired 83 King Street and an adjoining development site: The 83 King Building is 200,000 sq. ft. and the development site has a Master Use Permit for another 200,000 sq. ft. of offices.

- Trolley Tower on Occidental - including a new maintenance facility for the Waterfront Streetcar with residential above. A height increase to 130 feet is being sought.

- Stadium West (WOSCA) - between King Street and Royal Brougham. A 10 building complex is envisioned, north four buildings residential including 600 DU; six office buildings with a million square feet; and about 200,000 square feet of retail and entertainment space

- Lowman Building - redevelopment with 98 loft apartments

- 13-story building at Second & Yesler (Campbell Fuller property) - with 109 DU.

Chinatown/International District

- Sites in and around Uwajimaya Village - Planning for uses including underground parking, ground floor retail and hotel/condominium uses. Current Village apartments have been sold.
- The Alps renovation - 117 unit low-income SRO building being improved
- Pang Warehouse property redevelopment – retail and warehouse with a conditional use permit for housing – status unknown.
- Bush Hotel and the Central Building renovations - to repair damage from the last earthquake and to improve the quality of the retail spaces.
- Nihonmachi Terrace mixed use project on Maynard Street - 49 units ranging from studios to four-bedroom apartments, office space and underground parking (43 spaces). 20 of the units are Section 8.

Little Saigon

- Goodwill/Herzog Glass property redevelopment between Weller and Dearborn and 13th and Rainier - "mixed-use power center" featuring new 120,000 s.f. Goodwill store; 600,000 of retail including neighborhood-serving and regional businesses; 2,300 parking spaces; and approximately 500 dwelling units (½ condo, ½ apartments - 20% affordable and 80% workforce housing); including a contract rezone from the current industrial/commercial zoning to neighborhood commercial (NC3-85).

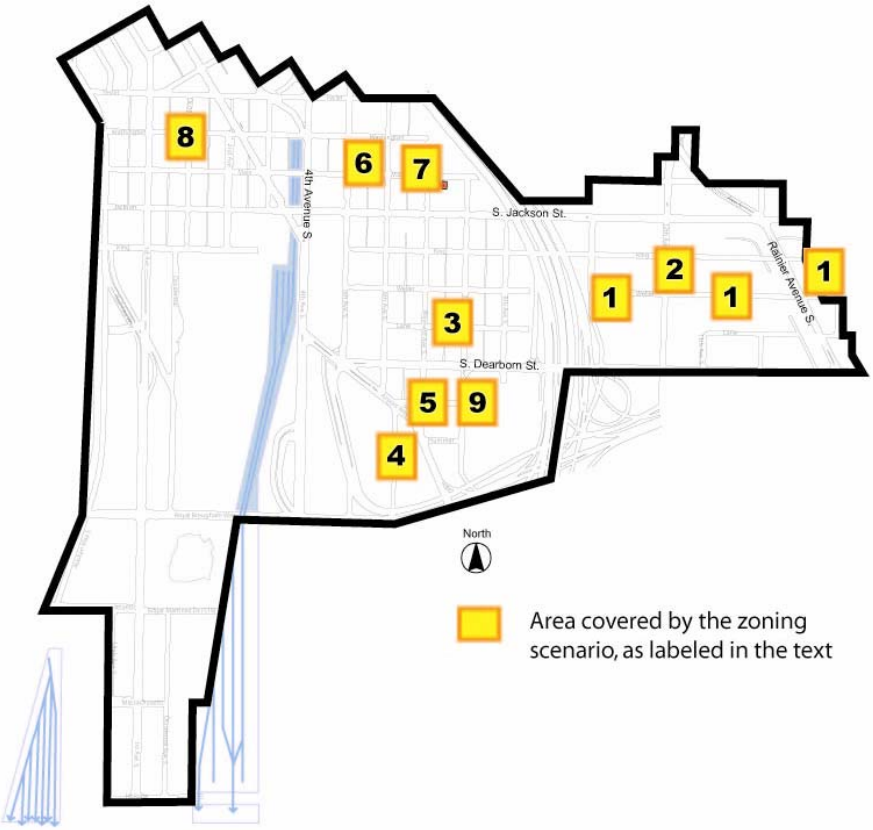
South of Dearborn

- Stadium East 6.5 acre site south of Airport Way South divided by Sixth Avenue South - four office building complex up to 150 feet in height with over 2 acres of open space, a cultural facility, a created wetland, and winter garden. Sixth would remain open.

Stadium Area (& South)

- Redevelopment of the "Home Plate" parking lot at First and Atlantic - 320,000 square foot office building.

Vicinities Addressed by Pro-Forma Analysis Scenarios



APPENDIX E
HOUSING RESOURCES EVALUATION AND IMPACT ANALYSIS

AFFECTED ENVIRONMENT

South Downtown's residential population has long been an important part of Seattle's urban center. Pioneer Square and Chinatown/International District feature many of Seattle's oldest apartment buildings and a large number of affordable housing units.

South Downtown is expected to grow in the coming years under all land use scenarios, adding both jobs and residences. A key objective of Livable South Downtown planning is to evaluate and protect existing housing resources, particularly those that serve households with below-median incomes. Planning efforts should also evaluate how future residential growth that serves a diversity of households may complement the historic and cultural neighborhoods of South Downtown.

Analysis of housing issues involves understanding how complex land use, zoning and housing policies and regulations can be guided to successfully maintain affordable housing supplies and historic preservation objectives while accommodating feasible, well-situated new developments. Other important factors include urban design, architectural quality, cultural preservation, public amenities and services and environmental challenges such as noise and air pollution.

This analysis describes the housing growth trends and goals for South Downtown, the area's housing supply, and the potential threats to affordable housing supply. It then evaluates at a programmatic level the potential impacts of the EIS Alternatives on South Downtown neighborhoods' housing resources. A summary of conclusions can be found at the end of this chapter.

I. POLICY GUIDANCE FOR SOUTH DOWNTOWN HOUSING

Several important policy documents guide future development of housing resources in South Downtown. These documents provide a basis for evaluating the South Downtown EIS Alternatives.

Seattle Comprehensive Plan. According to the Seattle Comprehensive Plan's growth projections, the Downtown residential population is expected to more than double over the coming twenty years. This expectation is based on a number of factors: citywide growth targets from the Countywide Planning Policies, recent growth trends in the area, zoned capacity for additional growth, and data from the Puget Sound Regional Council.

The Comprehensive Plan identifies housing growth targets for the Pioneer Square and Chinatown/I.D. neighborhoods (see Table E-1). No housing targets are identified for areas currently within the Greater Duwamish Manufacturing and Industrial Center (MIC) and the Stadium Transition Area Overlay zone because these areas emphasize industrial uses as the preferred and dominant land use pattern. Residential uses are not permissible in those areas, except for artist live-work studios and caretaker units.

Table E-1
Comprehensive Plan Household Growth Projections in Downtown Neighborhoods

	Current Comprehensive Plan Growth Targets, 2004-2024	
	Households	**Percent of Total Downtown Urban Center**
Pioneer Square	1,000	10
Chinatown/I.D.	1,000	10
Belltown	4,700	47
Commercial Core	300	3
Denny Triangle	3,000	30
Downtown Urban Center Total (DUC)	10,000	100

In addition to identifying housing growth targets, Comprehensive Plan goals and policies promote: a mix of housing that appeals to a range of ages, incomes, household types and sizes, and cultural backgrounds; housing for children and seniors; home-ownership opportunities; public and private investment in housing resources; retention of existing housing units; quality design; safe and habitable housing conditions; and affordability for a diversity of households.

The Comprehensive Plan specifically states that future growth should accommodate the following affordability levels:

- At least 20 percent of expected residential growth should be affordable to households earning up to 50 percent of median income
- At least 17 percent of expected residential growth should be affordable to households earning between 51 and 80 percent median income

Other goals and policies indicate:

- the City's commitment to "take a leadership role in regional efforts to increase affordable housing preservation and production in order to ensure a balanced regional commitment to affordable housing, while also maintaining the City's commitment to affordable housing." (Policy H3).
- the goal to "achieve a mix of housing types that are attractive and affordable to a diversity of ages, incomes, household types, household sizes, and cultural backgrounds." (Goal HG4).
- a policy of "encourag[ing] greater ethnic and economic integration of neighborhoods [without] displacement of existing low-income residents from their communities [and] allocat[ing] housing subsidy resources in a manner that increases opportunities for low-income households, including ethnic minorities, to choose among neighborhoods throughout the city." (Policy H16).

These policies articulate the City's commitment to preservation and production of affordable housing serving diverse populations, including existing low-income and ethnic minority households. The presence of numerous low-income and minority households in Pioneer Square and Chinatown/I.D. underscores the importance of making choices in Livable South Downtown planning that will preserve affordable housing, provide for future affordable housing production in the study area, and define how future development of all kinds will contribute effectively to affordable housing objectives.

It should be noted that land in Chinatown/I.D. and Pioneer Square is relatively affordable compared to other Downtown Urban Center areas. Chinatown/I.D. in particular has several properties that could be candidates for future affordable housing development. Future development could benefit by receiving funds available from City programs to support affordable housing. At the same time, property values would be influenced to some degree by zoning, which may be changed through Livable South Downtown recommendations. The dynamics of real estate markets, zoning and available funding could influence future housing types.

Neighborhood Plans. The Pioneer Square and Chinatown/International District neighborhood plans strongly emphasize increased residential development within the neighborhoods. Both plans include goals relating to housing diversity, design and development opportunities. The Pioneer Square neighborhood plan strongly supports residential uses within Pioneer Square, encouraging housing opportunities for all incomes while maintaining the area's historic character. The Chinatown/I.D. neighborhood plan supports the diversification of the area's housing stock with more moderate income and family housing and the preservation of existing affordable housing resources.

II. SOUTH DOWNTOWN HOUSING COUNT AND GROWTH TRENDS

South Downtown's housing stock comprises approximately 16%[1] of Downtown's overall housing units. There are currently 3,677 occupied housing units in the study area's Pioneer Square and Chinatown/I.D. neighborhoods. Of these, 1,151 (31%) are located within Pioneer Square, and 2,526 (69%) are located in the Chinatown/International District neighborhood. Housing units in the Chinatown/I.D. neighborhood include 25 units[2] east of Interstate 5, in the vicinity known as Little Saigon. A detailed inventory of existing units is included at the end of this Appendix.

Prior to 1990, South Downtown's housing inventory had been relatively static as many of the area's units were located in older historic buildings, and new building development was infrequent. However, between 1990 and 2005, the number of housing units increased 51% throughout South Downtown (see Table E-2).

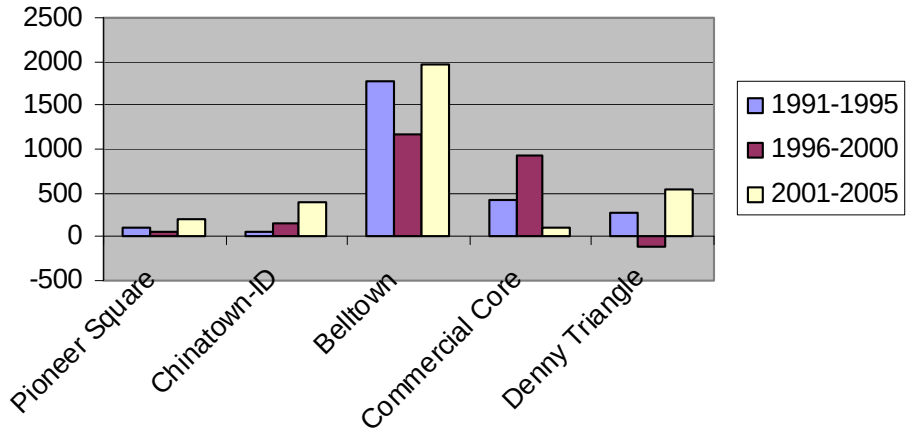
However, the area has accommodated only a small fraction of Downtown's overall growth during that same 15-year period (see Tables E-3 and E-4). Over the past two decades, Pioneer Square and Chinatown/I.D. received 12% of Downtown's total housing growth while representing 33% of its total land area.

Table E-2
Total Housing Unit Count Per 2000 U.S. Census and DPD Permit Data

	1990	2000	2006	Total Growth, 1990-2006	Percent Increase, 1990-2006
Pioneer Square	635	797	1,022	387	61%
Chinatown/I.D.	996	1,641	2,230	1,234	24%
Downtown Seattle Urban Center	7,432	12,852	17,819	10,387	140%

[1] A total of 16,953 units in the five Downtown urban center villages in 2005, using 2000 census and permitted units.
[2] There are 9 single family residences, 1 duplex at 500 12th Ave. S., and 14 units at the Victorian Row Apartments.

Table E-3
Unit Growth in Downtown Urban Center Neighborhoods Per Half-Decade, 1991-2005



Many reasons may contribute to South Downtown's relatively slow pace of residential development.

- Historic district regulations and processes.
- Zoned height and density limits that are low compared to other areas of the Downtown Urban Center.
- Presence of industrial zoning in parts of South Downtown.
- Demand for housing in South Downtown has been weak relative to other parts of Downtown, as expressed in current market-rate sales prices and rents that remain low. For example, rental rates in newer units in South Downtown are approximately $1.65 per square foot per month compared to $2.00 per square foot or more in Belltown.[3]

According to interviews conducted in 2006, some investors are reluctant to invest in South Downtown due to concerns about public safety and the condition of the physical environment. Further, while land costs have been historically lower in South Downtown, development costs in some areas may be higher due to high water tables and soil conditions associated with former tidelands.

[3] *An Assessment of Real Estate and Economic Conditions in South Downtown Neighborhoods*, Property Counselors, BHC Consultants (Roger Wagoner and Greg Easton), January 2007

Table E-4
Net Units Built and Permitted 1991-2005 by Neighborhood as Percentage of Seattle Downtown Urban Center Residential Growth[4]

Neighborhood	Percent of Downtown Growth
Pioneer Square*	4.5%
Chinatown/I.D.*	7.6%
Belltown	61.0%
Commercial Core	18.0%
Denny Triangle	8.7%
Downtown Urban Center (Total)	100.0%

**Includes National Register Historic Districts.*

In the near term, South Downtown offers a lower-cost alternative to development in other areas of Downtown. That may change over time as development opportunities in other areas of Downtown become further constrained by limited availability of property and increasing development costs.

While housing growth has lagged in the past, interviews with potential developers indicate that the area is potentially attractive for future residents and employees. Its proximity to Downtown amenities, regional transit services, and its historic and cultural neighborhood character make South Downtown an appealing potential location for both housing and jobs. Recent trends indicate an increased level of actual and prospective residential developments.

In the near term, analysis of residential development feasibility in 2006 shows rental unit development is feasible in mid-rise projects, and condominiums are feasible in mid-rise and high-rise construction and in some renovations of historic buildings. As a result, a condominium market has begun to emerge in South Downtown as indicated by the recent conversion of a few buildings from apartments to condominiums.

Only one residential/mixed use development occurred in Little Saigon over the past decade, the Pacific Rim Center, completed in 2001. Zoning in Little Saigon allows housing to varying degrees in its commercially zoned areas (NC3-65' and C1-65'), but prohibits nearly all residential uses in Industrial zoned areas (e.g., the IC-65 area east of 12th Avenue S.).

III. COMPOSITION OF HOUSING IN SOUTH DOWNTOWN

Housing Unit Occupancy

Housing unit occupancy is often divided into three categories: owner-occupied units, market-rate rental apartments, and subsidized apartments. In the South Downtown study area:

- 13% are owner-occupied units
- 20% are market rate rental apartments
- 67% are subsidized rental apartments

[4] Department of Planning and Development, Permit Data, March 2007.

As compared to Downtown overall, South Downtown has a relatively higher percentage of subsidized rental units (67%) than other Downtown neighborhoods (38% elsewhere in Downtown). Subsidized rentals in the South Downtown neighborhoods account for 31% of all subsidized rental units in Downtown.[5]

Compared to other "Center City" neighborhoods, the South Downtown neighborhoods have been slow to develop owner-occupied units. Condominiums account for 13% of all South Downtown residential units as compared to 23% of all units in other Downtown neighborhoods. However, following the strong citywide market for condominiums in recent years, at least two apartment buildings in Chinatown/I.D. have converted to condominiums in the past year or so. In 2006, the Empress on 5th (now the Tobira Condos) converted 88 units and the Mosaic Apartments (now the Asia Condos) converted 75 units from rental to condominium ownership. Table E-5 summarizes the amount and type of housing in South Downtown neighborhoods as compared to the other three Downtown neighborhoods.[6]

Table E-5
Downtown Housing Units by Tenure

	Pioneer Square* 2006	Chinatown/I.D.* 2006	Other Downtown Neighborhoods (Belltown, Commercial Core, Denny Triangle) 2000**
Homeowner Units	244 (21%)	247 (10%)	2,366 (23%)
Market-Rate Rental Units	136 (12%)	584 (23%)	4,069 (39%)
Subsidized Rentals	771 (67%)	1,695 (67%)	3,979 (38%)
Total Units	1,151 (100%)	2,526 (100%)	10,414 (100%)

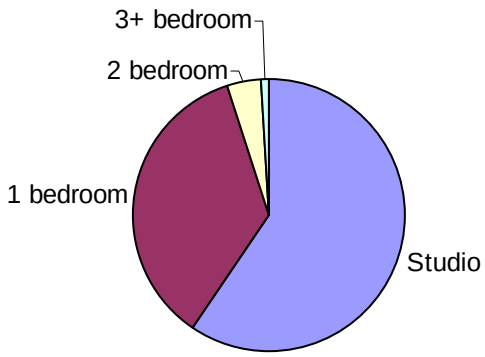
*South Downtown Housing Inventory, Office of Housing, 2006
**Downtown Height and Density Changes Draft EIS, November 2004, p.3-14

Size of Units

Like much of Downtown, the majority of dwelling units in South Downtown are studio and one-bedroom units (see Table E-6). South Downtown housing historically has included studio units and single room occupancy units (SROs) that share a common bathroom. Generally speaking, South Downtown neighborhoods follow the general Downtown trend of small unit sizes and small households with only a modest presence of children and extended families. Larger units with three or more bedrooms allow for the possibility of households with children. Fewer than 1.3%[7] (23 units) of all units in South Downtown featured three or more bedrooms at the time of the 2000 U.S. Census compared to 36% of all units citywide.

[5] Seattle Office of Housing, March 2007
[6] Downtown neighborhoods include Belltown, Chinatown/I.D., Commercial Core, Denny Triangle, Pioneer Square.
[7] 1.2% of all housing units in the Downtown Urban Center have three or more bedrooms.

Table E-6
Housing Unit Size in South Downtown
2000 U.S. Census



Vacant Residential Buildings in Chinatown/I.D.

Five historic buildings in Chinatown/I.D. have upper residential floors that remain vacant and in disrepair in spite of active ground floor retail uses. Many of these buildings contain SRO units that once housed working men during Chinatown's early history. The *Chinatown/International District Strategic Plan* (1998) identified rehabilitation of historic buildings in Chinatown/I.D. as a major priority. These include buildings listed in Table E-7.

Table E-7
Partially Vacant Buildings in Chinatown/International District

Building	Number of Vacant Residential Units
Eclipse	80
Hip Sing	40
Louisa	149
Kong Yick	28
Milwaukee Hotel	150

Another 245 occupied SRO units are present in four historic buildings that are in need of significant repairs: the Publix, the Republic Hotel, The New American Hotel and the Atlas Apartments.

In 2002, staff from Seattle's Department of Planning and Development, Office of Housing and Office of Economic Development worked together to identify twelve residential buildings in Chinatown/I.D. that are in need of significant repair. Staff met with several property owners to address life safety issues and encourage investment and rehabilitation to active use. Staff had mixed results in working with property owners. Several buildings have family and multi-party ownership structures that complicate decision-making.

Today, several buildings are now being redeveloped. The Freeman Hotel/Gong Dip Building is being transformed into the new Wing Luke Museum. This historic building contained 60 vacant SRO units. The Hong Kong Building and the Alps Hotel contained 72 and 110 SRO units, respectively, and are being

rehabilitated to accommodate a total of 137 units of various sizes. Fifty percent of these units will be affordable to households earning 70% of area median income (AMI) or less for a period of ten years.

Several historic buildings in Pioneer Square also include upper floors that appear to be under-used. However, a survey by City staff and community members in 2006 indicated that, while rehabilitation of some historic buildings is needed, there are few vacant or un-inhabitable spaces in Pioneer Square.

This range of existing housing conditions suggests that a Transfer of Development Rights (TDR) program for historic buildings could be a viable strategy. These would allow owners to sell unused development rights from historic buildings and gain resources to support significant rehabilitation. The TDR program could apply to historic areas within Chinatown/International District and Pioneer Square. This topic is discussed further in the Impacts section of this report

Affordability

Despite its location adjacent to the Downtown office core, South Downtown remains an area where housing is still affordable across a broad range of income levels. A relatively higher number of units are affordable to people at lower income levels in South Downtown than for the Downtown Urban Center overall.

"Affordable housing" simply means housing that people can afford. That typically means a household's housing costs are no more than 30% of their monthly income if they rent, and no more than 40% of their monthly income if they own. Within South Downtown, approximately thirty-two percent of all units are affordable to people with incomes below 30% of median income. Forty-two percent of units within South Downtown (58%) are affordable to people earning between 50% and 80% of median income. Twenty-six percent of all units are affordable to people earning greater than 80% of median income. The U.S. Department of Housing and Urban Development (HUD) defines all housing that is affordable to people earning less than 80% of median income as "low-income", regardless of whether it is publicly subsidized or market-rate.

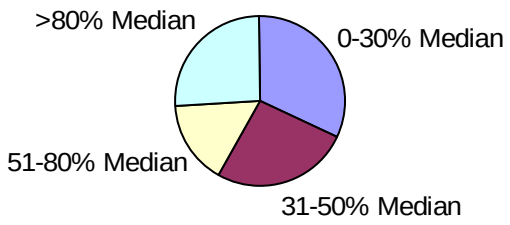
Many people have difficulty finding housing that they can afford in areas near where they work; retail salespersons, teachers, cashiers, loan officers, janitors, and administrative specialists are a few examples. Retirees, those on fixed incomes or otherwise constrained in their income generation are others. For those reasons, retention and rehabilitation of South Downtown's existing affordable housing stock and construction of additional affordable units is important. The following Table E-8 and pie chart show the affordability breakdown of South Downtown's housing stock.

Table E-8
Existing Affordable Units in South Downtown[8]

Neighborhood	0-30% AMI	31-50% AMI	51-80% AMI	> 80% AMI	Totals
Pioneer Square	425	201	180	345	1,151
Chinatown/International District	735	764	414	613	2,526
Total in study area	1,160	965	594	958	3,677
Percent of study area	(32%)	(26%)	(16%)	(26%)	(100%)

AMI = area median income (Seattle-Bellevue HUD Metro Fair Market Rent Area (HMFA))

South Downtown Housing Affordability 2006



[8] South Downtown Housing Inventory, December 5, 2006

IMPACTS

The South Downtown Draft EIS identifies zoning alternatives and associated development scenarios, including three "action alternatives" that include zone changes, and one "No Action Alternative" studies what may occur if no zoning changes are made. Each of the three action alternatives conforms to the geographic themes from the Livable South Downtown Phase I Staff Report of:

- encouraging careful infill in core neighborhoods
- emphasizing housing in "edge" areas
- allowing a mix of uses in "emerging areas"
- providing for a transition to industrial areas

The EIS alternatives are described in Chapter Two of this Draft EIS. More information about anticipated jobs and housing per South Downtown sub-area can be found in the Chapter 3 Population and Employment section of this Draft EIS.

IV. FUTURE HOUSING GROWTH AND DENSITY

Each of the four alternatives, including the No Action Alternative (Alternative 4), anticipates considerable housing growth in South Downtown through year 2030 as shown in Table E-9 below. These projections were made with perspective provided by review of Downtown growth trends, and are aligned with future regional projections for 2030 applicable to Downtown. Downtown trend analysis included review of growth-per-acre figures for the Downtown neighborhoods and Downtown Urban Center as a whole. Similarly, DPD analysis informed the selection of employment estimates that are consistent with regional projections.

Table E-9
Projected Residential Growth per EIS Alternatives, South Downtown Study Area

Alternative	Description	Projected Growth Distribution of Housing Through 2030
1	West: concentrate more residential and employment growth toward 1st Avenue S. and Pioneer Square	5,726 units
2	Central: concentrate more residential and employment growth toward 4th Avenue S. and Chinatown/International District	6,014 units
3	Balanced distribution of growth: concentrate more residential and employment growth toward 4th Avenue S. and south of Dearborn Street, as well as residential growth concentrated in Chinatown/International District	6,063 units
4	No-change, existing zoning alternative with generalized spread of residential and employment growth around these areas	3,395* units

Zoned Capacity

Estimations of future zoned capacity under the alternatives involves zone-specific assumptions about how much growth is likely to fit within redevelopable properties in an area, and how much will occur as residential and non-residential uses. This was calculated for the alternatives, including assumptions about growth in new zones such as South Downtown Mixed. This sort of analysis is best applied to larger areas to assist in evaluating capacity available for future growth at the neighborhood and city levels. Table E-10 shows the estimated maximum capacities for the entire study area under the alternatives.

Table E-10
Estimated Total Housing Unit and Employment
Zoned Capacity per EIS Alternative

Alternative	Residential Capacity (New Housing Units)	Employment Capacity (New Jobs)
1	7,142 units	32,797 jobs
2	8,319 units	31,784 jobs
3	6,640 units	35,043 jobs
4	4,414 units	28,277 jobs

By comparing the residential growth projections for the alternatives in Table E-9 to the residential capacity in Table E-10, a few observations can be made. This analysis suggests that zoning under Alternatives 1, 2 and 3 would provide a sufficient amount of additional capacity for future housing development to meet projected residential growth through 2030, and would also have enough capacity for additional residential growth after 2030. It also suggests that retaining the existing zoning pattern, under Alternative 4—No Action, would not provide enough capacity to be able to meet the projected growth of 6,000 additional dwelling units by 2030. These conclusions are not identified as impacts, but are provided to describe planning assumptions and their relationship to development capacity of the alternative zoning options. Additional details on zoned capacity are provided in the Population and Employment section of EIS Chapter 3.

Jobs to Housing Ratio

The Comprehensive Plan encourages proximity of jobs to housing in order to promote efficient investments in infrastructure, encourage sustainable forms of transportation, serve neighborhood needs, and to provide residential opportunities for workers. The Downtown Urban Center continues to be the region's most central location for jobs in King County. For that reason, anticipated jobs in the Downtown Urban Center exceed anticipated households to a considerable extent (refer to Table E-10). Providing additional capacity for residential growth, as the EIS alternatives would accomplish, will potentially generate more of the benefits of housing within the Downtown Urban Center, but at the same time would create more capacity for employment growth as well.

V. CHARACTERISTICS OF FUTURE HOUSING SUPPLY AND DEMAND

Influences on Future Housing Development

Future housing production in the study area neighborhoods will depend on how market forces interact with zoning limits and the economic feasibility of developing new structures. Several observations can be made about these elements that will affect future outcomes.

- **Future housing likely will continue to favor small dwelling sizes.** The expected range will be from studios up to two-bedroom units. This may make it difficult for larger family households to obtain suitable housing in South Downtown.
- **Condominium housing would likely be more feasible than rental housing in new construction.** Recent pro-forma economic study of development conditions in South Downtown suggests greater profitability for condominium development rather than apartments. Recent conversions of a few buildings to condominiums in Chinatown/I.D., as an indication of the current status of the market, support this finding.
- **Zoned height limits to 125 feet may create uncertainties about building size and construction type.** The pro-forma economic study of development conditions suggests development is economically feasible and profitable for condominium at 125 feet, and is less feasible for apartment construction. Building to 125 feet would require steel frame construction. However, when compared to a smaller and less costly wood frame building to 85 feet, the 85-foot development scenario is concluded to generate higher rates of investment return.

  The actual outcomes of future development will depend on the strength of market demand for new housing in the study area and the equation of costs, risks and returns. If housing prices for new dwelling units are higher than indicated by the pro-forma analysis, building to the maximum of 125 feet would become more feasible and profitable. The pro-forma analysis results might also indicate that additional higher height limits should be considered if the intent is to encourage the achievement of development to the maximum zoned heights.
- **Zone changes would likely increase property values, affecting the ability to realize new affordable housing construction by non-profit developers.** Non-profit developers that have constructed much new housing in the study area in recent years could be negatively affected by zoning with higher height limits. The increased development capacity on affected properties would increase the assumed property value. Due to this property value increase and higher development costs of taller steel-frame buildings, the increase in zoned development capacity could negatively impact feasibility of new development by non-profit developers in portions of the study area.
- **Planned development on the Qwest Field north parking lot would provide at least 400 units of new housing.** The proposed development at this location will include approximately 400 units of new housing, of which 100 are required by purchase and sale agreement to be affordable to households earning 100% of median income for owner-occupied units or 60% of median income for rental units. This amount of new housing in Pioneer Square would help satisfy a portion of the demand for housing in the study area.
- **In zones with higher height limits, hotel/condominium forms of development may be possible.** Areas zoned for allowable buildings heights of 180-240 feet might support a mixed use hotel/condominium form of development, in which residents would enjoy services and amenities available to hotel guests. These developments would be more likely to include higher-cost dwelling units.

Housing Demand Generated by New South Downtown Employment

Total Housing Demand from New Employment

Additional employment growth in South Downtown would generate new demand for housing. Past Downtown zoning analyses inform estimates of this added housing demand. For example, analysis of Downtown housing supply and demand determined an employment factor of approximately 1.65 workers per household (Keyser Marston Associates, 2001). A 1983 survey of Downtown employees indicated

that 29% would choose to live Downtown if a dwelling unit was available at an acceptable price and size (Gruen & Gruen, 1983). Using these assumptions, an estimate of total housing demand and Downtown housing demand that could be generated by additional South Downtown employment is calculated for the alternatives, as shown in Table E-11.

Table E-11
Estimated Total Housing Demand Generated by New South Downtown Employment to 2030

Alternative	Projected Job Growth per EIS Alternative	Estimated Total New Demand for Housing Units in All Locales	Estimated Demand for Housing Units in the Downtown Area
1, 2 & 3	24,600	14,910	4,320
4 (No Action)	16,600	10,060	2,920

Source: DPD, 2007

Table E-11 illustrates the relatively similar impacts on total housing demand of Alternatives 1, 2 and 3, and the lesser impacts under the No Action Alternative (Alt. 4) that would be approximately one-third lower than Alternatives 1, 2 and 3.

New Demand for Affordable Housing

A housing analysis for Downtown zoning concluded that approximately 16% of all office worker households would earn less than 80% of the area's median income (Keyser Marston Associates, 2001). Applying this factor, an estimate of total demand for housing serving households earning 80% or less of median income is calculated for the alternatives, as shown in Table E-12. These households would be among those that may need some subsidy to afford housing in South Downtown. The table also shows the estimated demand that could be generated for such units in Downtown using the 29% factor explained above.

Table E-12
Projected Total New Demand for Housing Units
Affordable to Households earning less than 80% Median Income

Alternative	Projected New Total Demand For Affordable Dwelling Units	Downtown's Portion of the New Demand for Affordable Dwelling Units
1, 2 & 3	2,386	692
4 (No Action)	1,610	467

Source: DPD, 2007

Table E-12 illustrates the relatively similar impacts on total housing demand of Alternatives 1, 2 and 3, and lesser impacts under the No Action Alternative (Alt. 4), approximately one-third lower.

Potential Loss of Existing Affordable Housing in South Downtown

With or without zoning changes, South Downtown is likely to become a more active housing market in the future. This is due to the area's close proximity to the Downtown office core and transit hub and the resulting probable effects on real estate values. An active market for housing in South Downtown—

characterized in part by low vacancies and rising property values—could increase the potential for rent levels to increase and become less affordable. Rent levels that are not guaranteed by regulatory agreement or loan conditions may increase over time. The Seattle Office of Housing considers affordable housing to be at "medium" or "high" risk of rent level changes if:

- A regulatory agreement that guarantees affordability associated with government subsidy will expire within the coming twenty years
- The unit is not subsidized by government funding and is therefore not regulated for affordability.

Using these criteria, approximately 1,102 currently affordable dwelling units in Chinatown/I.D. and 178 currently affordable dwelling units in Pioneer Square are at medium risk or high risk of potential rent increases within the next twenty years (DPD, 2007). Tables E-13 and E-14 categorize these units according to their affordability to households at different income levels. Figure E-1 illustrates the location of the at-risk housing resources.

According to data from the Seattle Office of Housing, approximately 819 dwelling units in Chinatown/ I.D. and 630 dwelling units in Pioneer Square are classified as "low" risk for rent changes because they have regulatory agreements to provide affordable housing for more than 20 years, or are in the SHA portfolio. The majority of these low-risk units in each neighborhood serve households earning 50% of area median income or less.

Table E-13
Chinatown/I.D. Housing Units at Medium or High Risk of Future Rent Level Changes

	Number of Dwelling Units Serving Households at Income Level (% of Median Income)				
Risk of Rent Level Change	**0-30%**	**31-50%**	**51-65%**	**66-80%**	**Total**
Medium Risk (regulatory agreement or loan expiration under 20 years)	23	50	0	5	78
High Risk (MFTE agreement needed or long-term funding needed)	0	364	26	104	494
Unsubsidized Rentals	237	176	55	62	530
Totals	**260**	**590**	**81**	**171**	**1,102**

SHA = Seattle Housing Authority. MFTE = Multifamily Tax Exemption
Source: DPD, OH, 2007

Table E-14
Pioneer Square Housing Units at Medium or High Risk of Future Rent Level Changes[9]

Risk of Rent Level Change	Number of Dwelling Units Serving Households at Income Level (% of Median Income)				
	0-30%	31-50%	51-65%	66-80%	Total
Medium Risk (regulatory agreement or loan expiration under 20 years)	0	26	113	0	139
Unsubsidized Rentals	0	2	30	7	39
Totals	**0**	**28**	**143**	**7**	**178**

Source: DPD, 2007

The majority of affordable units at medium or high risk for rent changes are located within Chinatown/I.D. Many of these units are located within buildings where demolition and redevelopment is unlikely due to their contributions to Chinatown's National Register Historic District. Similarly, in Pioneer Square, the buildings identified as having medium or high risk are located within historic-contributing buildings that are unlikely to face a greater probability of demolition and redevelopment due to the alternative zoning proposals. Due to the alternatives' lack of direct effect on the zoning of these properties, no direct adverse housing impacts are identified at these locations. A potential indirect adverse impact of increases in rent levels could be anticipated in some cases.

However, some properties with affordable units would more directly experience increases in zoned development capacity, which could contribute to loss of affordable housing units. This would affect approximately five buildings in the Japantown vicinity, as well as two buildings in the Chinatown core. These units could be subject to rent increases, conversion to other more expensive housing types, or future redevelopment. These are the most identifiable adverse housing impacts potentially generated by zoning changes under Alternatives 1, 2 and 3. The buildings and their current number of dwelling units are listed in Table E-15.

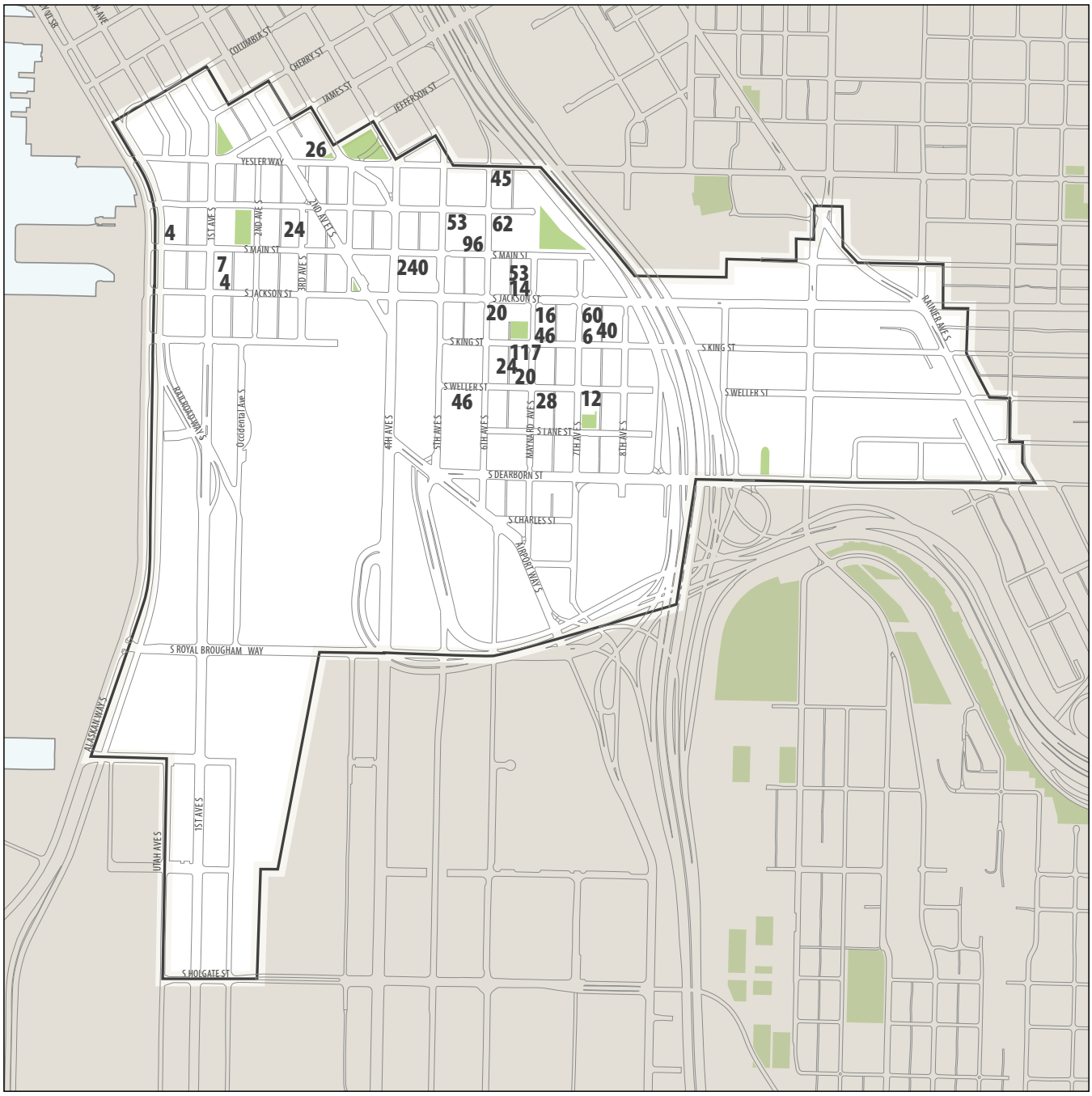


Figure E-1

Affordable Housing Units at Medium or High Risk for Rent Increase by 2030

Livable South Downtown

Table E-15
Affordable Housing That is Directly Impacted by Alternative Zoning Changes

Japantown	Chinatown core	Pioneer Square
Downtowner Apts.: 240 units (High risk)*	Uwajimaya Village: 46 units (High risk)*	None (historically-contributing buildings not impacted)
Imperial House: 96 units (High risk)*	Weller Apts.: 12 units (High risk)*	
Ascona Apts.: 53 units (no risk rating)		
Metropolitan Park: 62 units (no risk rating)		
Ticino Apts.: 45 units (no risk rating)		
TOTAL: 496 units	**TOTAL: 58 units**	**TOTAL: 0 units**

Source: DPD, 2007. * "High risk" refers to the rating assigned by the City's Office of Housing, briefly described in the written discussion above.

Alternative 1 zoning changes, with increased maximum height limits to 240 feet, would represent the largest potential zoning change in Japantown, with lesser increases to 180 feet under Alternative 2. It should be noted that the Metropolitan Park and Ticino Apartments (and the Imperial House under Alternative 3) would experience a somewhat lower potential for such impacts because the proposed zoning changes at these locations would only modestly adjust the existing IDR 150' zone's development capabilities. Also, the two locations listed in the Chinatown core have a somewhat lower potential for zoning-related impacts because they are buildings not likely to be redeveloped in the future.

EXISTING PROGRAMS AND TRENDS THAT WILL CONTINUE TO SUPPORT AFFORDABLE HOUSING DEVELOPMENT

The following programs will be available over the long term to continue supporting the future development of affordable housing resources in the study area.

Direct funding for affordable housing construction and rehabilitation

Traditional government sources of low-income housing funds should be available to support the construction of units serving households earning up to 80% of area median income. The City awards capital subsidies for the construction and rehabilitation of affordable housing in Seattle twice a year. In the past decade, the City has helped fund rehabilitation of 9 buildings with 821 affordable housing units and new construction of 5 buildings with 311 units of affordable housing in South Downtown. If that trend continues, it is reasonable to assume that 2,800 units of affordable South Downtown housing could be funded over the coming 25 years through leveraging traditional housing funding sources. Approximately two-thirds of these projects are expected to involve substantial rehabilitation of existing housing and vacant residential buildings, and will serve "extremely" and "very low" income households, which are those earning up to 30% and 30-50% of area median income, respectively.

Seattle Homes Within Reach Program (Multifamily Housing Tax Exemption)

Seattle Homes Within Reach, formerly known as the Multifamily Housing Tax Exemption (MFTE) Program was initiated in 1998 to stimulate construction of multifamily housing in weak market areas and, in strong market areas, to encourage some new construction units to be affordable to moderate-wage workers. Developers who take advantage of the program receive a 10-year property tax exemption on the improvements. For rental housing, this means the developer pays no taxes on the residential portion of the building. For homeowner housing, owners of affordable condominium units pay no property taxes. Pioneer Square and Chinatown/I.D. are "target areas" for this program. Four of the 17 rental developments that have taken advantage of the tax exemption are located in South Downtown, including the Tashiro Kaplan and Quintessa Apartments in Pioneer Square and the Uwajimaya Village and Weller Apartments in Chinatown/I.D. (see Table E-16 below).

Table E-16
Details on Projects That Have Used Multifamily Housing Tax Exemption

Chinatown/International District Urban Village			
Project	**Developer Type**	**Total Units**	**Minimum Affordability**
Uwajimaya Village Apts	For-profit	176	25% at 80% AMI
Weller Apartments	For-profit	40	30% at 70% AMI

Pioneer Square Urban Village			
Project	**Developer Type**	**Total Units**	**Minimum Affordability**
Tashiro Kaplan	Non-profit	50	25% at 80% AMI
Quintessa Apartments	For-profit	40	30% at 70% AMI

Existing Downtown Incentive Programs

A number of incentive programs are currently part of Downtown zoning. Programs targeted to commercial developers are focused primarily in DOC1, DOC2, and DMC zones in the Downtown core and Denny Triangle. Resources generated by transfer of development rights (TDR) purchases and bonus contributions by office and hotel developments in those areas may be used in South Downtown. Three South Downtown residential projects (I.D. Village Square II, Legacy House and the Morrison Hotel rehabilitation) have been funded in part through sale of TDR or through the Commercial Bonus Program, using approximately $3.8 million in funds (see Table E-17 below).

Table E-17
Residential Development in South Downtown That Has Used TDR as a Funding Source

Project	Project Type	Total Units	TDR or Bonus Funding
IDVS II	New construction	56	$800,000
Legacy House	New construction	75	$2,289,224
Morrison Hotel	Rehabilitation	190	$702,900

Contributions made by Downtown residential developers through the Residential Bonus Program adopted for portions of Downtown in 2006 may also be awarded to new construction projects in South Downtown. This has not yet resulted in new affordable housing construction in the study area.

Some of the existing housing supply may become more affordable over time

Local real estate research indicates that rental rates tend to become more affordable after five to ten years, due to wear and tear, and the presence of fewer amenities as compared to those provided in newer buildings. For example, a case study in the Seattle Office of Housing's *Seattle Housing Inventory* (2007)[9] showed that the rents of 506 Belltown units became more affordable over time. Although rents increased 2% per year on average, all units became affordable to households in lower income categories within a five to ten year period. Rising housing prices through Downtown could reduce the assurance that this trend would definitely occur in South Downtown. However, it is reasonable to anticipate that some residential units not under affordable rent agreements will become more affordable over time, due to location, condition of the building, small unit size, and a variety of other factors. The total pool of such "unregulated" units currently in the study area includes approximately 580 dwelling units in Chinatown/I.D. and approximately 136 dwelling units in Pioneer Square.

Table E-18 shows the current South Downtown inventory of units that are not regulated by contracts specifying affordability levels but are nonetheless considered to be affordable.

Table E-18
Unregulated Rental Housing that is Affordable in South Downtown Study Area (December 2006)

	0-30%	31-50%	51-80%	>80%	TOTAL	Percentage of Unregulated Units that are Affordable[10]
Chinatown/International District	237	176	117	54	584	91%
Pioneer Square	0	2	37	97	136	38%

HOUSING-SUPPORTIVE AND PROTECTIVE STRATEGIES OF THE ALTERNATIVES

Livable South Downtown planning proposes a number of strategies relating to development bonus and TDR programs, primarily intended to mitigate impacts of increased development potential on housing affordability. These include commercial and residential bonus programs as well as a TDR program that would encourage rehabilitation for housing within existing buildings in Pioneer Square and Chinatown/I.D. The approach is similar to strategies employed in other portions of Downtown. It is meant to respond to the City's housing and comprehensive plan policies that support the preservation and production of affordable housing serving diverse populations. The complexity of the housing-supportive strategies means there are many specific details that affect how the programs would work, how individual development projects could be affected, and how much affordable housing is ultimately achieved. Such details will be discussed in greater detail during later decision-making processes. The following discussion represents draft conclusions based on the information available at the time of this Draft EIS analysis.

All new construction projects in South Downtown that exceed base development rights would be required to take part in housing bonus programs. For residential development, the incentive program would allow developers to achieve development capacity above base development rights by constructing affordable

[9] http://www.seattle.gov/housing/

[10] Based on Office of Housing data. In Chinatown/I.D., 530 units out of a total 584 market rate units are affordable to households at <80% AMI. In Pioneer Square, 37 out of a total of 97 market-rate units are affordable. The majority of all units (70%) in Pioneer Square are affordable to households earning less than 80% AMI.

housing units on-site or by contributing a fee-in-lieu to support construction of affordable units off-site by purchasing TDR and/or by providing public amenities that mitigate non-housing development impacts. For commercial development, the incentive program would be similar to the one already in place in other parts of Downtown, whereby approximately 75% of development above the base FAR is achieved through housing TDR and/or commercial bonus for housing and child-care, and the other 25% is achieved through other public amenity bonus or TDR.

Impacts of the South Downtown Commercial Incentive Program

Table E-19 illustrates the amount of TDR that could be generated by the commercial development incentive program.

Table E-19
Livable South Downtown EIS Alternatives
Estimated Commercial Bonus Program Workforce Housing Production

Alternative	Total Bonus Floor Area in New Construction Projects Through 2030 (square feet)	75% of the Total Bonus Floor Area Gained Through Housing Bonus and/or TDR (square feet)	Estimated Dollars Generated at a Sales Price of $18.75/sq.ft.	Equivalent Number of Dwelling Units at $130,000 per Unit
1	820,703	615,527	$11,541,131	89 units
2	1,052,685	789,514	$14,803,387	114 units
3	1,015,033	761,275	$14,273,906	110 units
4 (no change)	0	0	0	0 units

Source: DPD, 2007

Impacts of the South Downtown Residential Density Bonus Program

New State law (RCW 36.70A.540) allows the City to include affordable housing incentive programs that are directed at new residential development. It is likely that the program, as applied to South Downtown, would allow a base development right without an affordable housing requirement. Any density above the base development right would need to be achieved through participation in the South Downtown Residential Density Bonus Program. The program would require construction of affordable units on-site or participation in a payment-in-lieu fee structure.

Depending upon final bonus program design, approximately 10-15% of the gross square feet of bonus area within a residential project would need to be devoted to affordable workforce housing under the new residential density bonus program. This percentage could yield the following amount of affordable workforce housing, per growth under the EIS Alternatives to 2030, assuming that 75% of all new projects would take advantage of the potential bonus development capacity. Table E-20 identifies total residential bonus floor area estimated under each Alternative, and the potential number of units that could be generated.

Table E-20
Livable South Downtown EIS Alternatives,
Estimated Residential Bonus Program Workforce Housing Production

Alternative	Residential Bonus Floor Area (square feet)	Estimated Affordable Housing Production (square feet)	Number of Dwelling Units That Could be Generated (700 sq.ft. per unit)
1	1,147,611	94,677	135 units
2	1,015,033	83,741	120 units
3	907,739	74,888	107 units
4 (No Action)	0	0	0

Source: DPD, 2007

Impacts of the South Downtown Transfer of Development Rights (TDR) Program

Future commercial development in South Downtown could take advantage of the South Downtown TDR programs that would support the development of affordable housing resources. Two specific TDR programs could be available to developers in South Downtown that would result in dollars for: 1) retaining existing affordable housing resources and 2) renovating historic buildings, many of which contain existing affordable housing resources.

Several TDR programs are available to property owners in Downtown, as discussed previously in this report. However, only one of these programs—affordable housing TDR—is available for use by property owners in the South Downtown area. Since the inception of the affordable housing TDR program in 1985, only two affordable housing projects in South Downtown have used the program to sell development rights (Morrison Hotel, and I.D. Village Square I "Legacy House"). It is expected that new South Downtown bonus programs would increase the demand for TDR throughout South Downtown, stimulating the market for both sales and purchases of TDR.

South Downtown historic housing TDR is a proposed program that would allow TDR from historic-contributing buildings in Chinatown/I.D. and Pioneer Square. Dollars generated from the program could be used to contribute to the stock of affordable workforce housing in South Downtown and provide much-needed resources for rehabilitation of historic buildings.

Zoning Strategies Tailored to Support New Housing and Protect Existing Housing

In addition to programs described above, several aspects of the Livable South Downtown zoning strategies would help avoid potential housing impacts. These are briefly described below.

- Retain existing zoning and development capacity or recommend only modest regulatory changes affecting properties where sensitive historic resources and affordable housing resources exist, such as in the historic districts of Pioneer Square and Chinatown/I.D.

- Zone for taller and higher-density residential towers in areas where market forces may support and encourage the development of expensive new residential construction (areas where views are present, for example) near the edges of the core neighborhood areas. With this development, require participation in housing bonus programs to provide resources toward the construction of new affordable housing elsewhere in South Downtown.

- Zone for larger-scale future commercial development outside the core of South Downtown neighborhood areas, in order to avoid displacing affordable housing. With such development,

require participation in the commercial bonus program in order to provide funding resources toward the construction of new affordable housing elsewhere in South Downtown.

- Provide targeted resources to support new and existing affordable housing in South Downtown by allowing affordable housing TDR to be sent to receiving sites outside of South Downtown. Require receiving sites in South Downtown to purchase South Downtown TDR from buildings that are historic-contributing and/or that contain existing affordable housing whenever possible.

SEATTLE SOUTH DOWNTOWN NOISE STUDY
Noise Analysis

Overview of Noise Terms, Concepts, and Regulations

Noise Principles and Descriptors

Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). All measurements and references in this report to decibels are to A-weighted decibels.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

Leq: the energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (e.g., the average noise exposure level for the given time period).

Lmax: the instantaneous maximum noise level for a specified period of time.

L8.3: the noise level that is equaled or exceeded 8.3 percent of the specified time period. The L8.3 is the noise level equaled or exceeded for five minutes in an hour; it is generally similar in level to the Leq.

L10: the noise level that is equaled or exceeded 10 percent of the specified time period. The L10 is generally similar in level to the Leq.

L90: the noise level that is equaled or exceeded 90 percent of the specified time period. The L90 represents the background noise level in most environments.

Leq (h) Hourly A-weighted noise level in decibels (dBA)

Ldn: 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

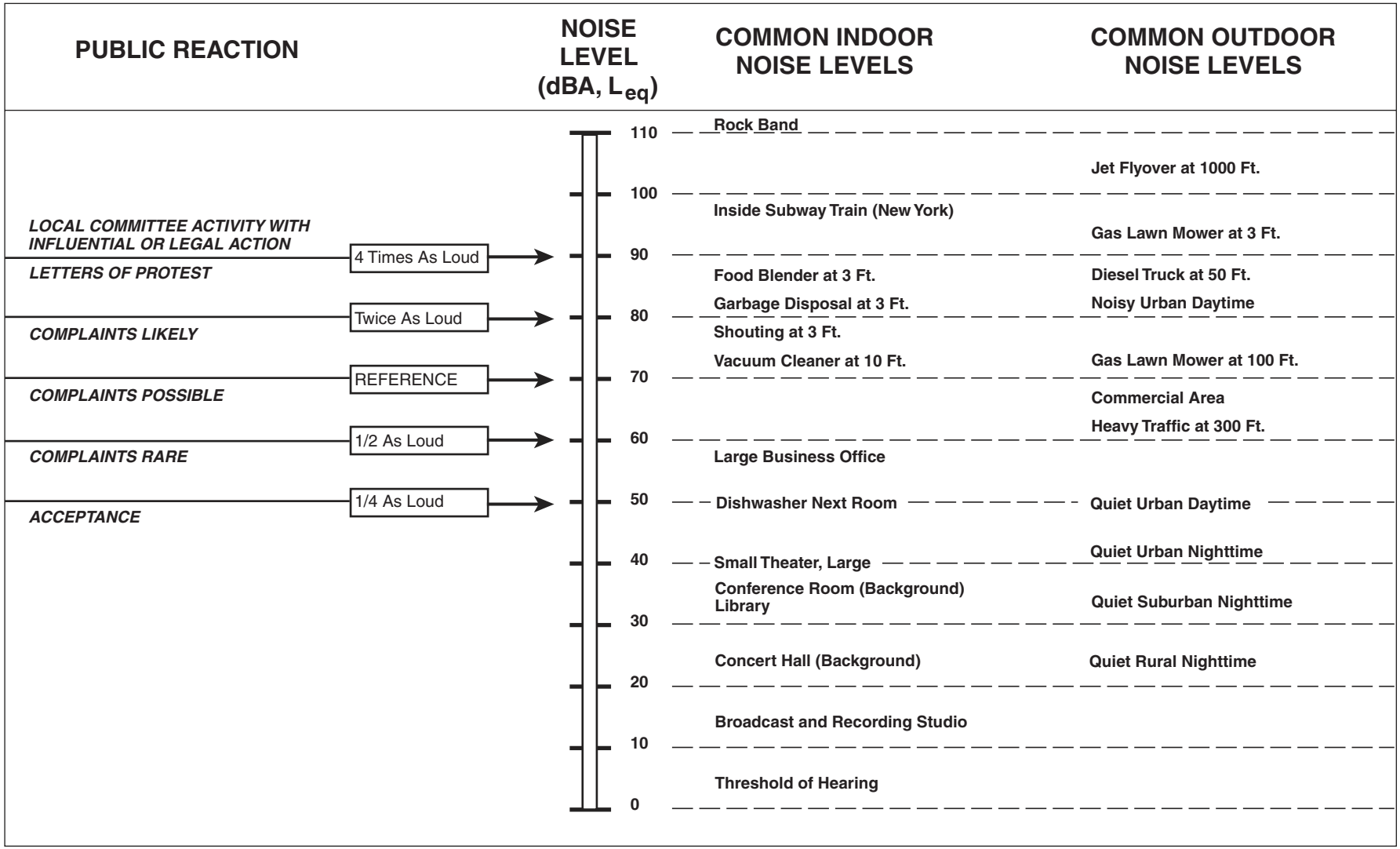
As a general rule, in areas where the noise environment is dominated by traffic, the L_{eq} during the peak-hour is generally equivalent (plus or minus 2 decibels) to the Ldn at that location.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience the effects in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. There is a wide variation in individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Figure 1 is an example of the reaction of people to different noise levels.



SOURCE: ESA, 2007

South Downtown Noise Study . 207030

Figure 1

Effect of Noise on People

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- a change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- a 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on environmental conditions (such as atmospheric conditions and noise barriers, either vegetative or manufactured). Typical "line" sources of noise, such as highways and busy arterial roadways, attenuate at a rate of 3.0 to 4.5 dBA per doubling of distance from the roadway.

Seattle Noise Regulations and Impact Criteria

The City of Seattle limits noise levels at property lines of neighboring properties (City of Seattle Municipal Code 25.08.410). Maximum permissible noise levels apply to a single source of noise and depend on the zoning district of both the source of noise and the receiving property (see Table 1). For example, operational noise from a commercial property may not exceed 60 dBA at the property line of neighboring commercial properties. The 10 dBA nighttime noise level reduction does not apply to areas that are not in a residential district.

Short-term exceedances of the permissible sound level are allowed. The maximum level may be exceeded by 5 dba for a total of 15 minutes, by 10 dBA for a total of 5 minutes, or by 15 dBA for a total of 1.5 minutes during any one-hour period (City of Seattle Municipal Code 25.08). These allowed exceptions are referred to in terms of the percentage of time a certain level is exceeded; an L_{25} is the noise level that is exceeded 15 minutes during an hour. Therefore, the permissible L_{25} would be 5 dBA greater than the values in Table 1, provided that the noise level is below the

permissible level in Table 1 for the remainder of the hour and never exceeds the permissible level by more than 5 dBA. An hourly Leq of approximately 3 dBA higher than the values in Table 1 is equivalent in sound level to the permissible levels including the allowed exceedance. Using this rule, an Leq(h) of 62 dBA corresponds approximately to a noise level of 60 dBA for 45 minutes and 65 dBA for 15 minutes or a noise level of 60 dBA for 58.5 minutes and 75 dBA for 1.5 minutes; therefore, 62 dBA Leq is the equivalent maximum permissible noise level created by a commercial district source and received by a commercial district property (*Washington State Major League Baseball Stadium Project*, Draft EIS, 1996).

Sounds from motor vehicles on public roads, aircraft, trains, and unamplified sounds for public events are exempt from the property line regulations in Table 1. Construction and operation noise from all projects, however, must meet City of Seattle property line regulations. Specific provisions of the Seattle Municipal Code allow construction noise to exceed the levels in Table 1 under certain circumstances. Large equipment may exceed the levels in Table 1 by 25 dBA, and portable equipment may exceed the levels by 20 dBA. Impact equipment, such as pile drivers, are exempt from the sound levels for any 1-hour period between 8:00 a.m. and 5:00 p.m. on weekdays 9:00 a.m. and 5:00 p.m. on weekends.

TABLE 1
CITY OF SEATTLE MAXIMUM PERMISSIBLE NOISE LEVELS (DBA LEQ)

	Residential			
Noise Source	Day	Night[1]	Commercial	Industrial
Residential	55	45	57	60
Commercial	57	47	60	65
Industrial	60	50	65	70

[1]Between 10p.m. and 7 a.m., the maximum permissible noise levels are reduced by 10 dBA for residential receiving properties.

Section 25.08.420 Modifications to maximum permissible sound levels: The maximum permissible sound levels established by his subchapter shall be reduced or increased by the sum of the following:

A. Between the hours of ten p.m. (10:00 p.m.) and seven a.m. (7:00 a.m. on weekdays and between the hours of ten p.m. (10:00 p.m.) and nine a.m. (9:00 a.m.) on weekdays, the levels established by Section 25.08.410 are reduced by 10 dBA where the receiving property lies within a residential district of the City.

B. For any source of sound which is periodic, which has a pure tone component, or which is impulsive and is not measured with an impulse sound level meter, the levels established by this subchapter shall be reduced by five (5) dB(A); provided however, that this five (5) dB(A) penalty for the emission of sound having a pure tone component shall not be imposed on any electrical substation, whether existing or new.

C. For any source of sound which is of short duration, the levels established by this sub-chapter are increased by:

1. Five (5) dB(A) for a total of fifteen (15) minutes in any one (1) hour period; or
2. Ten (10) dB(A) for a total of five (5) minutes in any one (1) hour period; or
3. Fifteen (15) dB(A) for a total of 1.5 minutes in any one (1) hour period.

Section 25.08.425 Construction and equipment operations

A. The maximum permissible sound levels established as measured from the real property of another person or at a distance of fifty feet (50') from the equipment, whichever is greater, may be exceeded between the hours of seven a.m. (7:00 a.m.) and ten p.m. (10:00 p.m.) on weekdays and between the hours of nine a.m. (9:00 a.m.) and ten p.m. (10:00 p.m.) on weekends by no more than the following dBA's for the following types of equipment.:

1. Twenty-five (25) dBA for equipment on construction sites, including but not limited to crawlers, tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, graders, off-highway trucks, ditchers, trenchers, compactors, compressors, and pneumatic-powered equipment.;

2. Twenty (20) dBA for portable powered equipment used in temporary locations in support of construction activities or used in the maintenance of public facilities including but not limited to chainsaws, log chippers, lawn and garden maintenance equipment, and powered hand tools; or

3. Fifteen (15) dBA for powered equipment used in temporary or periodic maintenance or repair of the grounds and appurtenances of residential property, including but not limited to lawnmowers, powered hand tools, snow-removal equipment, and composters.

TABLE 1
CITY OF SEATTLE MAXIMUM PERMISSIBLE NOISE LEVELS (DBA LEQ)

B. Sounds created by impact types of construction equipment, including but not limited to pavement breakers, piledrivers, jackhammers, sandblasting tools or by other types of equipment or devices which create impulse noise or impact noise or are used as impact equipment, as measured at the property line or fifty feet (50') from the equipment, whichever is greater, many exceed the maximum permissible sound levels established in subsection A of this section in any one (1) hour period between the hours of eight a.m. (8:00 a.m.) and five p.m. (5:00 p.m.) on weekdays and between the hours of nine a.m. (9:00 a.m.) and five p.m. (5:00 p.m.) on weekends, but in no event to exceed the following:

1. Leq ninety (90) dBA continuously;
2. Leq ninety-three (93) dBA for (30) minutes; or
3. Leq ninety-six (96) dBA for fifteen (15) minutes; or
4. Leq ninety-nine (99) dBA for seven and one-half (7 ½) minutes;

Provided that sound levels in excess of Leq ninety-nine (99) dBA are prohibited unless authorized by variance obtained from the Administrator; and provided further that sources producing sound levels less than ninety (90) dBA shall comply with subsection A of this section during those hours not covered by this subsection B.

a. The standard of measurement shall be a one (q) hour Leq. Leq may be measured for times not less than one (1) minute to project an hourly Leq. Reference to one (1) hour is for measurement purposes only and shall not be construed as limiting construction to a one (1) hour period.

b. These subsections A and B shall be reviewed periodically by the City to assure that the sound level limits are technically feasible.

C. Construction activity that exceeds the maximum permissible sound levels established by Section 25.08.410, when measured from the interior of buildings within a commercial district, is prohibited between the hours of eight a.m. (8:00 a.m.) and five p.m. (5:00 p.m.) For the purposes of this subsection C, interior sound levels shall be measured only after every reasonable effort, including but not limited to closing windows and doors, is taken to reduce the impact of the exterior constriction noise.

Source: City of Seattle Municipal Code 25.08, as of March 2007

Residential Land Use Compatibility Guidelines

The review of several background noise reports in Seattle did not identify land use compatibility guidelines for the siting of new residential development. Discussions with the City's Department of Planning and Development indicated that Seattle does not have adopted guidelines that identify outdoor noise levels that would be acceptable for the siting of new residential development. While the Municipal Code noise level limits are a guide, those levels are primarily a limit on noise from "specific" existing noise sources that can be controlled if they exceed certain limits. The Municipal Code noise limits do not explicitly restrict siting uses in locations where the existing ambient noise levels are above the noise limits in the Municipal Code. The ambient noise level includes all existing noise sources (near and far) including many sources the City cannot control such as noise generated by transportation sources (i.e., highways, railroads and airports).

Indoor Residential Noise Levels

Generally, 45 Ldn, dBA is considered to be the acceptable indoor noise level for residences. The Uniform Building Code (which is not the standard used by City of Seattle) requires that interior noise levels due to exterior sources must not exceed an Ldn of 45 dBA in any habitable room. It is assumed that this level allows for normal sleep and day-to-day activities within a residence that is not compromised by the intrusion from outdoor noise. New residences should be designed to achieve this goal. In high-noise environments (generally considered as noise environments above 65 Ldn) in other jurisdictions, site specific noise studies help to determine the level of noise insulation necessary to achieve this goal. The reasoning is that typical construction of homes will reduce noise levels at least 20 dBA (from the outdoor noise level to the indoor noise level) and this reduction will achieve an indoor noise level of 45 Ldn dBA only when outdoor noise levels are below 65 Ldn. Both the Federal Highway Administration (FHWA)

and Federal Aviation Administration (FAA) have programs designed to help achieve indoor and outdoor noise levels consistent with these limits. However, residences near freeways, railroads and airport landing areas are often exposed to outdoor noise levels greater than 65 Ldn and need additional noise insulation to achieve an indoor noise level of 45 Ldn, dBA. Modified wall designs and sound control windows are typically used to achieve increased levels of sound reduction between the outdoor and indoor levels.

Sound Transmission Class (STC) is a widely used rating for how well a building partition attenuates airborne sound. STC ratings are used to rate the noise reduction provided by interior partitions, ceiling/floors, doors, windows, and exterior wall configurations. STC is roughly the noise reduction a partition can provide in decibels (dBA). If the outdoor sound level is 80 dBA, an STC rating of 35 would be required to achieve an indoor sound level of 45 dBA. There are methods available to construct walls to achieve an STC of 35 - 45 and windows can be ordered with STC ratings of 40 - 45.

Outdoor Residential Noise Levels

Outdoor noise levels are more difficult to attenuate because, by definition, outdoor use areas are not enclosed. Outdoor use areas are considered "noise impacted" by FHWA and FAA when levels exceed approximately 65 Ldn. Solid noise fences (barriers) and building orientation can shield outdoor noise levels by a maximum of 10-15 dBA, but in many situations there are no measures to effectively reduce outdoor noise levels (e.g., when a site is surrounded by elevated freeways or beneath airport flight paths). In many cases outdoor noise levels remain above acceptable levels even though indoor noise levels can be mitigated to acceptable level with use of improved building materials and construction methods.

A review of common practices in urban cities in California (San Francisco, Oakland and Sacramento) found that when residences are proposed in very high-noise level urban areas, the focus of the noise mitigation measures is to reduce indoor noise levels to 45 Ldn, dBA. As practicable, noise mitigations are proposed to shield outdoor noise areas (generally decks rather than yards in urban areas) in noisy urban areas, but even if mitigation measures do not reduce the outdoor noise level below 65 Ldn, dBA, projects are approved anyway, as additional mitigation is not practicable.

Purpose of the Noise Study

ESA conducted a noise study in March 2007 of 10 locations in downtown Seattle to determine areas with existing noise environments suitable for residential development. The areas for noise monitoring were selected by Gordon Clowers, an Urban Planner with the City of Seattle Department of Planning and Development. Each area was considered to have hypothetical potential for residential development. The noise measurement locations are shown on **Figure 2**.

Noise Measurements Results

In order to characterize ambient noise conditions at each location, long-term noise measurements were conducted (48-hours measurement) at the ten locations and twenty short-term noise measurement were taken. All the 48-hour, long-term noise measurements were taken beginning at midnight on Tuesday March 6, 2006 and ending at 11:59 pm on Wednesday March 7, 2007. Weather conditions

were generally calm with no rain on Tuesday and some light rain on Wednesday morning. Two short-term measurements were taken at each of the 10 measurement locations, on Tuesday, Wednesday or Thursday.

MAP: Rand McNally & Company, 2006.
SOURCE: ESA Adolfson.

Figure 2
Noise Monitoring Location Map

Livable South Downtown

0 2 4 6 8 10
Scale in 100 Feet

Metrosonics Model db308 sound level meters were used for the ambient noise level measurements. These precision sound level meters were calibrated to ensure the accuracy of the measurements. The meters were programmed to record the maximum (Lmax), average (Leq), L8.3 and L90 noise levels each hour.

A convenient way to compare the sites is to show them ranked by the Ldn values that were measured during the study. Table 2 shows the rankings with the sites with the best noise environment (quietest sites) ranked at the bottom and the sites with the highest noise levels shown at the top of Table 2.

TABLE 2
RANKING OF SITES BY LDN VALUES

Site Number	Site Location	Average Ldn	Range of Hourly Average Leq
8	1st Avenue & Columbia St.	79	64-85
7	WOSCA Parking Lot	79	66-78
1	Yesler Way & 6th Avenue	78	65-76
2	10th Ave. S. & S. Weller St.	77	65-76
9	S. Washington St. & 1st Ave. S.	76.5	63-82
4	7th Ave. S. & S. Plummer St.	75	63-75
3	8th Ave. S. & S. Lane St.	71	58-71
6	Utah Ave. between Atlantic and Massachusetts	70.5	59-70
5	6th Ave. S. and Airport Way S.	70.5	59-70
10	S. King St. & Rainier Ave. S.	68	56-65

A summary of the noise level measurement results is provided in **Table 3** and graphs of the 24-hour measurements are provided in **Figures 3** through **Figure 21**.

Recommendations for Future Residential Uses in the Study Area

All of the locations measured have ambient outdoor Ldn levels above normally acceptable levels for residential uses (55 – 65 Ldn, dBA). While some locations in the study area may be able to achieve acceptable outdoor noise levels through setbacks and shielding from barriers and shielding from other structures, many locations would have no practical means to reduce noise to acceptable levels for prospective residential uses at outdoor common areas and decks. Outdoor decks throughout the studied areas would be challenged to have comfortable outdoor noise levels, especially those near Interstate 5 or 90 or Highway 99 and/or those with direct views of those major roads. Outdoor areas are in or near an urban center and the noise levels will continue be representative of a relatively noisy urban environment. Outdoor decks would not likely be locations amenable to quiet conversation or quiet relaxation.

Despite the challenges posed by noisy conditions, the studied areas could be rated as "conditionally acceptable for residential uses" if noise-mitigating features are built into future development. With proper design and building practices, indoor noise levels could achieve the indoor noise goal of 45 Ldn, dBA. In all the locations measured, building partitions with STC ratings of 35-40 would reduce the measured outdoor noise levels to an indoor level of less than 45 Ldn, dBA. If meeting the interior noise goal would depend upon windows being closed, which may be the case in most locations, the design for the structure should also specify a ventilation or air-conditioning system that would maintain a habitable interior environment without relying on open-window ventilation in warm weather periods.

TABLE 3
EXISTING NOISE ENVIRONMENTS AT PROJECT LOCATION

Location	Time Period	Leq (dB)	Noise Sources
Site 1: Yesler Way & 6th Ave. 115' from the center of Yesler Way; 40' from the center of 6th Ave.	24 hour CNEL measurements were: Tuesday: 78 Wednesday: 78	Hourly average Leq's ranged from: 65 - 76	Unattended noise measurements do not specifically identify noise sources.
Site 1: Yesler Way & 6th Ave.	10 Minutes 3/06/07 16:32	5-minute Leq's 72, 67	Bus on Yesler 72 dBA Helicopter 78 dBA Freeway 67 dBA Plane 68 dBA
Site 1: Yesler Way & 6th Ave.	5 Minutes 3/08/07 11:13	5-minute Leq 71	Train Horn 71 dBA Freeway 70 – 73 dBA
Site 2: 10th Ave. S & S Weller St. 25' from center of 10th; 50' from center of Weller	24 hour CNEL measurements were: Tuesday: 76 Wednesday: 78	Hourly average Leq's ranged from: 65 - 76	Unattended noise measurements do not specifically identify noise sources.
Site 2: 10th Ave. S & S Weller St.	5 Minutes 3/06/07 16:55	5-minute Leq 72	Freeway 70 – 74 dBA
Site 2: 10th Ave. S & S Weller St.	5 Minutes 3/08/07 10:42	5-minute Leq 71	Traffic 68 dBA Trucks 69 – 73 dBA Siren 71 dBA Plane < 71 dBA
Site 3: 8th Ave. S & S Lane St. 25' from center of Lane; 75' from center of 8th Ave. S	24 hour CNEL measurements were: Tuesday: 71 Wednesday: 71	Hourly average Leq's ranged from: 58 - 71	Unattended noise measurements do not specifically identify noise sources.
Site 3: 8th Ave. S & S Lane St.	5 Minutes 3/06/07 17:34	5-minute Leq 64	Plane 66 dBA Traffic on Freeway (slow during rush hour)

TABLE 3
EXISTING NOISE ENVIRONMENTS AT PROJECT LOCATION

Location	Time Period	Leq (dB)	Noise Sources
Site 3: 8th Ave. S & S Lane St.	5 Minutes 3/08/07 10:29	5-minute Leq 67	Freeway 64 – 67 dBA Street Traffic 65 dBA Truck 73 dBA Plane < 65 dBA
Site 4: 7th Ave. S & S. Plummer St. 90' from center of S Plummer St; 25' from center of 7th Ave. S	24 hour CNEL measurements were: Tuesday: 75 Wednesday: 75	Hourly average Leq's ranged from: 63 - 75	Unattended noise measurements do not specifically identify noise sources.
Site 4: 7th Ave. S & S. Plummer St.	5 Minutes 3/06/07 17:47	5-minute Leq 67	Planes 66 – 68 dBA Train horn – 66 dBA Traffic on Freeway is constant (I-5 and I-90) 64 dBA
Site 4: 7th Ave. S & S. Plummer St.	5 Minutes 3/08/07 9:56	5-minute Leq 69	Train Horn 70 – 74 dBA Freeway 68 – 70 dBA Street Traffic 70 – 71 dBA
Site 5: 6th Ave. S & Airport Way. S. 200' from center of 6th Ave; 50' from center of Airport Way S	24 hour CNEL measurements were: Tuesday: 70 Wednesday: 71	Hourly average Leq's ranged from: 59 - 70	Unattended noise measurements do not specifically identify noise sources.
Site 5: 6th Ave. S & Airport Way S.	10 Minutes 3/06/07 18:03	5-minute Leq's 70, 67	Tow Truck Train horn Helicopters Traffic on Freeway
Site 5: 6th Ave. S & Airport Way S.	5 Minutes 3/08/07 10:11	5-minute Leq 66	Back up beep 71 dBA Plane 65 dBA Truck on Freeway 71 dBA Background 63 dBA
Site 6: Utah Ave. S. mid-block between Atlantic St. and Mass. St. 20' from center of Utah Ave.	24 hour CNEL measurements were: Tuesday: 70 Wednesday: 71	Hourly average Leq's ranged from: 59 – 70	Unattended noise measurements do not specifically identify noise sources.
Site 6: Utah Ave. S mid-block	5 Minutes 3/06/07 18:22	5-minute Leq 65	Airplanes, Train Horn 65 dBA
Site 6: Utah Ave. S mid-block	5 Minutes 3/07/07 8:05	5-minute Leq 68	Train horn 70 – 73 dBA Steady Traffic Rain
Site 6: Utah Ave. S mid-block	5 Minutes 3/08/07 9:41	5-minute Leq 67.3	Traffic 67 dBA, Trucks 70.5 dBA Train horns Siren 73 dBA Background 65 – 66 dBA

TABLE 3
EXISTING NOISE ENVIRONMENTS AT PROJECT LOCATION

Location	Time Period	Leq (dB)	Noise Sources
Site 7: WOSCA Parking Lot Center of Parking Lot - 90' east of 99 viaduct structure. West of Qwest Field	24 hour CNEL measurements were: Tuesday: 79 Wednesday: 79	Hourly average Leq's ranged from: 66 - 78	Unattended noise measurements do not specifically identify noise sources.
Site 7: WOSCA Parking Lot	5 Minutes 3/07/07 8:24	5-minute Leq 77	Traffic noise 75 dBA Rain
Site 7: WOSCA Parking Lot	5 Minutes 3/08/07 9:24	5-minute Leq 76	Traffic 73 – 78 dBA Train horn audible
Site 8: 1st Ave. & Columbia St. 75' South of Columbia St; 25 ' from center of 1st Ave. Near 4-way stoplight	24 hour CNEL measurements were: Tuesday: 80 Wednesday: 78	Hourly average Leq's ranged from: 64 - 85	Unattended noise measurements do not specifically identify noise sources.
Site 8: 1st Ave. & Columbia St.	5 Minutes 3/07/07 8:57	5-minute Leq 72	Street Traffic 70 – 75
Site 8: 1st Ave. & Columbia St.	5 Minutes 3/08/07 9:02	5-minute Leq 70	Traffic 73 dBA Background 66 dBA Bus on Columbia 77 dBA
Site 9: S Washington St. & 1st Ave. S 20' from center of Washington; 120' from center of 1st Ave.; 240' from viaduct structure	24 hour CNEL measurements were: Tuesday: 76 Wednesday: 77	Hourly average Leq's ranged from: 63 - 82	Unattended noise measurements do not specifically identify noise sources.
Site 9: S Washington St. & 1st Ave. S	5 Minutes 3/07/07 8:43	5-minute Leq 70	Mainly Traffic from viaduct. Also steady traffic on 1st Ave.
Site 9: S Washington St. & 1st Ave. S	5 Minutes 3/08/07 8:46	5-minute Leq 71	Traffic 72 dBA from Viaduct and local traffic on Washington
Site 10: S King St. & Rainier Ave. S 40' from center of S. King St; 180' from center of Rainier Ave.	24 hour CNEL measurements were: Tuesday: 68 Adjusted last half of day; meter malfunction	Hourly average Leq's ranged from: 56 - 65	Unattended noise measurements do not specifically identify noise sources.
Site 10: S King St. & Rainier Ave. S	5 Minutes 3/06/07 17:14	5-minute Leq 61	Planes (4) 65 – 67 dBA Many plants overhead – 4 in 10 minutes – on flight path
Site 10: S King St. & Rainier Ave. S	5 Minutes 3/08/07 10:55	5-minute Leq 65	Planes (2) 65 dBA Street Traffic Rainier 61 – 65 dBA Freeway 99 to south causes background of 60 dBA

Figure 3
Site 1: Yesler Wy. & 6th Ave.
Tuesday March 06, 2007

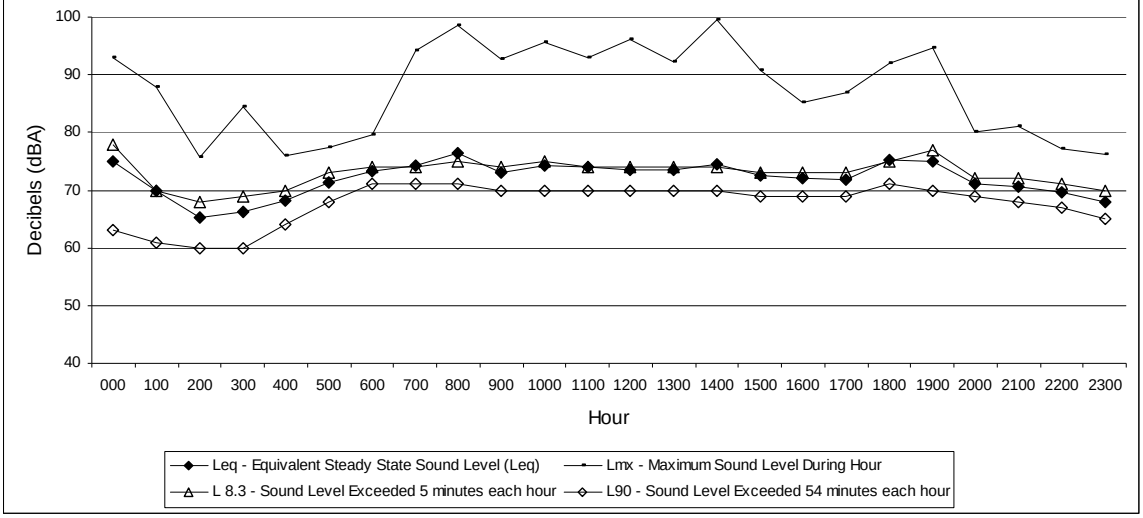


Figure 4
Site 1: Yesler Wy. & 6th Ave.
Wednesday March 07, 2007

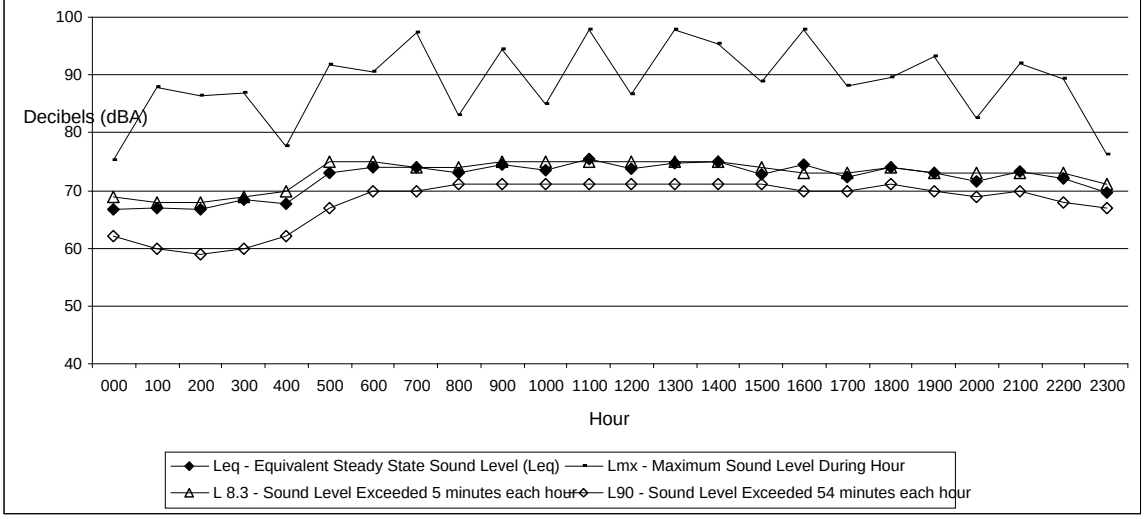


Figure 5
Site 2: 10th Ave. S & S Weller St.
Tuesday March 06, 2007

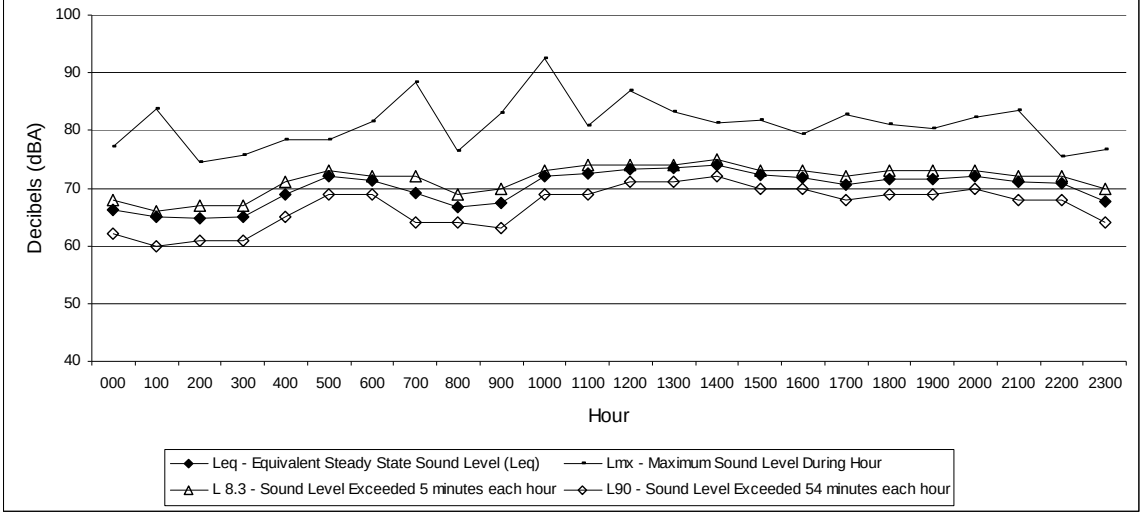


Figure 6
Site 2: 10th Ave. S & S Weller St.
Wednesday March 07, 2007

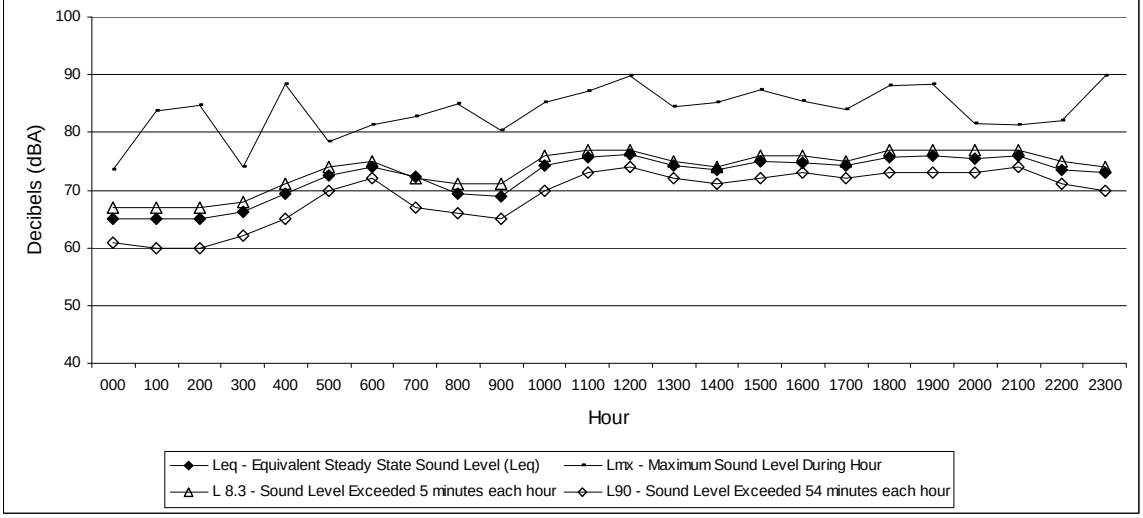


Figure 7
Site 3: 8th Ave. S & S Lane St.
Tuesday March 06, 2007

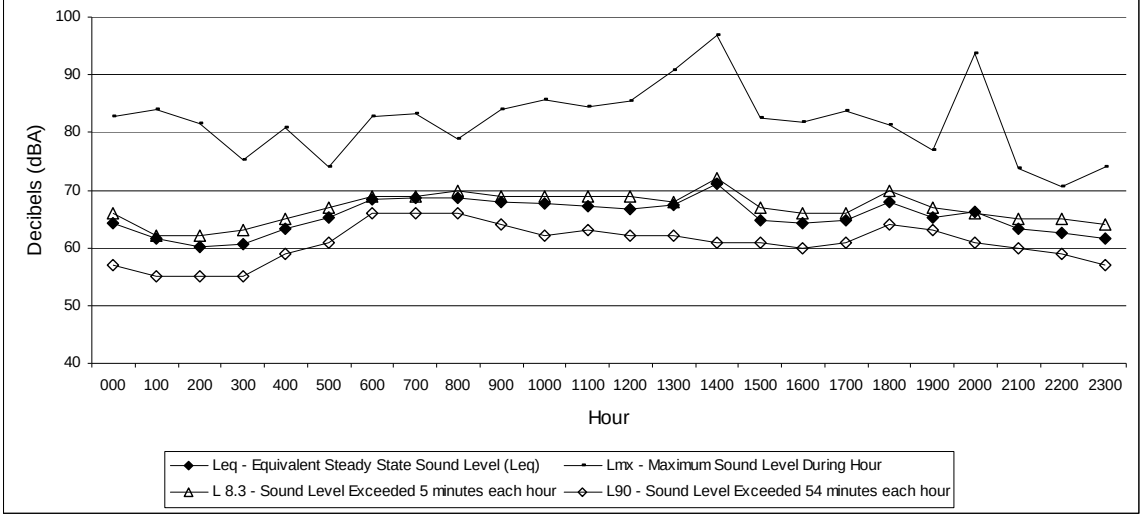


Figure 8
Site 3: 8th Ave. S & S Lane St.
Wednesday March 07, 2007

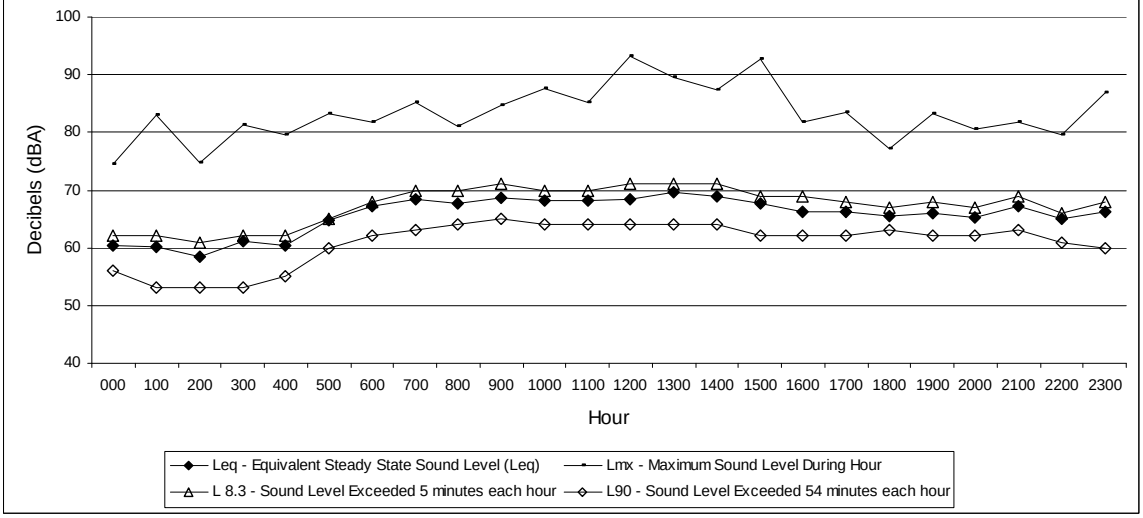


Figure 9
Site 4: 7th Ave. S & S. Plummer St.
Tuesday March 06, 2007

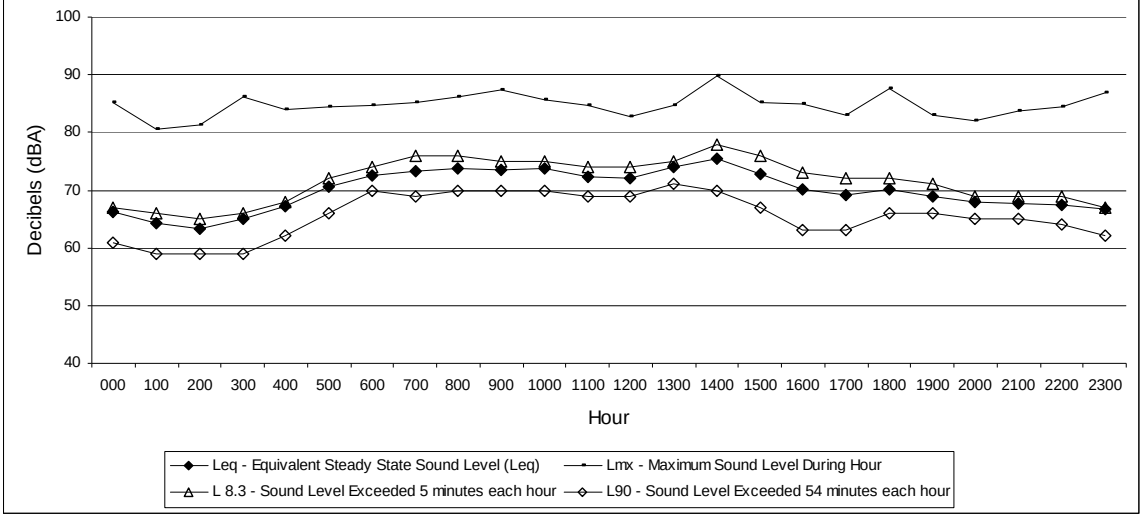


Figure 10
Site 4: 7th Ave. S & S. Plummer St.
Wednesday March 07, 2007

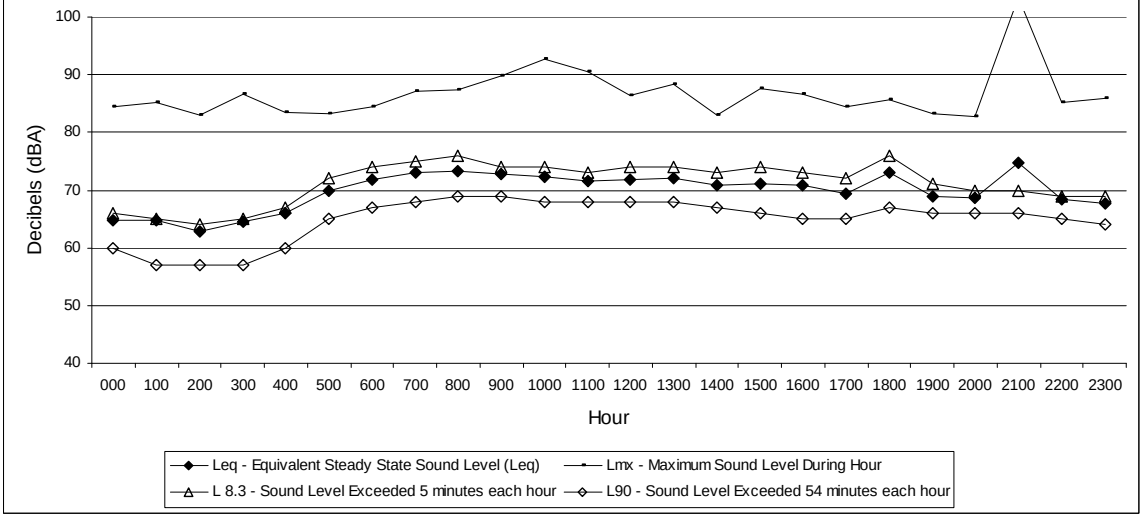


Figure 11
Site 5: 6th Ave. S & Airport Wy. S
Tuesday March 06, 2007

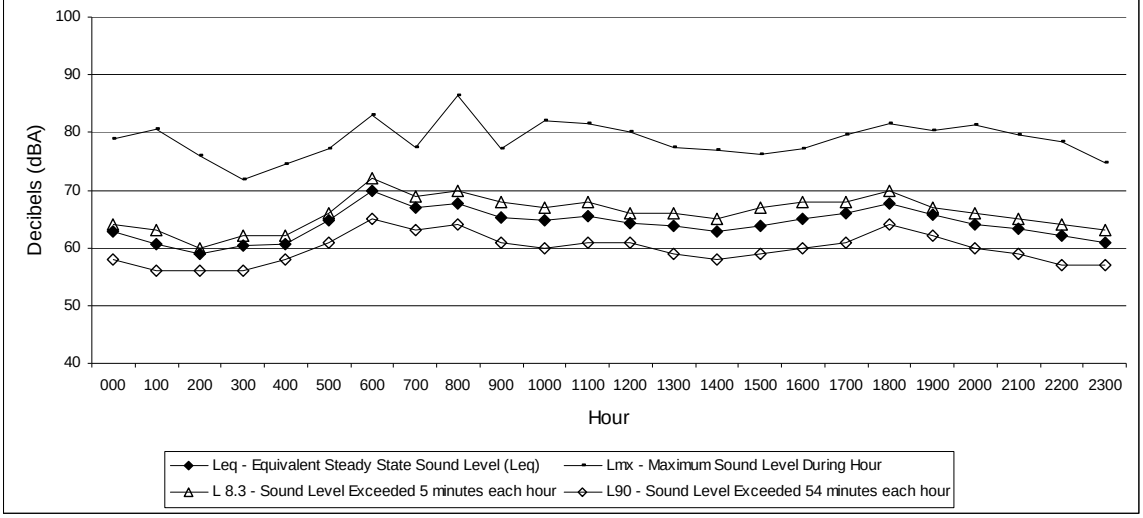


Figure 12
Site 5: 6th Ave. S & Airport Wy. S
Wednesday March 07, 2007

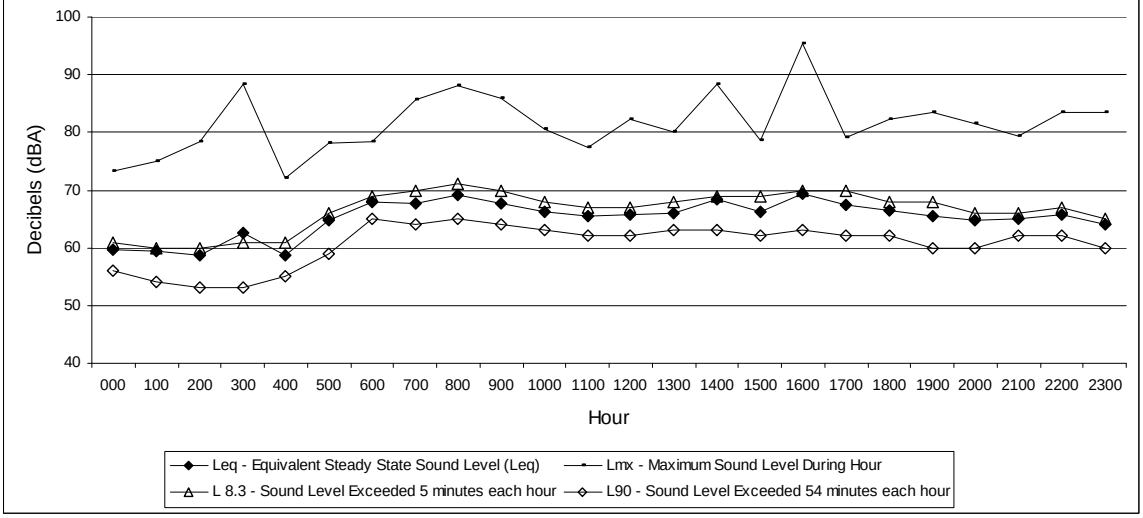


Figure 13
Site 6: Utah Ave. S., between S. Atlantic St. and S. Mass St.
Tuesday March 06, 2007

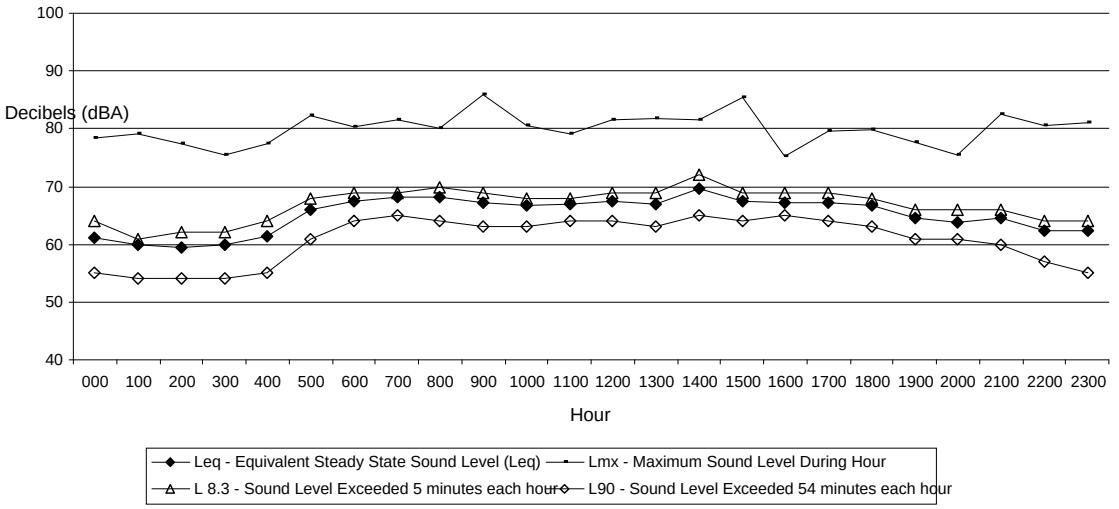


Figure 14
Site 6: Utah Ave. S., between S. Atlantic St. and S. Mass St.
Wednesday March 07, 2007

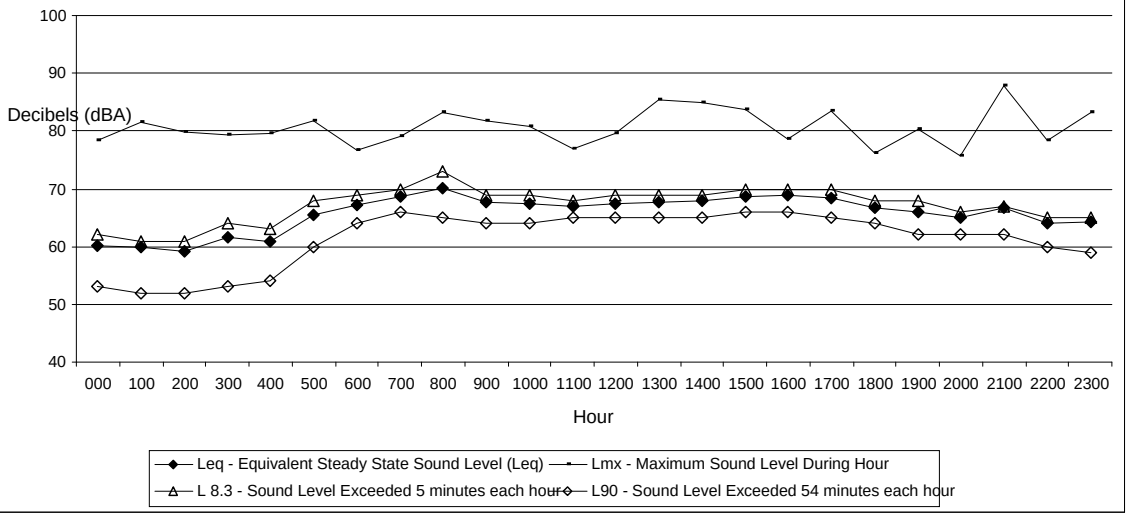


Figure 15
Site 7: In WOSCA property parking lot
Tuesday March 06, 2007

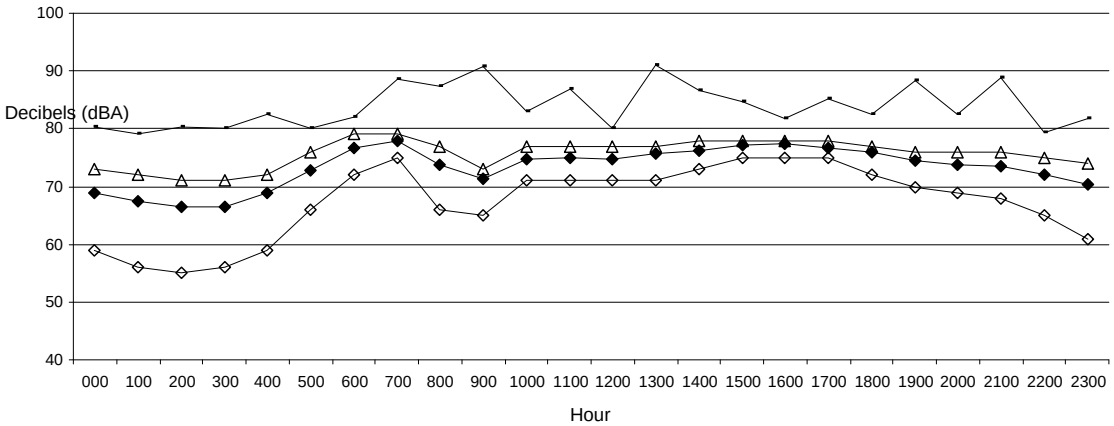


Figure 16
Site 7: In WOSCA property parking lot
Wednesday March 07, 2007

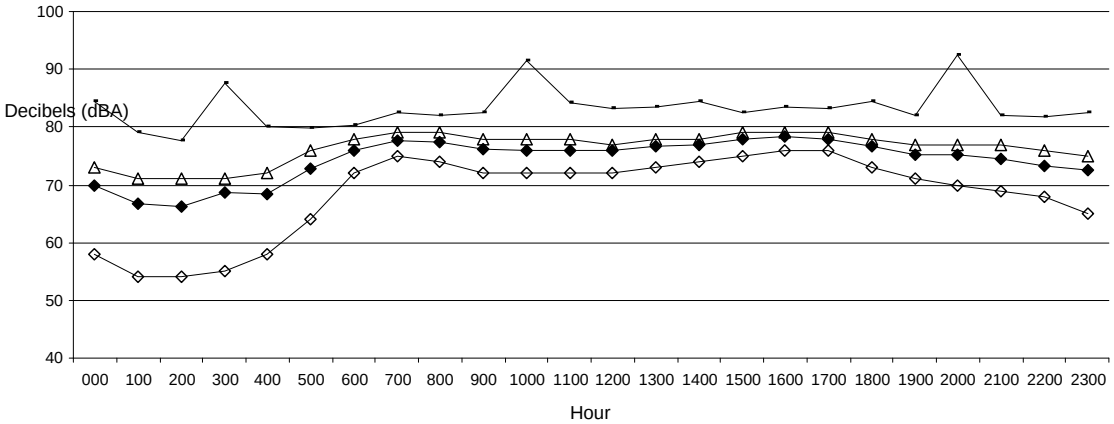


Figure 17
Site 8: 1st Ave. & Columbia St.
Tuesday March 06, 2007

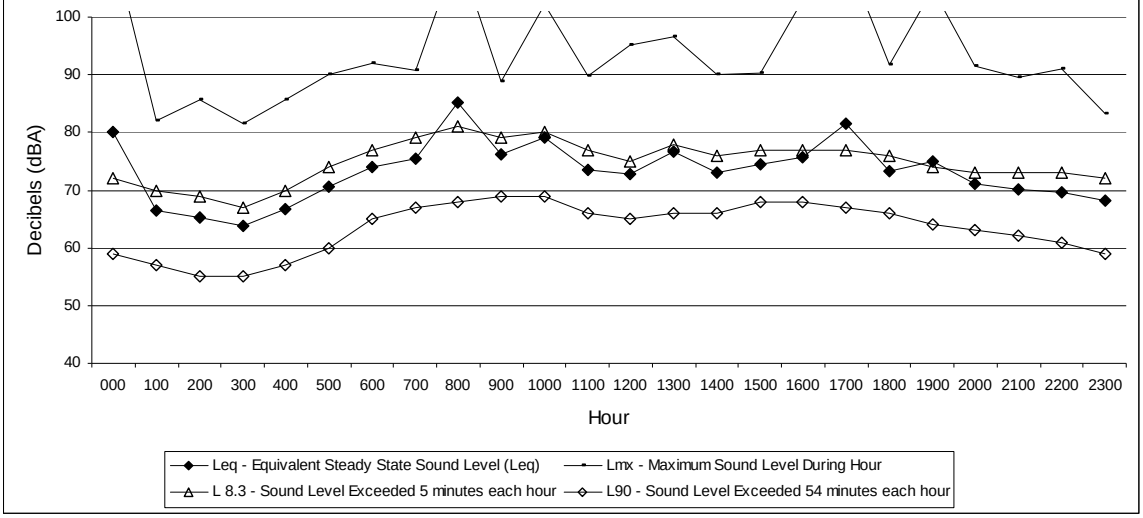


Figure 18
Site 8: 1st Ave. & Columbia St.
Wednesday March 07, 2007

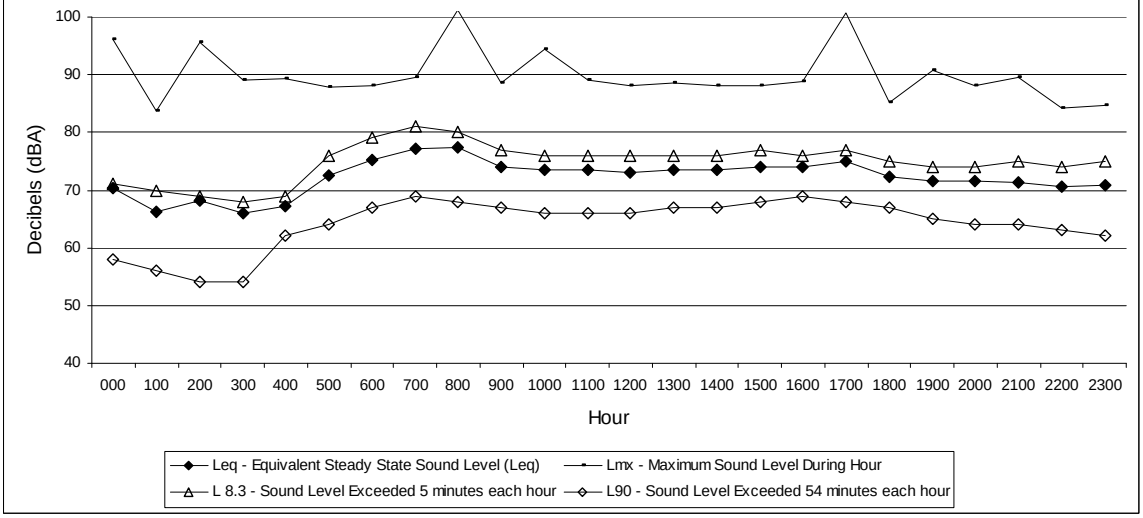


Figure 19
Site 9: S. Washington St. & 1st Ave. S
Tuesday March 06, 2007

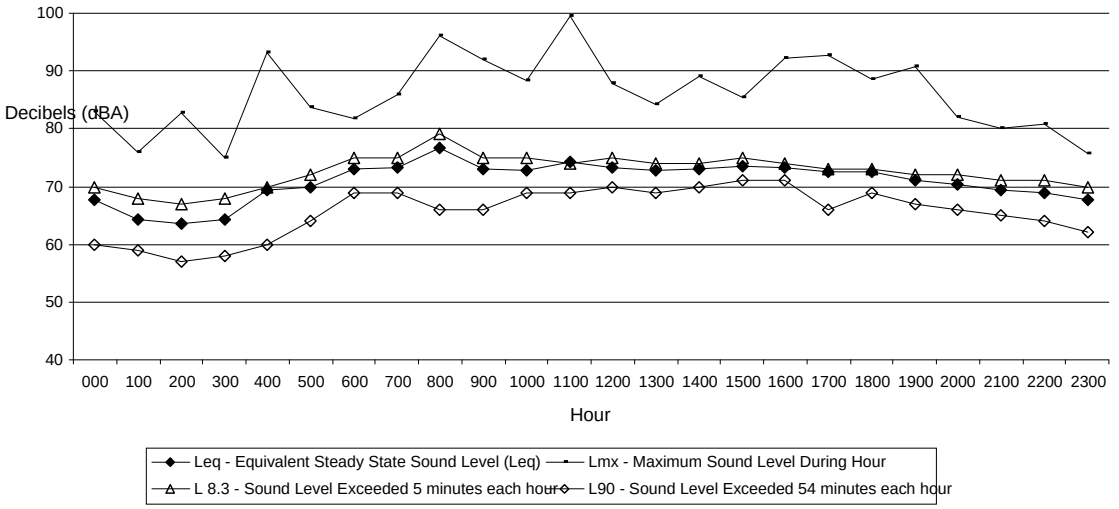


Figure 20
Site 9: S. Washington St. & 1st Ave. S
Wednesday March 07, 2007

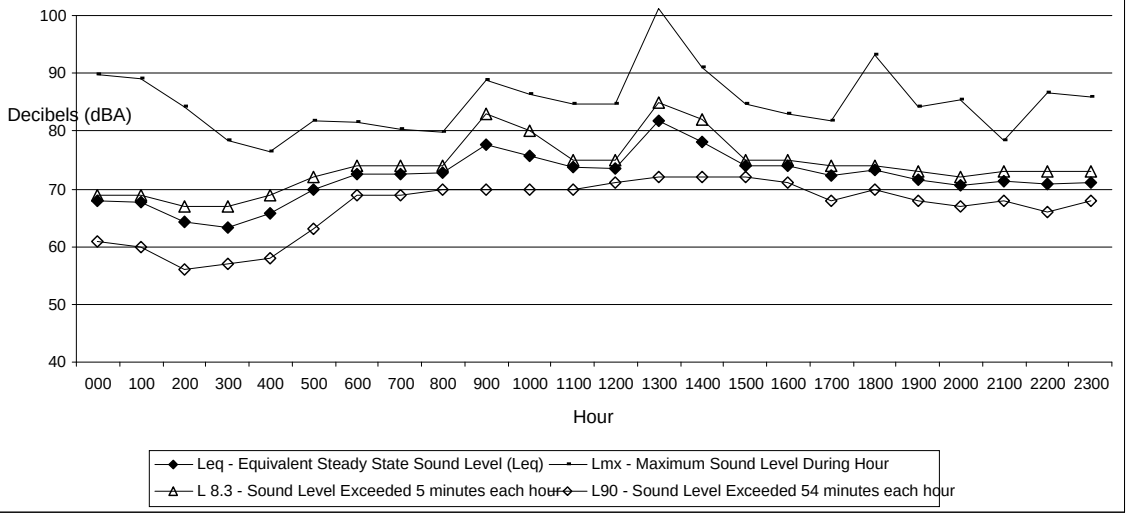
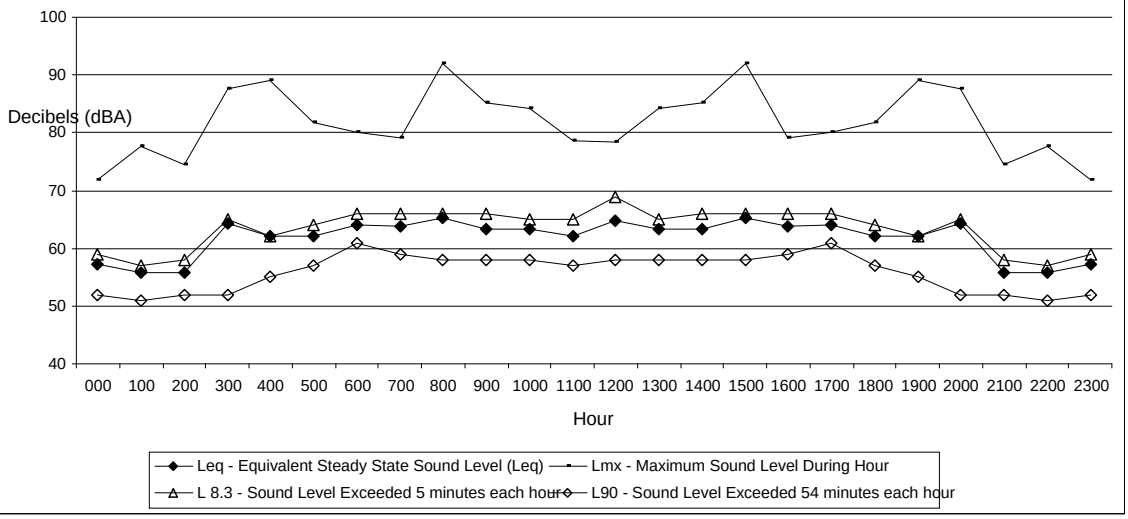


Figure 21
Site 10: S. King St. & Rainier Ave. S
Tuesday March 06, 2007



Draft
Environmental Impact Statement

LIVABLE SOUTH DOWNTOWN TRANSPORTATION DISCIPLINE REPORT

Prepared for:

City of Seattle
Department of Planning
and Development

September 2007

Prepared by:
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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

1.1 STUDY BACKGROUND

The Transportation Discipline Report is an integral part of the Livable South Downtown Draft EIS and describes the transportation related impacts of the growth alternatives for the South Downtown area. It identifies and compares the transportation impacts associated with each alternative and outlines suggested mitigation strategies to consider.

The Livable South Downtown planning process was initiated in 2005 by the City's Department of Planning and Development (DPD). Preliminary recommendations were released by the DPD in March 2006. Land use and zoning alternatives are required to undergo environmental review prior to legislative decision-making. Consequently, the DPD has published this programmatic environmental impact statement (EIS) to provide information to decision-makers, agencies and interested citizens. The programmatic EIS evaluates the impacts of the proposed land use alternatives at a broad level, versus very specific impacts that a project EIS would identify.

The EIS studies the environmental impact implications of three "Action" Alternatives that include land use and zoning changes associated with Livable South Downtown planning, and one "No-Action" Alternative. These changes, if adopted, would influence future patterns of land use and growth in South Downtown, including the maximum heights and sizes of future buildings that may be built in the area. The EIS analysis also considers the implications of the full range of recommendations covered within the Livable South Downtown planning process, covering such topics as urban design, economic development, utilities and environmental sustainability.

1.2 REPORT OVERVIEW

The Transportation Discipline Report comprises the following chapters:

- **Chapter 2: Methodology** - Describes the methods and underlying assumptions used to assess the different Alternatives.
- **Chapter 3: Consistency with Other Studies** - References and summarizes the relevant policies, plans, and projects, while also describing how they were used or incorporated into the study.
- **Chapter 4: Affected Environment** - Describes existing transportation conditions for each of the major transportation modes.
- **Chapter 5: Impacts and Alternatives Comparison** - Describes the future impacts of each Alternative on the different components of the transportation system.
- **Chapter 6: Mitigation Strategies** – Describes suggested mitigation strategies to help address the identified impacts, and also highlights the significant and unavoidable adverse impacts.

1.3 STUDY AREA

The South Downtown area enjoys an important and strategic location locally and regionally. From a local perspective, the area lies south of Downtown Seattle which in turn is the Pacific Northwest's major metropolitan area and center of several major commercial, retail, and business activities. The South Downtown area is also a center for Asian culture and a significant tourist destination.

The Livable South Downtown planning area is described according to five neighborhoods which include Pioneer Square, Chinatown/Japantown, Little Saigon, South of Dearborn, and the Stadium Area. Also included in the study area at the periphery of Little Saigon are properties east of Rainier Avenue S, outside of the Downtown Urban Center, within the Jackson Place neighborhood. As illustrated in Figure 1-1, the study

area in this programmatic EIS is irregular in shape and is bordered from the north by Columbia Street and Yesler Way, from the east by I-5 and Rainier Avenue S, from the south by S Holgate Street, and from the west by Alaskan Way S.

Two major stadiums exist in the study area: Safeco Field and Qwest Field. These are home to the Seattle Mariners baseball team and the Seattle Seahawks football team, respectively. The stadiums also host numerous other events year-round, and are major traffic generators during those times.

From a regional perspective, part of the study area includes the Greater Duwamish Manufacturing and Industrial Center (MIC) and borders major freight areas such as the Port of Seattle Terminals (T46) and the Burlington Northern/Seattle International Gateway Intermodal Rail Yard (SIG Yard). The area is a major origin and destination for truck and rail movements and facilitates trade across the Pacific Ocean.

In addition to the several state routes passing through the area, such as SR 99 and SR 519, two interstates bisect the area which include I-5 (going north-south) and I-90 (going east-west and terminating in the study area). All of the state routes serve significant regional traffic and are major freight routes.

A ferry terminal, Colman Dock, is also located northwest of the study area. The signed route from the freeways to the Colman ferry dock bisects the study area and is a source of additional traffic on the study area roadways.

1.4 ALTERNATIVES EVALUATED

The EIS Alternatives address a range of possible land use regulatory choices, with different implications for the amount and distribution of future growth. The No-Action Alternative analyzes the potential impacts of what may happen with future growth and development if no changes are made in zoning. Alternative 1's zoning choices would likely result in greater commercial development toward the west of the study area - along the 1st Avenue S corridor, including the Washington Oregon Shippers Cooperative Association (WOSCA) property. Alternative 2's zoning choices would likely result in greater concentration of commercial development toward the east and central portion of the study area (along the 4th Avenue S and Airport Way S corridors, including the "over-tracks" and Frye properties sites). Alternative 3 assumes a more balanced distribution of future growth across the study area.

1.4.1 No-Action Alternative

Under the No-Action Alternative, no changes would be made to the City's existing zoning and Land Use Code regulations. The residential and employment growth targets established in the Comprehensive Plan for 2024 (in this study projected further to 2030) would continue to be the benchmarks for expected growth.

The current zoning system would continue into the foreseeable future, including the existing zoning tailored to the Pioneer Square and Chinatown/International District neighborhoods (west of I-5), industrial zoning with a Stadium Area Overlay in the 1st Avenue S and stadium vicinity, general industrial zoning in the vicinity near Airport Way S south of S Charles Street, and a mixture of commercial, neighborhood commercial and industrial zoning in the Little Saigon vicinity.

Over time, the trend of gradual infill development in and around the neighborhood cores would likely continue. The northern half of Qwest Field's north parking lot has been identified to be developed with several hundred residential units. There are several other redevelopment projects planned and in the permitting process within the study area. These projects are assumed in all Alternatives, including the No-Action Alternative, but at various intensities of development.

Major transportation projects, including SR 99 construction, the second phase of SR 519, Link Light Rail and the extension to Bellevue (East Link), HOV lanes on I-90, and the S Lander Street Grade Separation are

assumed to be in place by 2030 and included under all Alternatives. The effective closure of S Holgate Street between 3rd Avenue S and Occidental Avenue S as a result of increased rail operations is also assumed, but the City is not committed to this project and is still evaluating its feasibility.

1.4.2 Alternative 1: Neighborhood Infill with Commercial Growth toward the West

Alternative 1's planning concept is broadly summarized as encouraging growth that will reinforce the neighborhood cores and areas near those cores, with modest expansion of development capacity in other peripheral vicinities. Recommendations would incentivize infill development within the Pioneer Square and Chinatown cores in locations where historic resources would not be directly impacted, and additional zoned development capacity would be provided in three areas at the edges of these neighborhood cores—the Japantown and Qwest Field north lot vicinities and the northern portion of the WOSCA property. This is intended to result in the central neighborhoods experiencing the benefits of increased residential occupation, and a more complete and denser urban fabric that will assist in improving the vitality of businesses and streetscapes. The defining element of Alternative 1's commercial growth emphasis "toward the west" would occur through increases in commercial development capacity along the 1st Avenue S corridor south of Pioneer Square.

1.4.3 Alternative 2: Neighborhood Infill with Commercial Growth toward the East

Similar to Alternative 1, Alternative 2 encourages infill development within the Pioneer Square and Chinatown core areas and additional residential-oriented development capacity at the underused periphery of the cores. The primary difference is that Alternative 2 assumes an increased concentration of commercial development within the eastern portion of the study area. This includes significant commercial growth along the 4th Avenue S corridor, south of S Dearborn Street, and in Little Saigon. The South of Dearborn vicinity would remain industrially-zoned, allowing more intensive commercial development while maintaining a transition to the more intensive industrial zone (IG2) further south. No changes to Downtown Urban Center boundaries would be needed for this Alternative.

1.4.4 Alternative 3: Balanced Growth

Alternative 3 defines a more balanced distribution of future employment growth capacity throughout the study area than the other Alternatives. This includes lesser increases in zoned height limits in several areas, moderate changes in commercial capacity across several large properties throughout the study area, and consistent Neighborhood Commercial (NC3-85') zoning throughout the Little Saigon vicinity. Alternative 3 also includes a 20-foot increase in height limits north of S Atlantic Street and the permission of hotel uses within the Stadium Transition Area Overlay. No zoning changes are proposed within the Chinatown/International District core, but in the South of Dearborn vicinity a new South Downtown mixed zone is proposed to allow for a more diverse mix of uses, including residential uses. Alternative 3 includes a proposal to move the WOSCA property and South of Dearborn area into the Downtown Urban Center and out of the Greater Duwamish Manufacturing and Industrial Center.

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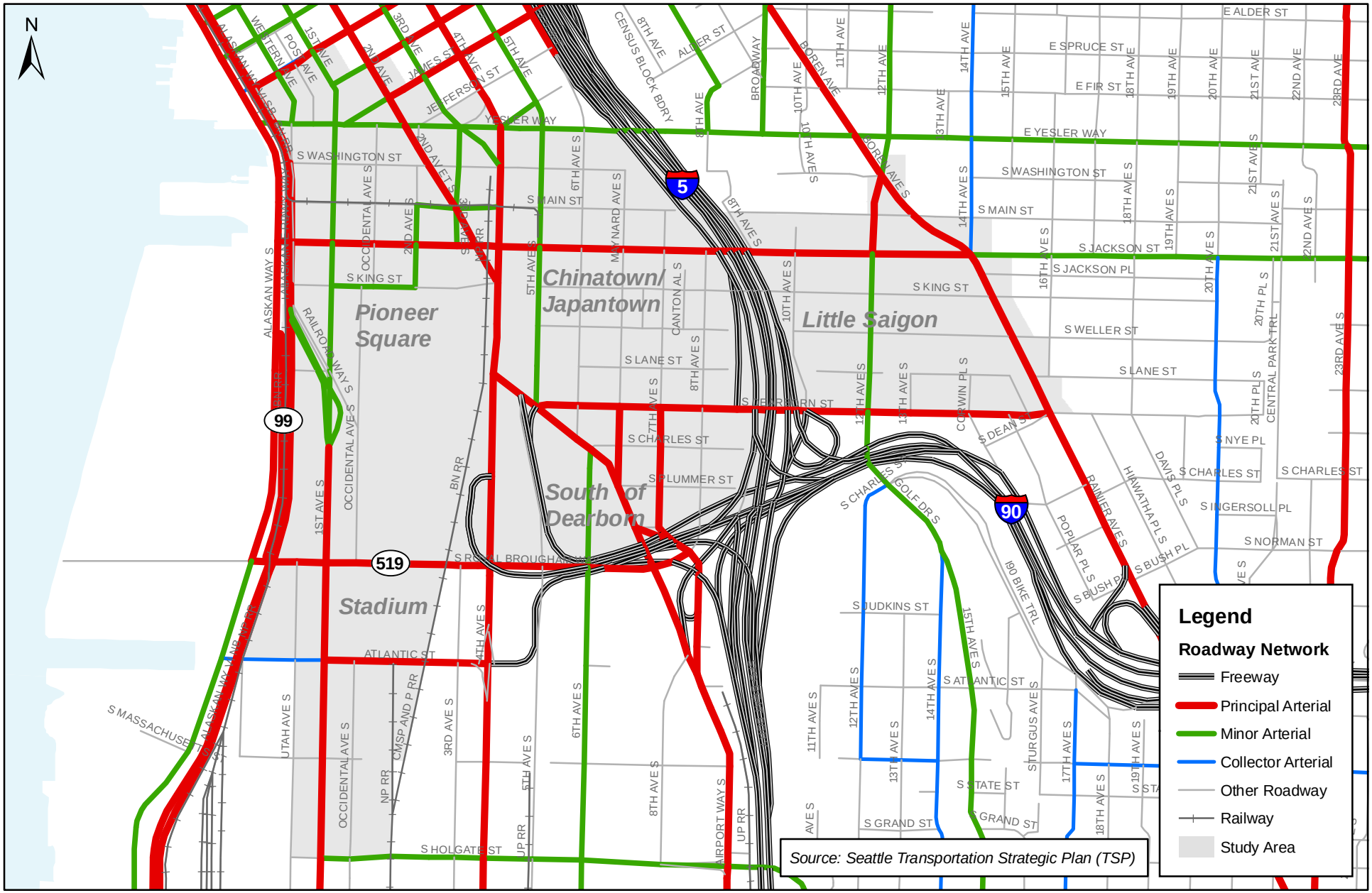

Figure 1-1

Study Area

Livable South Downtown EIS

The Transpo Group

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2. STUDY METHODOLOGY

This chapter summarizes the overall approach to evaluating the transportation system, and describes the transportation data that was collected and the measures used to assess the performance of each of the major transportation system components under each Alternative.

2.1 APPROACH TO THE ALTERNATIVES EVALUATION

The evaluation of the transportation system and the identification of transportation impacts generally followed typical transportation methodologies that include an evaluation of traffic volumes, operations, pedestrians, bicycles and parking. In addition, this analysis includes a relatively more detailed evaluation of the transit and freight components than what has been generally observed in similar programmatic EIS evaluations. Freight was addressed in more detail because of the location of the study area next to the Port of Seattle and adjacent industrial areas. Transit was evaluated at a more detailed level because of its importance to the transportation needs for the study area and the potential effects on transit service to/from Downtown Seattle. This study included the collection of transportation data, evaluation of the existing transportation system conditions, development of travel forecasts, and an assessment of projected future conditions. The performance of the arterial street system, and the transit, freight, parking, and non-motorized elements were evaluated, including an assessment of the event management measures.

The evaluation of the transportation system included a number of transportation-related performance measures grouped by area of focus (arterials, transit, freight, parking, non-motorized, and event management). Each of these specific elements is described in detail below.

Year 2030 travel forecasts were estimated and evaluated to gauge the performance and functionality of the study area transportation system. The 2030 No-Action Alternative was developed to represent the future transportation system operations assuming no zoning changes and completion of several regional and local transportation improvement projects that are expected to be in place by 2030. This Alternative serves as a future baseline against which each of the three Action Alternatives can be compared. The same performance measures evaluated for existing conditions were again assessed for each of the 2030 Alternatives.

2.2 DATA COLLECTION SUMMARY

The evaluation included the collection and assimilation of data for each of the major transportation elements. The data were provided by several different agencies including the City of Seattle, WSDOT, King County Metro, and Port of Seattle. The existing data were supplemented by data collected in the field such as traffic counts, vehicle classification counts, parking utilization and supply surveys, and general windshield surveys. A summary of the data collection activities is provided below.

2.2.1 Arterial Street System

Traffic data were collected for major intersections and arterials in the study area. The turning movement counts (TMC) were collected during both the AM and PM peak hours. Many of the TMCs also included pedestrian and heavy vehicle counts as well. Data were collected for two hours in each of the AM and PM peaks over 15 minute intervals in order to capture the peak hour traffic period. Counts were conducted on a Tuesday, Wednesday, or Thursday. Mondays, Fridays, and weekends were excluded since traffic volumes are typically reduced immediately prior to, or following, weekends. No counts were conducted on holidays or immediately prior to or following holidays. Counts were also not conducted during events at the stadiums. The AM counts were conducted between 7:00 am and 9:00 am while the PM counts were conducted between 4:00 pm and 6:00 pm. The hour with the greatest number of vehicles within the two hour peak period was used to evaluate the traffic operations. The existing intersection turning movements are provided in Appendix A.

Most of the traffic data collection occurred during January and February 2007. However, some intersection counts were obtained from the Seattle Department of Transportation (SDOT) and other recent studies, and were typically conducted at some time over the past two years. These counts were factored to 2007 volumes assuming a one percent annual growth rate, based on historical traffic counts.

Signal timing and phasing data were obtained from SDOT in the form of intersection time cards, while intersection geometry was derived from aerial images and channelization was verified during the windshield surveys.

Mid-block daily counts were also conducted along S Dearborn Street, Airport Way S, 1st Avenue S, and 4th Avenue S. For 1st and 4th Avenues S, the tube counts were performed at two locations: north of S Royal Brougham Way and south of S Atlantic Street. These were performed on similar days as the turning movement counts.

2.2.2 Transit

Transit information related to service coverage and frequency for bus routes within the study area was identified through published schedules provided by King County Metro and Sound Transit. Transit ridership data for 2006 were provided by King County Metro and included boarding and alighting data for each bus stop within the study area for the average weekday AM and PM peak hours.

GIS data included bus stop locations and other transit facilities within the study area. Records related to the transit performance measures detailed in the Urban Village Transportation Network (UVTN) Monitoring Report (2006) included frequencies, span of service, operating speed, and passenger loading for the study area UVTN corridors.

2.2.3 Freight

Vehicle classification counts were conducted along S Dearborn Street, Airport Way S, 1st Avenue S, and 4th Avenue S. For 1st and 4th Avenues S, the counts were performed at two locations: north of S Royal Brougham Way and south of S Atlantic Street. The counts were collected between January and March 2007 using tube counters. A supplementary heavy vehicle count was made in April 2007 between 7:00 am and 9:00 pm using video cameras to verify the type and volume of truck activity along the Airport Way S and 6th Avenue S corridors in the South of Dearborn neighborhood. Other vehicle classification data were assimilated for the S Royal Brougham Way and S Atlantic Street corridors from the SR 519 Phase 2 feasibility analysis.

Daily counts of rail traffic at S Royal Brougham Way and S Holgate Street between 1st Avenue S and 4th Avenue S were assimilated from the S Holgate Street Closure Study.[1] Additional data were collected in May from field surveys to identify the number of trains during the PM peak hour.

2.2.4 Parking

Parking supply and demand was obtained from several different sources. The majority of on-street parking information was obtained from the City of Seattle. Other data sources for parking included the S Dearborn Street Mixed Use Development EIS and the SR 99: Alaskan Way Viaduct & Seawall Replacement Project EIS. The data were supplemented via a field review, which verified the supply and noted approximate mid-day utilization of lots. This review was conducted in March 2007 for the on-street and off-street parking locations. Off-street parking data were collected only for public lots identified for potential redevelopment so as to identify the number of spaces that would likely be displaced.

[1] *S Holgate Street Railway Crossing Closure Traffic Impact Analysis*, WSDOT, December 2003

2.3 DEVELOPMENT OF THE TRAVEL FORECASTS

The SDOT travel demand model, which is a refined version of the Puget Sound Regional Council (PSRC) Regional Travel Demand Model, was used for this study. The SDOT model retains the PSRC model level of detail for areas outside Seattle boundaries while using a more detailed network and zonal structure for Seattle itself, along with enhancements to parking costs and transit.

The most current version (April 2007) of the City's model, representing progress made in the model update process, was used for this study. The updated model reflects changes in residential and employment land uses, as well as approved future transportation projects, developed by the PSRC for this purpose. The model represents a reasonable platform for comparing the travel impacts of the study alternatives. The model has a 2005 base year and a 2030 future horizon year. The 2030 horizon year land use data within the model were updated for each Alternative to assist in evaluating changes in travel behavior resulting from the proposed land use modifications.

The SDOT model is a rather sophisticated model running on an EMME/2 software platform and uses the four-step model process that includes trip generation, trip distribution, mode choice, and trip assignment. Documentation of the model and model updates were obtained along with each of the model databanks from SDOT.

The model was used to evaluate the different Alternatives by comparing the Alternatives to the No-Action Alternative. It also was used to develop 2030 forecast traffic volumes along the major roadways within the study area. Future daily person trips were also output from the model to identify changes to mode share and the number of future transit trips.

2.4 IDENTIFICATION OF THE PERFORMANCE MEASURES

Performance measures were identified and evaluated for existing conditions, 2030 No-Action Alternative, and under each of the Action Alternatives. The measures characterize the relative differences in performance between each of the Alternatives and establish transportation impacts that could be expected. They were developed based on input from the City of Seattle and are meant to be used as broad level comparisons consistent with a programmatic EIS evaluation. The measures address each of the modes of travel.

2.4.1 Arterial Street System

The performance measures used for analyzing and assessing the arterial street system are focused on a travel time based level of service (LOS) for the major corridors within the study area. Arterial LOS is a useful measurement to depict traffic conditions on urban street corridors. The *Highway Capacity Manual* (HCM) Transportation Research Board 2000 presents clear guidelines on quantifying travel-time-based LOS for urban streets. Table 2-1 summarizes the HCM travel time LOS definitions based on travel speeds.

Table 2-1. Urban Street Level of Service

LOS	Description
A	Describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free flow speed (FFS) for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	Describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the FFS for the street class. The ability to maneuver within the traffic stream in only slightly restricted, and control delays at signalized intersections are not significant.
C	Describes stable operations, however, ability to maneuver and change lanes in mid-block locations may be more restricted than LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the FFS for the street class.
D	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of FFS.
E	Characterized by significant delays and average travel speeds of 33 percent or less of the FFS. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.
F	Characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the FFS. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

Source: *Highway Capacity Manual,* Transportation Research Board, 2000

The average travel speed for through-vehicles along an urban arterial is measured against the free flow speed and used to determine the operating arterial LOS. The travel speed along an arterial is dependent on running speed between signalized intersections and the amount of control delay incurred at signalized intersections. Table 2-2 summarizes descriptions that characterize travel time based LOS on urban streets.

The study area corridors were assigned an Urban Street Class designation (see Table 4-1). The Urban Street Class designation is used to develop an LOS value for the corridor based on the average travel time. Urban Street Class is a classification system used by the *Highway Capacity Manual* 2000 to reflect the unique combinations of street function and design. The functional component is separated into two categories: principal arterials and minor arterials. The design component is separated into four categories: high-speed, suburban, intermediate, or urban (see Chapters 10 and 15 of the *Highway Capacity Manual* 2000 for a complete discussion on urban street concepts and travel time LOS methodology). For the purposes of this analysis the Urban Street Class was assigned based on the average posted speed. All corridors were assigned an Urban Street Class III designation, with the exception of 3rd Avenue which was assigned a Class IV designation.

Table 2-2. Level of Service for Urban Streets

Urban Street Class	**I**	**II**	**III**	**IV**
Range of Free Flow Speed[1] (mph)	**55 - 45**	**45 - 35**	**35 - 30**	**35 - 25**
Typical Free Flow Speed (mph)	**50**	**40**	**35**	**30**
LOS	**Average Travel Speed**			
A	>42	> 35	> 30	> 25
B	> 34 – 42	> 28 – 35	> 24 – 30	> 19 – 25
C	> 27 – 34	> 22 – 28	> 18 – 24	> 13 – 19
D	> 21 – 27	> 17 – 22	> 14 – 18	> 9 – 13
E	> 16 – 21	> 13 – 17	> 10 – 14	> 7 – 9
F	<= 16	<= 13	<= 10	<= 7

Source: *Highway Capacity Manual,* Transportation Research Board, 2000 Exhibit 15-2

1. The free flow speed is the average speed of the traffic stream when traffic volumes are sufficiently low that drivers are not influenced by the presence of other vehicles and when intersection traffic controls are not present or is sufficiently distant as to have no effect on speed choice.

The process that is used to evaluate arterial level of service requires that individual intersection operations be included in the analyses to estimate delays and average travel speeds along the corridors. While individual intersection LOS is not the primary performance measure for the arterial street system, trends in the total number of intersections operating below LOS D conditions were summarized and are presented for each alternative. A description of the intersection LOS methodology and a summary of the intersection LOS results are presented in Appendix A.

2.4.2 Transit

Performance measures reflect the quality of the transit service by evaluating its operational aspects. The Transportation Research Board's (TRB) Transit Cooperative Research Program (TCRP) Report 100 *The Transit Capacity and Quality of Service Manual* identified a wide range of factors that would affect the quality of service. However, the Seattle Transit Plan and the Urban Village Transit Network (UVTN) Monitoring Report (City of Seattle, 2006) define several transit service performance measures for characteristics or features considered as the most important to the City. For consistency, this study applies four of the five identified performance measures described in the Seattle Transit Plan, but refined in the UVTN Monitoring Report. The measures include:

- **Frequency:** The duration of the maximum scheduled gap between consecutive buses on the route. This concept is used as an indicator to reflect the intensity of the service, and the availability for mobility along a corridor. The acceptable threshold set by Seattle Transit Plan is 15 minutes. It should be noted that service frequency is determined by destination from a given transit stop, as several routes may serve a given stop, but not all may serve a particular destination[2].
- **Span of Service:** The number of hours in the day that a service runs at minimum acceptable frequencies identified in the previous performance measure (15 minutes or less). The purpose of this indicator is to show how many hours of acceptable frequency service are available along a street segment. The scoring threshold for the Span of Service measure required by the Seattle Transit Plan is 16 hours of service. Based on this strict threshold, the UVTN Monitoring Report 2006 found that the large majority of the system is failing. Therefore, the UVTN Monitoring Report adopted a reduced passing score of 12 hours that will be increased in the future by the City. For consistency with the UVTN Monitoring Report, this lower threshold was used as the standard in the analysis of the affected environment. However, the 16-hour threshold was set as the future goal to achieve by 2030 and was used as the standard for the alternatives analysis.
- **Travel Speed:** Measures the average operating speed along a transit corridor. It is expressed as a Percentage of Posted Speed Limit (%PSL). The measurement reflects how long the service takes (including all types of delay) to traverse one mile compared to the posted speed limit. Previous studies showed that on key Downtown Seattle streets, average operating speeds have never exceeded 10 mph and could reach as low as 5 mph on some streets during the PM peak hour. Delay along transit routes generally consist of recurring traffic congestion, traffic signal delay, dwell time at stops and sometimes occasional delays caused by a mechanical fault or an accident. The minimum threshold adopted as a percent of posted speed limit is 30 percent. UVTN street segments where transit operating speed drops below 30 percent of PSL are considered deficient.
- **Passenger Loading:** An indicator of the utilization of a transit corridor based on an identified service capacity. Its value is expressed as the ratio of passengers to seated capacity. This parameter is an important measure that provides insight into passenger comfort, both in terms of finding a seat and crowding levels on the transit vehicle.

The fifth performance measure that is identified in the Seattle Transit Plan is Reliability and measures the degree to which the transit schedules are achieved (i.e. on time). Reliability is based on field measurements

[2] *Comprehensive Street Classification, Performance and Design Standard System: final working paper,* City of Seattle, April 2004, p.4-6.

rather than prediction because of the many site specific and stochastic factors that could affect having buses on schedule, which makes it difficult to forecast. Therefore the Reliability performance measure was not included in the evaluation of transit.

2.4.3 Freight

In the absence of nationally or locally adopted performance standards for freight, the *Comprehensive Street Classification, Performance and Design Standard System* report (Nelson/Nygard Consulting Associates, April 2004) recommended types of freight performance indicators. The indicators included a set of qualitative and quantitative assessments such as:

- **Truck Connections:** Ability of current facilities to provide proper connections and circulation options for trucks. It reflects the accessibility level provided by the road network in the study area to allow trucks to safely access their destinations within and around the study area.
- **Major Truck Street Travel Speed:** This indicator assesses the operating conditions of street segments and intersections along the designated Major Truck Streets. It is similar to the general traffic travel speeds, except that increased congestion affects trucks disproportionately more than vehicles due to longer acceleration and wider turning radii. The travel speeds provide a good indicator of the relative differences between the Alternatives even though they may not fully account for additional operational delays that trucks may encounter (which are addressed by the other freight performance measures). Increased travel speed arises from less delay encountered at intersections.
- **Design Standards:** Assessment of design standards that would facilitate or inhibit truck operations. It includes items such as clearances at bridges and other structures, turning radii, lane width and absence of weight limits or other restrictions.

Each of these identified performance measures were used to evaluate the impacts along the Major Truck Streets and compare between Alternatives.

2.4.4 Parking

The parking analysis focused on existing parking lots that are expected to be redeveloped under the various Alternatives. These locations are most likely to impact the parking supply in the study area. The performance measures included a review of the total amount of displaced off-street public parking by neighborhood to be displaced by each of the Alternatives. The impacts focus less on the supply of lost parking spaces and more on the loss of utilized parking spaces that currently provide parking to the public (either hourly or by permit). In addition, the supply and utilization of on-street parking supply was also inventoried and evaluated to understand whether it might be able to accommodate any displaced parking.

The City's parking based goals, as included in the Comprehensive Plan and TSP, are not to provide sufficient parking for commuters, so as to encourage alternative mode use. The policies do, however, recognize the need to provide adequate short-term parking to support commercial clientele.

2.4.5 Pedestrians and Bicycles

Performance measures used for pedestrians and bicycles were primarily qualitatively assessed, though included pedestrian counts at some locations. They were evaluated to give a general overview of the impacts the Alternatives may have on the pedestrian and bicycle facilities throughout the study area. The performance measures are as follows:

- **Facilities:** How well the current facilities would serve the new pedestrian and bicycle population.
- **Major Attractors:** How accessible major pedestrian attractors are to new and existing pedestrian and bicycle users.

- **Neighborhood Attractors:** How accessible new and future neighborhood attractors, such as mixed-use developments, are to pedestrians and bicycles.
- **Conflicts:** How pedestrians and bicyclists would be affected by growth in traffic volumes from new development.

2.4.6 Event Management

Event management impacts were evaluated at a programmatic level using both Qwest Field and Safeco Field Transportation Management Plans (TMP) as a guide to assess potential impacts of each Alternative within the study area, as opposed to a detailed analysis of each intersection or specific access and/or parking location. The analysis focuses on how, in general, the objectives and specific measures necessary to achieve the goals of each TMP for Safeco and Qwest would be affected and what strategies should be employed to mitigate the impacts of the Alternatives on event management and the level of additional resources needed to accommodate the land uses.

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3. CONSISTENCY WITH OTHER STUDIES

This section provides a summary of the studies and adopted plans that have been completed recently and which have been used to assist in the development of future assumptions, identification of performance measures, and evaluation of the proposed Alternatives on Seattle's transportation system. The South Downtown transportation discipline report is consistent with and supportive of each of the plan documents described below.

3.1 SEATTLE'S COMPREHENSIVE PLAN: TOWARD A SUSTAINABLE FUTURE

(Chapter 3: Transportation Element) City of Seattle, January 2005

The Comprehensive Plan defines transportation goals and policies that serve the growth objectives of the City. The policies focus on the Urban Village (UV) development pattern and highlight the desire to connect these areas with high quality transit service. The plan recognizes the City has a limited amount of street space and instead focuses on non-single occupant vehicle transportation facilities to support future development. The plan highlights the desire to make non-auto modes such as transit, bike, and walk real choices for residents. The Livable South Downtown project is consistent with the Comprehensive Plan in that it promotes transportation modes such as walking and biking, while taking advantage of the existing and planned transit facilities within the South Downtown area. The transportation policies of the Comprehensive Plan were used to guide the level and focus of the transportation analysis and assist in identifying appropriate mitigation strategies. Recent passage of Seattle's Complete Street ordinance (#122386) in April of 2007 reinforces the policies of the Comprehensive Plan by requiring the City to consider all users of the transportation system when designing roadway improvements.

3.2 TRANSPORTATION STRATEGIC PLAN (TSP)

Seattle Department of Transportation, August 2005

The Transportation Strategic Plan (TSP) is the functional plan developed to implement the policies adopted by the Comprehensive Plan. It establishes the Seattle Department of Transportation's (SDOT) near- and long-term strategies, projects and programs to improve safety, preserve and maintain the transportation infrastructure, support the Urban Village land use strategy, and provide mobility and access through transportation choices. The TSP was used to evaluate roadway classifications and operational measures and identify future projects within the study area.

3.3 SEATTLE TRANSIT PLAN

Seattle Department of Transportation, September 2005

The Transit Plan sets the Comprehensive Plan transit goals and policies, in addition to the transit vision based on the Urban Village land use concept. The key element of this plan is to make transit a real transportation choice. It provides good direction on how Seattle can achieve this goal by focusing on the Urban Village transit corridors and multimodal hubs. The plan also defines the transit quality of service measures and transit priority treatment toolbox. The Transit Plan was used to identify key transit corridors, performance measures, and future transit projects.

3.4 UVTN MONITORING REPORT

Seattle Department of Transportation, Draft Final Report, June 2006

This document reports on the performance of the Urban Village Transit Network (UVTN), or "Seattle Transit Connections." It is the first of a series of annual reports that measure the performance of the UVTN corridors and make recommendations on required improvements. The report includes a description of the transit quality of service measures and identifies how they have been revised since the adoption of the Seattle Transit Plan. Information used to develop the report was obtained and used to evaluate the UVTN transit corridors within the study area. The revised service standards identified in this study were the basis of the transit evaluation.

3.5 FREIGHT MOBILITY STRATEGIC ACTION PLAN

Seattle Department of Transportation, June 2005

The plan identifies strategies, projects, and programs to protect and grow the industrial job base. It includes twenty-two specific actions that will help get freight moving. The action items vary from updating street design guidelines for easy truck turning to long-term strategic investment programs such as railroad crossing overpasses. The plan focuses on projects to improve freight movement such as SR 519 Phase 2, the Spokane Street Viaduct widening, and the S Lander Street grade separation. The plan was used to identify future freight improvements, establish freight performance measures, and evaluate impacts along the Major Truck Streets.

3.6 GREATER DUWAMISH MANUFACTURING AND INDUSTRIAL CENTER PLAN

Seattle Department of Planning and Development, June 1999

This plan recommends specific goals and policies intended to ensure the viability and expansion of manufacturing and industrial activity in the Greater Duwamish Manufacturing and Industrial Center (M&I Center). The plan discusses the conflict between the various transportation modes, the increasing traffic congestion by non-industrial uses in the area, and increased commuter through-traffic. The plan recommends a prioritized set of proposals designed to improve transportation and freight mobility throughout the M&I Center. The plan was used to assist in identifying and evaluating the freight performance measures and understanding the issues identified by the industrial community.

3.7 CENTER CITY CIRCULATION REPORT

Nelson/Nygard Consulting Associates, Seattle Department of Transportation, December 2003

The report helps define the relationships among the major capital projects and the City's economic development and quality of life goals. It provides a set of localized recommendations by area on what else must be done once the major transit and roadway projects are completed such as Link Light Rail and the Alaskan Way Viaduct. The areas of focus within the study area include Pioneer Square Station, King Street/International District Station, Alaskan Way S, and other north-south streets such as 1st Avenue S and 3rd Avenue. The study was used to assist in identifying mitigation strategies and areas to evaluate further as part of the transportation analysis.

3.8 CONTAINER TERMINAL ACCESS STUDY

Heffron Transportation, Inc., Port of Seattle, October 2003

The updated study summarizes the current state of the South Downtown area roadway network and what additional improvements are needed to serve continued growth at the Port through the year 2015. The goals of the study include the review of currently planned improvements, understanding how different development scenarios could affect infrastructure needs, and recommending policies that the Port can choose to implement regarding infrastructure improvements. Information within the report was used to update the City travel demand model to be consistent with future truck activity from the Port's terminals surrounding the study area, such as T-46, while also noting truck travel patterns and time of day impacts.

3.9 MAYOR'S MANUFACTURING AND MARITIME ACTION PLAN

Office of Economic Development of the City of Seattle, Berk and Associates and University of Washington, 2004

Under the Mayor's Action agenda, two studies have been conducted: The "Basic Industries Cluster Analysis Study" and "Seattle's Maritime Cluster: Characteristics, Trend and Policy issues." The Plan aims at protecting industrial land base, retaining and expanding the City's Manufacturing and Maritime sectors, and improving transportation to keep Freight moving.

3.10 DEARBORN STREET EIS TRANSPORTATION IMPACT ANALYSIS

Heffron Transportation, Inc., Seattle Department of Planning and Development, August 2006

The report presents the transportation impact analysis for the proposed S Dearborn Street Mixed-Use Development. The development is located where the existing Goodwill Industries is located today. It documents and compares the likely impacts of each land use alternative and highlights recommended mitigation strategies. Information regarding the size of the development and potential displaced parking spaces were used and incorporated into the Livable South Downtown transportation analyses.

3.11 SEATTLE PARKING MANAGEMENT STUDY

Heffron Transportation, Inc., Seattle Department of Transportation, September 2002

This study reviewed on-street parking management and regulations for providing off-street parking in several Seattle urban and suburban neighborhoods. While none of the neighborhoods included in the Parking Management study are specifically the same as those in this study, the observations and recommendations included in the study are consistent with those identified as part of the Livable South Downtown transportation analyses.

3.12 SEATTLE COMPREHENSIVE NEIGHBORHOOD PARKING STUDY

KJS Associates, 2000

This study was sponsored by the City of Seattle Strategic Planning Office. The goal of the study was to recommend parking management strategies that would support transit use as well as commercial and residential parking needs. It also reviewed the City's parking requirements to determine if changes were recommended to support the City's land use goals. Bicycle parking requirements and the financing of public

parking facilities were reviewed. The study was used to assist in identifying possible mitigation strategies as part of the transportation analysis.

3.13 SAFECO FIELD TRANSPORTATION MANAGEMENT PLAN (MARCH 1, 2007 TO MARCH 1, 2008)

Baseball Club of Seattle, LLP., The Seattle Mariners, 2007

Each year the Seattle Mariners submit a Transportation Management Plan (TMP) as required by their Master Use Permit (MUP) for the ballpark. The plan covers all the games at Safeco and other special events. The plan was prepared by Susan K. Ranf, Director of Transportation for the Seattle Mariners. The plan outlines the measures implemented and evaluation techniques used to assure that the TMP achieves the goals as directed in the MUP related to number of vehicles per 1,000 attendees are achieved. The plan was used to identify the TMP measures currently implemented.

3.14 QWEST FIELD EVENT CENTER TRANSPORTATION MANAGEMENT PROGRAM (PLAN YEAR 2006 TO 2007)

Washington State Public Stadium Authority, First & Goal, Inc., Seattle Seahawks, May 2006

This document prepared for the City of Seattle and the Parking and Access Review Committee (PARC) summarizes the Transportation Management Program (TMP) and implementation responsibility for the activities at the Qwest Field and Event Center for the years 2006 and 2007. The document outlines the performance goals related to the number of cars per 1000 attendees for the type of event and timing of the event. The document provides an overview of the specifics of the TMP and the responsibilities for implementation and monitoring. It was used to identify the TMP measures currently implemented.

4. AFFECTED ENVIRONMENT

This chapter describes existing 2007 conditions for the transportation systems within the study area. Information regarding current transportation facilities, their use, and their performance is presented. This information establishes an understanding of current conditions and serves as a basis against which projected future conditions for the 2030 Alternatives are compared. Major transportation facilities that could potentially be affected by the Alternatives were inventoried and evaluated. The analysis focused on existing corridor traffic volumes and levels of service, transit routes, freight roadways, on- and off-street parking supply, pedestrian and bicycle facilities, and traffic management measures for events.

4.1 ARTERIAL STREET SYSTEM

This section summarizes the street facilities in the project study area and includes an inventory of the major arterial corridors and existing AM and PM peak hour traffic volumes. The performance measures related to the arterial street system focus on the evaluation of existing corridor levels of service and travel speeds. Other transportation facilities and modes are described in later sections.

4.1.1 Major Corridors

Major corridors within the study area were identified based upon their importance in supporting vehicle, transit, freight, and pedestrian and bicycle movements. Each corridor was identified in coordination with SDOT and DPD staff. The selected corridors generally serve the highest volume of traffic in the study area while supporting several different types of travel modes. Evaluation of these corridors provides a good indication of the Alternatives' potential impacts on the arterial street system. The corridors are as follows:

- **1st Avenue S:** A major north-south corridor carrying traffic to and from the study area as well as serving through-traffic. Ramps exist along 1st Avenue S connecting it to the Alaskan Way and Spokane Street Viaducts. It is a major truck route and transit corridor. 1st Avenue S was analyzed between Yesler Way and S Spokane Street.
- **2nd Avenue Extension S:** Operates in the southbound direction through Downtown and ends at 4th Avenue S just south of S Jackson Street. It is a major transit corridor. The 2nd Avenue Extension S was analyzed between James Street to the north and 4th Avenue S to the south.
- **3rd Avenue:** A minor arterial in the Downtown core that has been converted to a bus-only transit way north of Yesler Way during peak hours while the bus tunnel is retrofitted for Light Rail. 3rd Avenue was analyzed between James Street and the 2nd Avenue Extension S.
- **4th Avenue S:** Provides important connections to and from I-90, SR 519, Airport Way S and from the Spokane Street Viaduct. 4th Avenue S carries traffic in both directions south of the 2nd Avenue Extension S, while only serving northbound traffic into Downtown north of S Jackson Street. 4th Avenue S was analyzed between S Washington Street and S Spokane Street. It is a major truck route south of Airport Way S.
- **Rainier Avenue S:** A north-south corridor connecting to I-90 and the Rainier Valley south of the study area. It borders the eastern part of the study area and is a major transit corridor and truck route south of S Dearborn Street. Rainier Avenue S was analyzed between S Jackson Street and S Dearborn Street.
- **S Jackson Street:** An important east-west corridor that extends from Alaskan Way S to Rainier Avenue S. S Jackson Street is used by local traffic as well as through-traffic mainly between 4th Avenue S and Rainier Avenue S. It is a major transit corridor.
- **S Dearborn Street:** A major truck route that provides a connection between 4th Avenue S and Rainier Avenue S. It has ramps for general purpose vehicles connecting to I-5 and express lane ramps connecting to I-90.
- **S Royal Brougham Way:** A major connection to the waterfront from 4th Avenue S and 1st Avenue S. In addition, it serves as primary access to Qwest Field and Safeco Field. It is a critical

connection especially during events. There is an at-grade railroad crossing located west of 4th Avenue S which closes the road quite often at all times of the day.

- **S Atlantic Street:** Also known as Edgar Martinez Drive S and SR 519. It provides an important connection to I-90 and is envisioned to be a major connection from I-90 when the second phase of SR 519, linking I-90 westbound to S Atlantic Street, is completed.

The major characteristics of each corridor are listed in Table 4-1. The table includes information on the arterial classification, number of lanes, average weekday daily traffic, speed limits, and a sidewalk inventory.

Table 4-1. Major Corridor Characteristics

Corridor	Classification	Direction	Lanes [1]	2007 AWDT [2]	Speed Limit	Sidewalks
North-South Corridors						
1st Avenue S	Principal Arterial /	NB	2	25,000	35	Both Sides
(Yesler Way to S Spokane St)	Minor Arterial [3]	SB	2			
2nd Avenue Extension S	Principal Arterial	NB	-	13,000	30	Both Sides
(James St to 4th Ave S)		SB	3			
3rd Avenue S	Minor Arterial	NB [4]	2	7,500	30	Both Sides
(James St to S Jackson St)		SB	2			
4th Avenue S[5]	Principal Arterial	NB	3	29,000	30	Both Sides
(S Washington St to S Spokane St)		SB	2			
Rainier Avenue S	Principal Arterial	NB	2	31,000	30	Both Sides
(S Jackson St to S Dearborn St)		SB	2			
East-West Corridors						
S Jackson St	Principal Arterial	EB	2	16,500	30	Both Sides
(Alaskan Way S to Rainier Ave S)		WB	2			
S Dearborn St	Principal Arterial	EB	2	21,500	30	One Side
(Airport Way S to Rainier Ave S)		WB	2			
S Royal Brougham Way	Principal Arterial	EB	2	12,000	30	Both Sides
(Alaskan Way S to 4th Ave S)		WB	3			
S Atlantic Street	Principal Arterial	EB	2	19,000	30	Both Sides
(Alaskan Way S to 4th Ave S)		WB	2			

Source: *The Transportation Strategic Plan, 2005 Update* (SDOT, August 2005), field survey (March 2007), The Transpo Group (July 2007)
1. The number of lanes varies especially at intersection approaches. Reported is the mid block number of lanes excluding parking lanes.
2. Average Weekday Daily Traffic Volumes. Displays the highest measured daily traffic volumes along the corridor segment.
3. 1st Avenue S is classified as Principal Arterial south of Alaskan Way Viaduct Ramps and Minor Arterial North of AWV Ramps.
4. 3rd Avenue S is SB only between Yesler Way and S Washington St and between 2nd Avenue Ext S and S Jackson St.
5. 4th Avenue is NB only between 2nd Avenue Ext S and S Washington St.

4.1.2 Peak Hour Traffic Volumes

Traffic volume data were collected for the study area to evaluate existing weekday traffic conditions during both the AM and PM peak hours. The weekday AM and PM peak hours were included in the review and analysis to document traffic conditions during the time periods that typically have the highest traffic volumes and levels of congestion in the study area. Year 2007 AM and PM peak hour traffic volumes are shown on Figure 4-1.

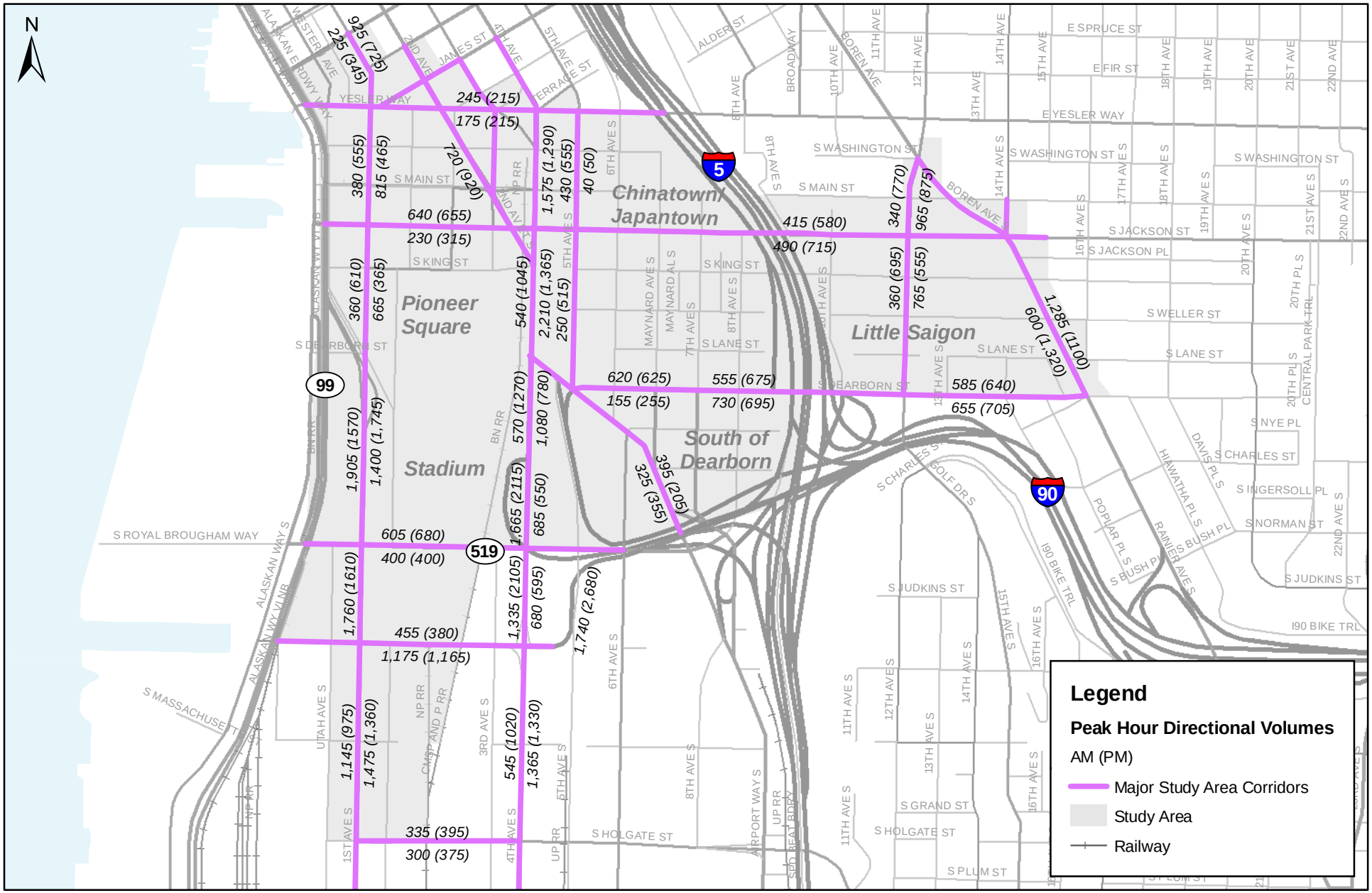

Figure 4-1

2007 Weekday AM & PM Peak Hour Traffic Volumes

Livable South Downtown EIS

The Transpo Group

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AM Peak Hour

During the AM peak hour, traffic volumes are highest going toward Downtown along corridors such as 1st Avenue S, 4th Avenue S, and Rainier Avenue S. The inbound traffic volumes in the AM peak hour are more than 50 percent greater than inbound volumes during the PM peak hour. This trend is mostly observed in the northern part of the study area. This is due to the high number of vehicles heading to the Downtown employment centers from communities south and east of the study area. Other corridors throughout the study area generally carry more vehicles during the PM peak hour.

PM Peak Hour

During the PM peak hour, a reverse traffic flow is observed with higher volumes of traffic leaving the Downtown area. The reverse traffic pattern is also observed on east-west corridors such as S Dearborn Street and S Jackson Street. These traffic flow patterns are also found on the ramps from I-90 at 4th Avenue S, SR 519 at S Atlantic Street, and from/to I-5 at S Dearborn Street. However, the corridor segments in the southern part of the study area generally have the same number of vehicles in each direction during the PM peak hour as they do during the AM peak hour, unlike those locations observed in the northern areas. The land uses along these corridors are industrial and commercial in nature with inbound and outbound vehicles generated by these land uses going both northbound and southbound to access the major freeways.

4.1.3 Travel Characteristics

Travel patterns within the study area are estimated based on the 2005 version of the SDOT EMME/2 travel demand model. Analysis of travel patterns show that during the AM and PM peak hours the majority of traffic in South Downtown is through-traffic having both origins and destinations outside the study area. Traffic commuting to the employment centers in the Downtown area from east and south communities constitute the majority of through-traffic. In addition, traffic going from I-90 to the Alaskan Way Viaduct and the Alaskan Way S surface street contribute additional through-traffic.

The modeling estimates that under existing conditions, through-traffic during both the AM and PM peak hours accounts for more than 90 percent of the traffic on the South Downtown road network. This is discussed below in more detail for both AM and PM peaks and illustrated in Figure 4-2.

AM Peak Hour

In the AM peak hour, the average number of trips having their origins or destinations within the study area is about 6,800 person trips or 3,400 vehicle trips. The non-auto mode capture (which includes transit, walk, and bike) was estimated from the model at 37 percent of total person trips. The average auto occupancy during the AM peak was about 1.26 persons per vehicle based on information summarized for the SOV, HOV, and vanpool modes.

As listed in Table 4-2 and illustrated in Figure 4-2, of the traffic entering the study area from the north during the AM peak hour, approximately 89 percent are vehicle trips through South Downtown. Of the total vehicle traffic entering from the south, about 92 percent are through trips. Similar results are observed for vehicle traffic entering the study area from the east and west during the AM peak. Overall, of all of the total vehicle trips entering South Downtown in the AM peak hour, about 90 percent are through trips and only about 10 percent are destined to South Downtown.

Of the total person trips generated by uses within the study area (or originating within the study area), the model estimates about 50 percent of trips during the AM peak hour have destinations to the north, 26 percent to the south, 8 percent to the east, and 1 percent to the west. The remaining 15 percent are estimated to be internal person trips having both their origins and destinations within the study area.

Table 4-2. Study Area Vehicle Travel Patterns (2007 AM Peak Hour)

	Destination[1]					
Entering Location	**Study Area**	**North**	**South**	**East**	**West[2]**	**Through Trip Percentage**
North	11%	-	65%	24%	0%	89%
South	8%	87%	-	5%	0%	92%
East	10%	65%	25%	-	0%	90%
West	6%	59%	24%	11%	-	94%
		Total Average				**90%**

Source: City of Seattle Travel Demand Model, vehicle trips only
1. State Highways such as I-90, I-5, and SR 99 were included in this analysis.
2. The traffic from north, south, and east heading west is not zero in absolute terms but rounds to 0% when reported as a percentage.

PM Peak Hour

During the PM peak hour, it is estimated that about 10,600 person trips or 5,600 vehicle trips have an origin or destination within the study area. The auto occupancy during the PM peak hour is higher than during the AM peak hour at 1.42 persons per vehicle whereas the non-auto mode capture (including transit, bike and walk modes) is estimated at 26 percent of the total person trips.

The travel patterns under PM peak conditions are illustrated in Table 4-3 and Figure 4-2. The PM peak travel patterns are similar to the AM peak with an even smaller share of traffic having its origin or destination within South Downtown, estimated at 7 percent out of the total traffic on the network within the study area boundaries.

Of the total person trips generated in the study area during the PM peak hour, approximately 42 percent are oriented to the north, 36 percent to the south, 10 percent to the east, and 1 percent to the west. It is estimated that the remaining 11 percent are internal trips within the study area.

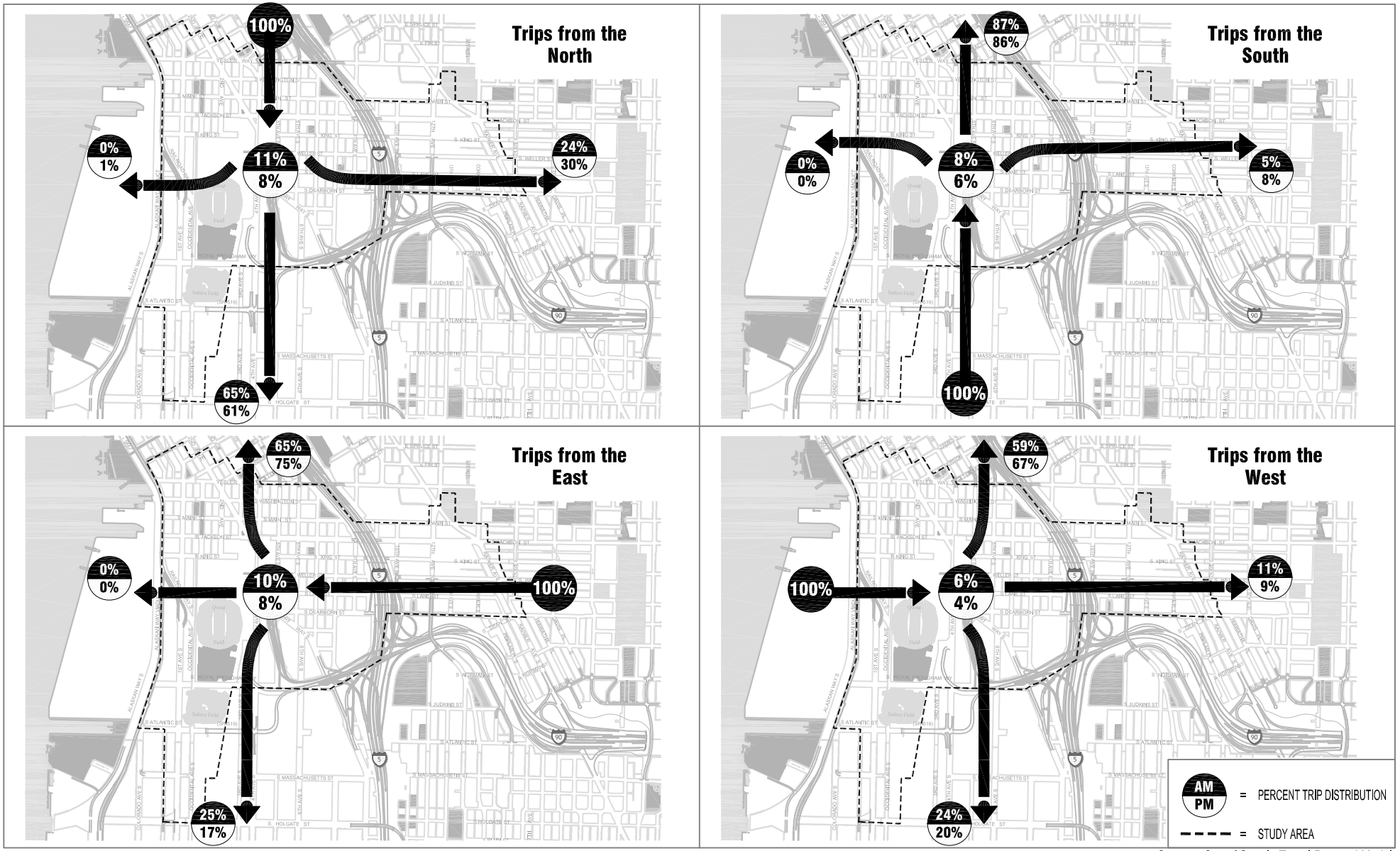
Table 4-3. Study Area Vehicle Travel Patterns (2007 PM Peak Hour)

	Destination[1]					
Entering Location	**Study Area**	**North**	**South**	**East**	**West[2]**	**Through Trip Percentage**
North	8%	-	61%	30%	1%	92%
South	6%	86%	-	8%	0%	95%
East	8%	75%	17%	-	0%	92%
West	4%	67%	20%	9%	-	96%
		Total Average				**93%**

Source: City of Seattle Travel Demand Model
1. State Highways such as I-90, I-5, and SR 99 were included in this analysis.
2. The traffic from south and east heading west is not zero in absolute terms but rounds to 0% when reported as a percentage.

4.1.4 Corridor Operations and Travel Speeds

As identified in Chapter 2, arterial LOS and average speeds are used as the primary criteria to measure the performance along major corridors. The corridor levels of service are based upon the classification and the amount of time it takes a vehicle to navigate the length of the identified corridor. Corridor speeds, on the other hand, are a good quantitative measure to describe the general operational characteristics of each study area corridor. Corridor speeds and levels of service are also evaluated for each Alternative in the subsequent chapter. Table 4-4 lists the results of the arterial analysis for study area corridors for both AM and PM peak hours.



Source: City of Seattle Travel Demand Model

Figure 4-2

2007 Existing Peak Hour Vehicle Travel Patterns

Livable South Downtown EIS

The Transpo Group

M:\06\06053 South Seattle Programatic EIS\11_Graphics\livableSODO_graphic04 <A> MelindaP 07/23/07 15:28

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AM Peak Hour

During the AM peak hour, the study area corridors are experiencing some level of congestion with several locations operating below LOS D. Generally, the poor performance of a corridor can be the result of a few intersections operating over capacity and creating a significant amount of average delay. For example, Rainier Avenue S is operating at LOS E due to the congestion at the intersections with S Dearborn Street and S Jackson Street. Delays along 1st Avenue S are primarily located at the intersections with S Atlantic Street, S Royal Brougham Way, and S Holgate Street. The delays along the 4th Avenue S corridor occur mainly at the intersection with S Jackson Street due to the high volume of northbound traffic. The 2nd Avenue Extension S operates at LOS F due to the signal delays incurred at the intersection with S Jackson Street.

The east-west corridors, on the other hand, show low performance mainly along S Royal Brougham Way and S Atlantic Street. The levels of service along both corridors are exacerbated by the delays at the 1st Avenue S intersections caused by traffic using these corridors to access the Alaskan Way Viaduct as well as traffic from the Viaduct to I-90. Speeds are particularly low along these two corridors due to the closely spaced intersections with Occidental Avenue S. Furthermore, the rail crossing along S Royal Brougham Way also contributes to the total delays along this corridor.

Table 4-4. Corridor Operations and Speeds (2007 Existing Conditions)

Corridor/Arterial[1]	AM Peak				PM Peak			
	LOS[2]		Speed[3] (mph)		LOS[2]		Speed[3] (mph)	
North – South Corridors	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**
1st Avenue S	D	C	15	19	D	D	16	16
2nd Avenue Extension S	-[4]	F	-[4]	8	-[4]	F	-[4]	9
3rd Avenue S	D	D	12	10	C	E	14	8
4th Avenue S	D	D	15	17	D	E	16	13
Rainier Avenue S	E	E	12	13	E	F	12	9
East – West Corridors	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**
S Jackson Street	E	F	12	10	E	E	11	11
S Dearborn Street	E	E	11	11	F	F	9	8
S Royal Brougham Way	F	F	7	5	F	F	8	7
S Atlantic Street	E	F	11	7	E	F	11	10

Source: The Transpo Group (July 2007)
1. Corridor extents are listed in Table 4-1.
2. Arterial Level of Service based on the *Highway Capacity Manual*, Transportation Research Board, 2000 methodology for urban arterials.
3. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections.
4. 2nd Avenue Extension S is one-way southbound.

PM Peak Hour

During the PM peak hour delays are observed particularly in the southbound direction of the north-south major corridors. These delays are largely due to traffic leaving the Downtown area. Delays are observed along the southbound directions of 1st Avenue S, 3rd Avenue S, 4th Avenue S, and Rainier Avenue S. Delays along 1st Avenue S mainly occur at the intersections of S Royal Brougham Way and S Atlantic Street where the Downtown outbound traffic joins the traffic from the industrial areas south of the study area, which results in delays at each of the intersections. S Atlantic Street is a particularly critical connection conveying 1st Avenue S traffic to eastbound I-90 via S Atlantic Street (SR 519). Delays along 4th Avenue S are caused by traffic delays at the intersections with S Jackson Street and S Royal Brougham Way. Along Rainier Avenue S, both intersections with S Dearborn Street and S Jackson Street experience delays which contribute to the low speeds and LOS especially in the southbound direction.

Delays on the east-west corridors are mainly along S Atlantic Street and the eastbound directions of S Royal Brougham Way and S Jackson Street. The delays along the eastbound directions of these corridors are caused

by traffic heading towards the Rainier Valley and I-90. As mentioned earlier, the delays along S Royal Brougham Way and S Atlantic Street result from delays at 1st Avenue S and also with closely spaced intersections at Occidental Avenue S. The rail crossing along S Royal Brougham Way contributes a share of the delays along the corridor in the PM peak hour as well.

4.1.5 Intersection Operations

This section illustrates intersection operations as they relate to the corridor operations. Detailed tables showing the delays, levels of service, volume to capacity ratios, as well as intersection capacity utilizations are presented in Appendix A for each of the 55 study area intersections during peak hours for the existing conditions and each of the future Alternatives. The existing number of signalized intersections along each corridor is listed in Table 4-5 along with the number of intersections operating below LOS D for both the AM and PM peak hours. Only signalized intersections were analyzed as they primarily have the most impact to corridor operations and contribute to the overall delay experienced along the corridor. There is high pedestrian activity in some of the study area neighborhoods that often create localized vehicle traffic delays when pedestrians occupy crosswalks during a typical signal cycle. These additional delays have been accounted for in the intersection level of service analysis where pedestrian data was available.

Table 4-5. 2007 Existing Intersection Operations Along the Major Corridors

Corridor/Arterial[1]	Number of Signalized Intersections	Number of Signalized Intersections Operating below LOS[2] D	
		AM Peak Hour	PM Peak Hour
North – South Corridors			
1st Avenue S	10	3	3
2nd Avenue Extension S	5	0	0
3rd Avenue S	2	1	1
4th Avenue S (NB)	10	1	1
4th Avenue S (SB)	7	0	0
Rainier Avenue S	2	0	0
East – West Corridors			
S Jackson Street	10	1	1
S Dearborn Street	9	0	0
S Royal Brougham Way	5	1	1
S Atlantic Street	2	1	1

Source: The Transpo Group (July 2007)
1. Corridor extents are as listed in Table 4-1.
2. Level of Service based on the *Highway Capacity Manual,* Transportation Research Board, 2000

AM Peak Hour

During the AM peak hour, the only intersection operating at LOS F is 1st Avenue S/S Atlantic Street. Delays are observed on all approaches to the intersection and traffic queues spill back to upstream intersections. Delays are also observed at the intersection of 1st Avenue S/S Royal Brougham Way which operates at LOS E causing queues which can block adjacent intersections and driveways. As illustrated earlier, these intersections play a key role in moving traffic from 1st Avenue S to 4th Avenue S on the local scale, and to the Alaskan Way Viaduct and I-90 on the larger scale. The intersection of 1st Avenue S/S Holgate Street also operates at a LOS E due to the heavy northbound traffic in the AM peak hour. Other intersections operating at LOS E are 3rd Avenue S/Yesler Way and 4th Avenue S/S Jackson Street. The delays at these intersections are the result of a high number of northbound vehicles entering the Downtown area that are conflicting with the westbound volumes.

PM Peak Hour

As shown in Table 4-5, the same number of intersections operate below LOS D in both the AM and PM peak hours. However, these are not necessarily the same intersections given the difference in travel patterns

between the AM peak hour (with a majority of northbound and westbound traffic) and the PM peak hour (with a majority of southbound and eastbound traffic). The only intersection operating at a LOS F in the PM peak hour is at 4th Avenue S/S Jackson Street which is due, in particular, to the amount of signal green time devoted to eastbound vehicles and the coordination with the 2nd Avenue Extension S/S Jackson Street intersection.

The intersections operating at LOS E in the PM peak hour are 1st Avenue S/S Atlantic Street and 1st Avenue S/S Royal Brougham Way. Both intersections have a high number of southbound left turns towards 4th Avenue S which conflicts with northbound traffic, reducing the amount of signal green time to serve both movements. The intersection of 4th Avenue S/S Royal Brougham Way also operates at LOS E which is mainly due to the amount of signal green time dedicated to the southbound movement which serves over 2,000 vehicles an hour.

4.2 TRANSIT

This section summarizes the transit facilities in the project study area and includes an inventory of each major transit component. The study area is well served by a variety of transit opportunities which include local bus routes, regional bus routes, ferries, commuter rail, and Amtrak intercity passenger rail. The performance measures related to transit service and operations build off those developed as part of the Seattle Transit Plan as discussed in Chapter 2. The performance measures focus on local bus routes, as that type of service will primarily serve the Alternative land uses.

4.2.1 Existing Transit and Ferry Services

Four primary types of transit service are provided by King County Metro, Sound Transit, WSDOT, and Amtrak. King County Metro provides local bus service, Sound Transit provides regional bus and commuter rail service, WSDOT provides ferry service, and Amtrak provides intercity rail service.

Local Transit

King County Metro (Metro) provides most of Seattle's local (and local express) transit service. All buses operating in Downtown Seattle are free to riders from 6:00 am to 7:00 pm. The ride-free area boundaries cover part of the study area north of S Jackson Street to Battery Street, and from 6th Avenue S/I-5 to the waterfront. Tunnel stations are included in the ride free area. The E-3 Busway and the Downtown Seattle Transit Tunnel provide Metro, as well as Sound Transit, exclusive right-of-way for bus operations. The tunnel has been closed to traffic since September 2005 for retrofitting and is expected to reopen in 2007 for buses. Future light rail is expected to begin operating in the Downtown Seattle Transit Tunnel in 2009. The tunnel will be shared by both light rail and express buses.

Currently, almost all the major corridors in the study area are served by either local or regional bus service. Figure 4-3 shows those corridors currently served by Metro and Sound Transit bus routes. Some of those routes cross through the study area heading toward Downtown Seattle via 1st Avenue S, 4th Avenue S, S Dearborn Street, and S Jackson Street. Other routes remain on the periphery of the study area along Yesler Way and Rainier Avenue S.

The Seattle Transit Plan has identified an Urban Village Transit Network (UVTN) to serve the City's urban villages and neighborhoods. These identified UVTN corridors or "Seattle Transit Connections" are the focus of the Transit Plan and are envisioned to be a network of high quality, reliable transit corridors. Other corridors have been designated as a Secondary Transit Network (STN) to support the UVTN corridors. Figure 4-3 also highlights those corridors that are part of the UVTN system. The primary transit corridors that are evaluated as part of the Alternatives analysis include 1st Avenue S, 2nd Avenue Extension S, 3rd Avenue S, 4th Avenue S, 5th Avenue S/E3 Busway, and S Jackson Street.

Regional High Capacity Transit

Sound Transit (ST) is the regional transit authority for the Puget Sound area, covering portions of King, Snohomish and Pierce Counties. ST was established in 1996 by voters and is currently running two types of regional transit services: Sound Transit Regional Express bus service and Sounder Commuter rail service.

Sound Transit's Regional Express bus fleet is operated by local transit agencies—Community Transit (Snohomish County), Metro Transit, and Pierce Transit. It provides express bus service connecting major urban centers throughout Sound Transit's service area—namely Seattle, Redmond, Issaquah, Lakewood, Bellevue, Auburn, Federal Way, Gig Harbor, Everett and Tacoma. For Seattle, the regional express buses connect the suburban areas in the three-county service areas and Downtown Seattle, West Seattle, and the University District. There are a total of 20 bus routes that provide this all-day, two-way express service with limited stops. Seven regional bus routes pass through the study area.

Sounder Commuter Rail is a peak hour commuter rail service which started in 2000 between Tacoma and Seattle. In 2003, service between Everett and Seattle was added. There are currently four daily round-trips between Tacoma and Seattle and two between Everett and Seattle. Sound Transit will eventually run up to 18 daily commuter rail round trips from Tacoma and four from Everett to Seattle once tracks are upgraded by BNSF Railway. Sound Transit also plans on extending service to South Tacoma and Lakewood by the end of 2008. Sounder is capable of moving 6,000 people per hour (peak direction during rush hours).

King Street Station is a train station that connects Downtown Seattle to Tacoma and Everett. It was built in 1906. The station is located between S King and S Jackson Streets and 2nd and 4th Avenues S in the central part of the study area. The Sounder service is provided through this station.

Sound Transit has been planning and implementing the first phase of its "Sound Move" regional transit plan that includes, in addition to the existing services, a 24-mile light rail system -called "Central Link" - between SeaTac and the University District via Downtown Seattle and the Rainier Valley, with a possible extension to Northgate. The light rail line will bisect the study area traveling up the 5th Avenue S/E3 Busway and entering the bus tunnel at S Dearborn Street. The International/Chinatown Station and the Pioneer Square Station will provide access to light rail in the study area. In addition, there will be another station just south of the study area along the E3 Busway south of S Royal Brougham Way.

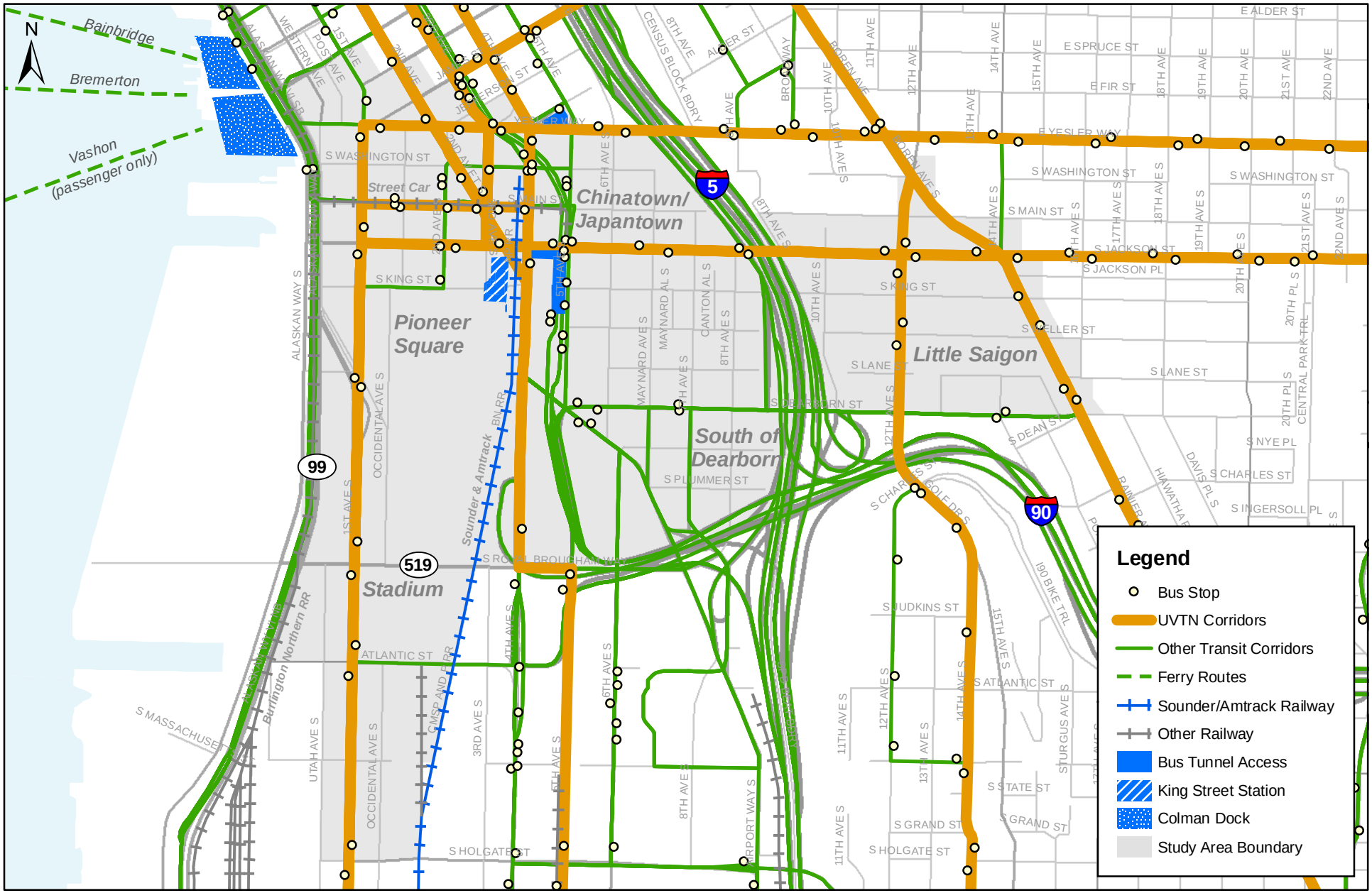

Figure 4-3

Transit Corridors & Facilities (2007)

Livable South Downtown EIS

The Transpo Group

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Ferry System

The Washington State Ferries (WSF) maintains the largest fleet of passenger and auto ferries in the United States and the third largest in the world. The system serves communities on Puget Sound and in the San Juan Islands. WSF serves the Colman Dock Ferry Terminal in Downtown Seattle. More than half of the WSF ridership is commuters. Three routes serve the Colman Dock: 1) Bainbridge-Seattle, 2) Bremerton-Seattle, and 3) Vashon-Seattle.

Table 4-6 provides an overview of Colman Dock activities over the last two years. Generally, the total annual ridership on Colman Dock routes increased last year by more than 100,000 passengers with an average 25,000 passengers per day to/from Colman Dock representing more than 42 percent of the total Puget Sound ferry ridership. However, the route serving Vashon Island (passenger-only service) has dropped in ridership by more than 45,400 passengers (approximately a 26 percent decline) due in part to its uncertain future[3]. WSF is currently experiencing significant financial issues because ticket revenue is much less than the operating expenses and capital improvement needs. Many passenger only routes have the most significant gap between revenue and expenditures, so it is possible WSF might choose end these services without new funding sources.

The signed route from the freeways to the Colman ferry dock bisects the study area and is a source of additional traffic on the study area roadways. This route is via 4th Avenue S, S Atlantic Street, and Alaskan Way S. Much of the ferry traffic comes from I-5 and I-90, and accesses Colman Dock from the 4th Avenue S and Safeco Field exit using that signed route.

Table 4-6. Colman Dock Ferry Ridership by Route

Ferry Route	2005	2006	Difference	% Change
Bainbridge Island - Seattle	6,386,570	6,459,802	73,232	1.1%
Bremerton - Seattle	2,339,083	2,415,438	76,355	3.3%
Vashon Island - Seattle	175,269	129,839	(45,430)	-25.9%
Total Colman Dock	**8,902,927**	**9,007,085**	**104,158**	**1.2%**
Average Daily Ridership	*24,392*	*24,677*		

Source: *Regional View* (April 2007), Puget Sound Regional Council, p.4

Amtrak Cascades

Amtrak Cascades is a partnership between WSDOT, Amtrak, and Oregon. It provides intercity passenger rail service for longer distance travel between cities along the I-5 corridor. The corridor runs 156 miles from Vancouver, British Columbia south to Seattle, Washington, continuing 310 miles south to Eugene, Oregon via Portland, Oregon. Amtrak Cascades service on the Seattle-Portland route began in 1993. In 2007, there was one daily round trip between Seattle and Vancouver B.C., one daily round trip between Seattle and Bellingham, and four daily round trips between Seattle and Portland and two daily round trips between Portland and Eugene, Oregon.

Total Amtrak Cascades ridership for 2006 was 630,000 down 7,000 from 2005 but higher than the 603,000 passengers reported in 2004. The King Street Station constitutes the major station along the Amtrak Cascades line. The number of travelers riding Amtrak at this station has been growing since 2000, as shown in Table 4-7. Over two-thirds of the travelers riding Amtrak either originated from or are destined to Seattle via King Street Station in the study area.

[3] *Regional View, Puget Sound Regional Council PSRC,* April 2007.

Table 4-7. King Street Station Amtrak Passenger Ridership

Year	Seattle Passengers	Total Amtrak Ridership	% to/from Seattle
2000	401,516	530,218	76%
2001	406,954	560,381	73%
2002	403,662	584,346	69%
2003	405,263	589,743	69%
2004	422,555	603,059	70%
2005	449,959	636,892	71%
2006	417,686	629,996	66%

Source: *Amtrak Cascades Ridership and Station On-Off Information*, Amtrak Cascades and WSDOT, March 2007.

4.2.2 Bus Performance Measures

Several performance measures were evaluated for the UVTN corridors within the study area. A total of four performance measures were analyzed and include **Frequency, Span of Service, Travel Speed** and **Passenger Loading.** Each measure is described in more detail in Chapter 2. The performance measures are also evaluated for each Alternative in the subsequent chapter. The analysis results are presented in Table 4-8 and describe the quality of the transit services currently available along each UVTN corridor in the study area.

Table 4-8. Bus Performance Measures (2006)

Corridor	From	To	Frequency (Minutes)	Service Span (Hours)	Speed (Percent)	Passenger Load (Ratio)
1st Ave S	Yesler Way	S R. Brougham Way	9.58	17.50	32.2%	1.20
1st Ave S	S R. Brougham Way	S Holgate St	8.95	18.00	41.3%	1.27
2nd Ave Ext S	Cherry St	4th Ave S	4.20	21.00	22.4%	1.01
3rd Ave S	James St	S Jackson St	1.60	21.00	17.5%	0.91
4th Ave S	Yesler Way	S R. Brougham Way	2.82	20.90	30.0%	1.30
5th Ave S (E3)	S R. Brougham Way	S Holgate St	5.00	18.00	43.0%	1.15
12th Ave S	Boren Ave S	S Dearborn St	12.85	10.20	33.7%	0.94
Rainier Ave S	S Washington St	S Dearborn St	85.61[1]	16.00	33.6%	0.60
Yesler St	1st Ave S	6th Ave S	16.16	16.22	26.9%	0.51
S Jackson St	1st Ave S	8th Ave S	11.08	16.45	16.2%	0.86
S Jackson St	8th Ave S	Boren Ave S	4.65	19.83	22.8%	0.99
City of Seattle Passing Thresholds			**15.00**	**12.00**	**30.0%**	**0.90**

Source: *City of Seattle/King County Metro UVTN Monitoring Report* 2006.
Note: Shading indicates measures that are below the identified passing threshold. The performances are based on an average of the segments comprising the identified corridor.
1. Local bus routes along Rainier Avenue S typically turn at S Jackson Street, so there are very few local routes along the segment of Rainier Avenue S between S Jackson Street and Yesler Way. Therefore the frequency value along this segment appears much higher than others.

Frequency

Service frequency on a transit service line is described by the "duration of the maximum scheduled gap between consecutive buses on the route". Theoretically, this is the planned headway that would reflect the maximum waiting time a customer could experience at a bus stop before he or she is served. In the *UVTN Monitoring Report* (2006), Metro defines these periods as follows: AM (6:00 am to 9:00 am), PM (3:30 pm to 6:00 pm). Table 4-9 shows the individual frequencies for all routes that serve the study area.

Table 4-9. Local Transit Route Frequency (minutes)

Street	Route #	Service Span	Route Description	AM Peak[1]	PM Peak[1]	Note
1st Ave S	15	4:30 AM-2:00 AM	Blue Ridge-Crown Hill-Downtown Seattle	20	20	
	15X			10-30	10-30	Express
	18	5:30 AM-2:15 AM	North Beach-Ballard-Downtown Seattle	20	20	
	18X			15-30	20-30	Express
	21	4:45 AM-1:50 AM	Arbor Heights-Downtown Seattle	30	30	
	21X			10-30	10-30	Express
	22	4:50 AM-7:50 PM	White Center-Gatewood-West Seattle-Downtown Seattle	30	30	
	56	5:40 AM-12:30 AM	Alki-Admiral District-Downtown Seattle	--	--	Service in mid-day, evening and night periods only
	57		W Seattle-Admiral District-Downtown Seattle	30	30	Express- Service in AM and PM Peak hours only
	132	4:50 AM-1:00 AM	Des Moines-Burien-South Park-Downtown Seattle	30	30	
4th Ave S	23	4:45 AM-1:40 AM	White Center-Highland Park-Downtown Seattle	20-30	30	
	28	5:00 AM-2:00 AM	Broadview -Fremont-Downtown Seattle	30	30	
	28X			12-30	15-20	Express- AM and PM Peak
	39	5:30 AM-9:50 PM	Rainier Beach-VA-Downtown Seattle	30	30	
	174	All day	Federal Way-SeaTac Airport-Downtown Seattle	20	20	
5th Ave S	170	6:00-8:10AM 4:10-6:10PM	McMicken Heights-Downtown Seattle	30	3 trips	
Airport Way S	131	5:45 AM-12:30 AM	Des Moines-Burien-Georgetown-Downtown Seattle	60	60	
S Dearborn St	26	5:20 AM-1:45 AM	E Green Lake-Fremont-Downtown Seattle	15-30	15-30	
	26X			15-20	20-30	Express- AM and PM Peak
	42	5:00 AM-1:20AM	Rainier View-Holly Park-Downtown Seattle	30	30	
	42X			30	30	Express- AM and PM Peak
S Jackson St	7	4:45AM-4:35 AM	Rainier Beach-Downtown Seattle	10	10	
	7X			30	30	Express- AM and PM Peak
	14	5:10 AM-1:30 AM	Summit -Downtown Seattle	15	15	Electric Trolley bus service
	14		Mt Baker-Downtown Seattle	15	15	Electric Trolley bus service
	36	4:40 AM-2:00 AM	Rainier Beach-Jefferson Park-Downtown Seattle	20-30	15-20	Electric Trolley bus service
	99	6:25 AM-7:20 AM	Waterfront Streetcar Bus	20	20	
Yesler Way	16	4:40 AM-1:50 AM	Northgate-Wallingford-Downtown Seattle	20	20	Serves partial segment of Yesler Way
	27	6:00 AM-12:45 AM	Leschi Park-Downtown Seattle	15-20	15-20	
	66X	5:10 AM-2:00 AM	Northgate-University District-Downtown Seattle	30	30	Express- Serves partial segment of Yesler Way
	99	6:25 AM-7:20 AM	Waterfront Streetcar Bus	20	20	Serves partial segment of Yesler Way

Source: *King County Metro Transit Routes/Frequencies, Headway* September 2006.
1. Service frequency in minutes during AM and PM peak weekday commute periods.

The routes are grouped by the corridor they serve. Table 4-9 shows that 1st Avenue S benefits from the highest number of regular and express bus routes. Service headways vary from 10 to 30 minutes and some routes are limited to either peak or off-peak hours.

The UVTN Monitoring Report defines the minimum passing threshold for the frequency performance measurement as specified in the Seattle Transit Plan. The passing threshold is a quarter of an hour for the worst case (or maximum headway) measured. Therefore, any value for frequency less than or equal to 15 minutes is considered passing and any value greater than 15 minutes is considered deficient. As shown in Tables 4-8 and 4-9, the UVTN north-south corridors of 1st Avenue S, 3rd Avenue S, 4th Avenue S, and the E3 Busway are better served than the east-west corridors of Yesler Way or the western segment of S Jackson Street. Only Yesler Way and a section of Rainier Avenue S are not meeting existing thresholds.

Local bus routes along Rainier Avenue S typically turn at S Jackson Street, so there are very few local routes along the segment of Rainier Avenue S between S Jackson Street and Yesler Way. The few number of bus routes along the corridor results in headways in the midday period being much greater than those shown to be acceptable. Yesler Way is very close to the frequency threshold at just over 16 minutes. It is likely an increase in transit service for those routes along Yesler Way would easily enable the corridor to meet the minimum passing threshold.

Span of Service

The span of service performance measure is described as the number of hours in the day that a service runs at minimum acceptable frequencies of 15 minutes or less. The purpose of this indicator is to show how many hours of acceptable frequency service are available along a corridor segment. The scoring threshold for the span of service measure required by the *UVTN Monitoring Report* is 12 hours of service.

Table 4-9 shows the start and end time of transit service for individual bus routes. The measurements of span of service for UVTN corridors with frequencies every 15 minutes or better showed that all the major corridors except 12th Avenue S pass the span of service criteria of 12 hours. The 12th Avenue S corridor has a span of service of just over 10 hours. Additional service along the 12th Avenue S corridor during the late evening would likely be enough to meet the minimum span of service threshold.

Travel Speed

Transit travel (or operating) speed is expressed as a Percentage of Posted Speed Limit (%PSL). The measurement reflects how long the service takes (including all types of delay) to traverse one mile compared to the posted speed limit. The posted speed limit is based on the King County Metro GIS road classification for local (25 mph), collector and minor arterials (30 mph), principal arterials (40 mph), and freeway (60 mph) segments. The minimum threshold adopted as a percent of posted speed limit is 30 percent. Those UVTN corridors where transit operating speeds drop below the threshold are considered deficient.

Table 4-8 shows that the north-south corridor segments in the study area, except 2nd Avenue Extension S and 3rd Avenue S, operate at travel speeds of between 30 and 45 percent of the posted speed limit. 3rd Avenue S and 2nd Avenue Extension S are congested corridors in the Downtown area where many of the transit trips begin and end causing longer dwell times, in addition to increased delay due to closely spaced intersections and overall traffic congestion. Yesler Way and S Jackson Street also experience delays that result in travel speeds below 30 percent of the posted speed limit. There are a number of bus stops along both corridors in addition to a few congested intersections which increase delays and result in the corridors not meeting the minimum acceptable travel speed performance measure.

Passenger Loading

Metro provided the actual demand data for the local bus routes within the study area. The data consist of the average number of boarding and alighting passengers reported for fall 2006 at each bus stop located within the study area. The total average numbers of daily passengers were 8,105 and 11,707 passengers during the AM and PM periods, respectively. By focusing on the UVTN designated corridors, the reported average number of boardings and alightings is 4,853 passengers in the AM peak period and 5,807 in the PM peak period as illustrated in Table 4-10, thus representing 60 percent of the AM and 50 percent of the PM peak period total passengers boarding or alighting at all study area bus stops.

Table 4-10. Ridership Data along UVTN Corridors

Corridor	Direction	AM Period[1]		PM Period[1]	
		Boarding	Alighting	Boarding	Alighting
1st Ave S	N-S	381	417	632	290
4th Ave S	N-S	999	801	634	695
12th Ave S	N-S	112	132	263	223
Rainier Ave S	N-S	46	57	79	82
Yesler Way	E-W	37	263	48	55
S Jackson St	E-W	900	709	1,524	1,282
Subtotal		*2,474*	*2,379*	*3,180*	*2,627*
Total Boarding and Alighting		**4,853**		**5,807**	

Source: GIS database provided by King County Metro for fall 2006.
1. Metro defines the AM and PM periods as 6:00 am to 9:00 am and 3:30 pm to 6:00 pm.

The passenger loading performance measure is an indicator that compares the utilization and capacity of a corridor. Its value is expressed as the ratio of passengers to bus capacity. Transit ridership data is used to compare the number of passengers along a corridor to the capacity of the corridor.

Bus capacity is defined as the number of passengers (seated and standing) that can safely and comfortably travel on the vehicle. The minimum passing threshold for the passenger loading measure is 90 percent of seated capacity. Deficient passenger loadings are defined as conditions when loads are greater than 90 percent of seated capacity. The resulting measurement is based on the load factor that occurs about 85 percent of the time on the most crowded route during the most crowded time period.

Table 4-8 shows that all study area north-south corridors except Rainier Avenue S are deficient as their passenger load measures exceed the 90 percent threshold of seated capacity. Yesler Way and a segment of S Jackson Street are the only corridors meeting the minimum passenger load measurement. The 90 percent threshold is an ambitious goal because buses can typically hold many more passengers than their stated seat capacity. This threshold really measures the service capacity or comfort experienced by the passenger. None of the corridors has a passenger load ratio that would likely exceed the overall capacity of the corridor if standing room was factored into the equation.

4.3 FREIGHT

This section provides information about the type and volume of truck trips observed on study area corridors, existing major freight routes and their operating conditions. South Downtown contains a large amount of industrial lands, including Port of Seattle properties and container ship yards, railroad intermodal yards, and other businesses that rely upon the movement of trucks and freight. The arterials within the study area provide an important connection for freight transportation and are heavily used by trucks.

4.3.1 Freight Generators

The study area and surrounding areas generate a substantial amount of freight and truck traffic. Currently the mix of general industrial and industrial/commercial land uses comprise about half the total land surface within the study area. Many industrial and warehousing businesses are located in the vicinity along with other commercial activities and public services that use trucks or rail. Another major truck generator adjacent to the study area is one of Seattle's two designated manufacturing and industrial centers—the Duwamish Manufacturing Industrial Center. This center is expected to accommodate at least 10 percent of Seattle's new employment over the next 20 years—nearly 15,000 new jobs. Besides providing a home for the Port of Seattle's container terminals, the Duwamish area is also home to King County International Airport (KCIA), which is located five miles south of Downtown Seattle. The Duwamish and South Downtown areas also include several operations facilities that support city municipal functions. These agencies, including Seattle Public Utilities, City Light and Seattle DOT, run truck fleets that operate all over the City. The businesses and companies in the study area and the Duwamish provide warehousing, distribution, and construction services necessary for residential, commercial and industrial land uses throughout the region.

The study area is adjacent to a major truck generator—the Port of Seattle. In fact, the Port of Seattle is one of the top three containerized cargo load centers in the Western Hemisphere, and accommodates six container terminals. One of the terminals, T-46, is located along Alaskan Way S at the western boundary of the study area. Other major terminals such as T-25 and T-30 are located along E Marginal Way. The Port anticipates opening T-25 and T-30 for container uses in the near future. The increased future activities for these terminals will result in additional truck traffic through the study area. However the additional truck trips due to the reactivation of T-25 and T-30 are assumed to have minimal impact along corridors such as S Atlantic Street as illustrated in the *Terminal 30 Cargo Reactivation Report*[4].

Freight is shipped mostly through the port by intermodal containers that are transferred to or from railcars or trucks on the dock. At the intermodal yards, containers are transferred to and from railcars. Trucks transport the cargo to and from Port terminals and the warehousing and distribution centers. In 2002, Terminal-46 produced an average of 1,250 daily truck trips[5] with approximately 30 percent of those trips having a regional destination. Regional access to the terminal is provided by SR 519 and S Spokane Street from both the viaduct level and the surface roadway, then along surface streets.

The City's arterial street system is crucial to a functioning regional international trade system. Major truck streets have been identified by the City to maintain acceptable freight mobility and access to the area (see Figure 4-4). Major arterials such as 1st Avenue S, 4th Avenue S, Atlantic Street, S Dearborn Street, and Airport Way S provide access to the industrial businesses within and surrounding the study area. However, much of the land use and businesses that generate a majority of the truck trips are located directly outside the study area, but depend on travel through the study area to access the regional highway system, Southeast and Central Seattle neighborhoods, Downtown Seattle and areas north of downtown.

4.3.2 Major Truck Routes

The City of Seattle and WSDOT have defined several of the major corridors within the study area as major truck routes. These designated truck routes provide access between the industrial lands within the study area and the state highway system, while also facilitating travel between the industrial lands and the Port terminals.

[4] *Terminal 30 Cargo Reactivation*, Heffron Tranportation, Inc, September 18, 2006.

[5] *Container Terminal Access Study, Year 2003 Update*, Heffron Transportation, Inc., October 2003

Truck Route Designation (WSDOT)

The Washington State Freight and Goods Transportation System (FGTS) is a classification system adopted by WSDOT and used to classify state highways, county roads and city streets according to the average annual gross truck tonnage they carry. The FGTS classifies roadways using five freight tonnage classifications, T-1 through T-5, as follows:

- **T-1:** more than 10 million tons per year
- **T-2:** 4 million to 10 million tons per year
- **T-3:** 300,000 to 4 million tons per year
- **T-4:** 100,000 to 300,000 tons per year
- **T-5:** at least 20,000 tons in 60 days

Among those five classes, the system has distinguished "Washington's Strategic Freight Corridors" that carry four million or more gross tons of freight annually (i.e. T-1 and T-2 classes). Tonnage values are estimated from truck traffic count data and converted into average weights by truck type. The FGTS 2005 update designated 43 strategic freight corridors in Seattle, some of them located in the study area. These corridors are listed in Table 4-11.

Table 4-11. WSDOT Designated "Strategic Freight Corridors"

Route Name	Begin	End	2005 FGTS Class[1]
4th Ave S	E Marginal Way S	S Royal Brougham Way	T-1
Airport Way S	4th Ave S	S City Limit S	T-1
Alaskan Way S	E Marginal Way S	Yesler Way	T-1
S Dearborn St	Airport Way S	Rainier Ave S	T-1
S Royal Brougham Way	4th Ave S	Airport Way S	T-1

Source: *Washington State Freight and Goods Transportation System 2005 Update*
1. FGTS = Freight and Goods Transportation System

Major Truck Streets Designation (City of Seattle)

The City of Seattle designates all arterials as truck streets and has also identified certain streets as Major Truck Streets. The Major Truck Streets are defined as primary routes in the Transportation Strategic Plan for the movement of good and services and serve both local and non-local truck traffic. They accommodate freight movement through the City, and to and from major freight traffic generators. Trucks in excess of 10,000 lb Gross Vehicle Weight are discouraged from using non-arterial (local) streets unless they have a justifiable reason for traveling there. The City uses the street designation as an important criterion for street design, traffic management decisions, and pavement design and repair.

The Major Truck Streets across the study area are shown in Figure 4-4. Almost all major north-south arterial streets (Alaskan Way, 1st Avenue S, 4th Avenue S, 6th Avenue S, Airport Way S, and Rainier Avenue S) have been designated as Major Truck Streets. Rainier Avenue S is an important arterial that provides truck connections to Southeast Seattle neighborhoods. Four east-west arterials (S Dearborn Street, S Royal Brougham Way, and S Holgate Street) are also designated Major Truck Streets. These routes support and facilitate travel to I-5, Alaskan Way Viaduct, and SR 519. Since the TSP was adopted prior to S Atlantic Street being extended to SR 519, it is not officially a Major Truck Street. The City plans to include this corridor as a Major Truck Street when the TSP is next updated.

The freight and trucking community is very concerned about activities or projects that might impact the Major Truck Streets. It is important that these corridors continue to serve trucks and freight and provide efficient access to the major industrial land uses within and surrounding the study area. They are key corridors

which provide access to the regional highway system and other City neighborhoods, and should accommodate the unique operations and maneuverability that large trucks require.

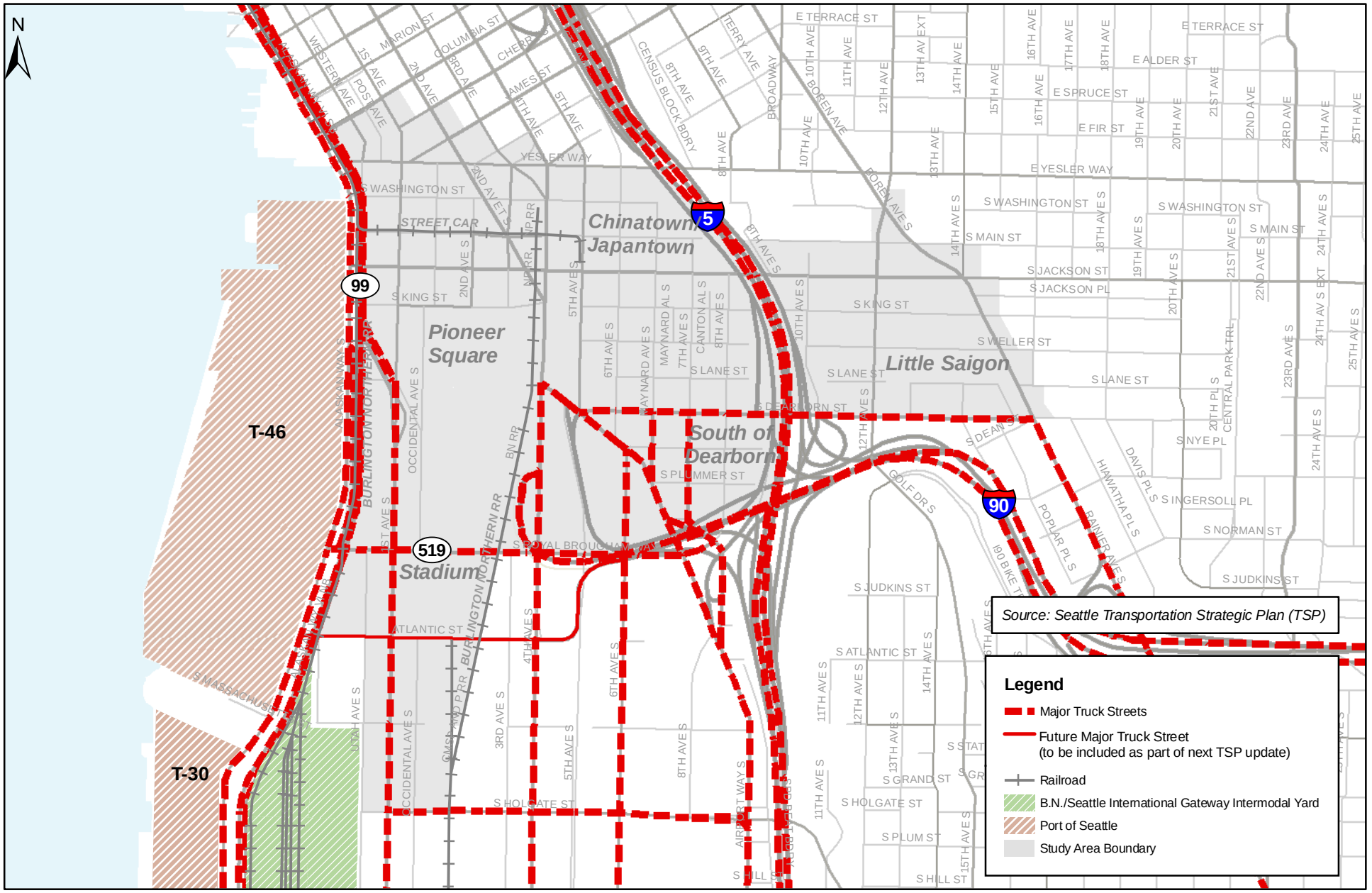

Figure 4-4

Major Truck Streets

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Truck Volumes

Recent vehicle classification count surveys were conducted in early 2007 for several of the major truck routes throughout the study area. A list of the corridors is shown in Table 4-12. Traffic was classified by tube counters based on the Federal Highway Administration (FHWA) vehicle classification system. In addition, 24-hour video was conducted along Airport Way S and 6th Avenue S to validate the information. Table 4-12 summarizes the total truck volumes for each corridor.

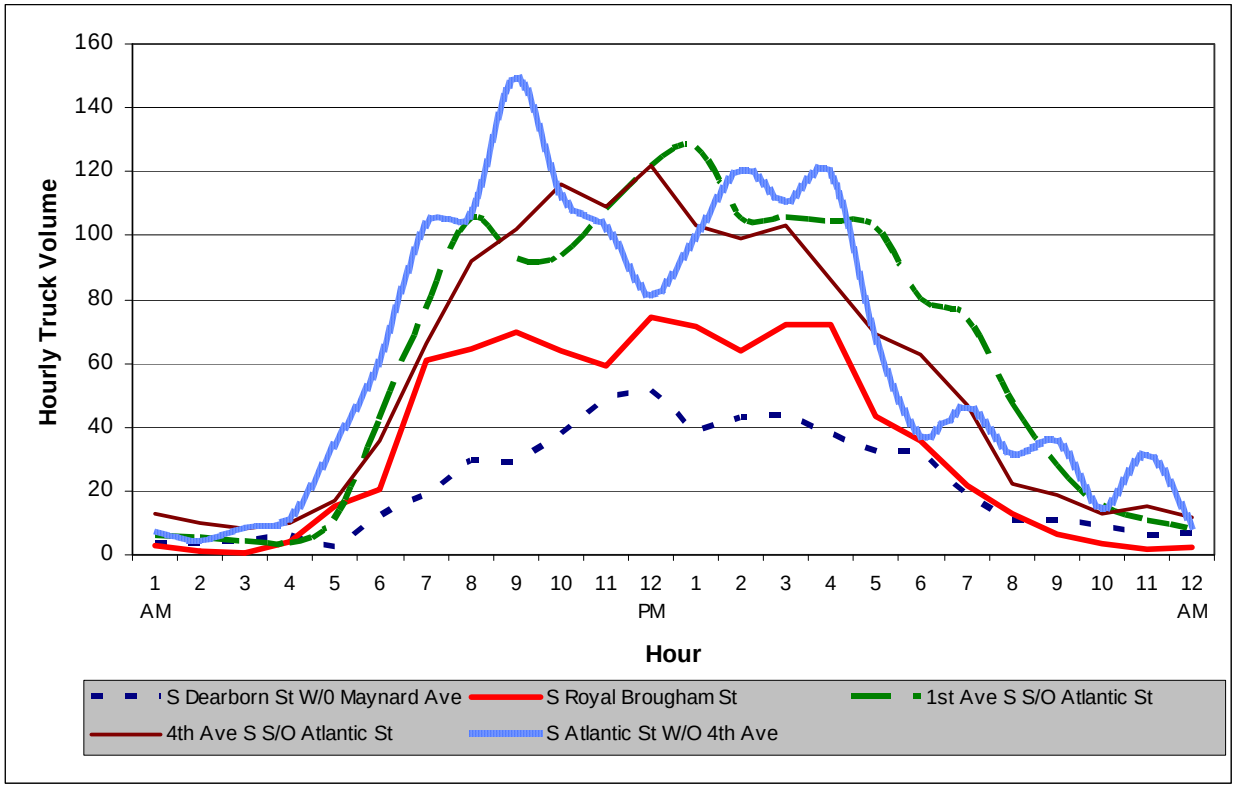
Table 4-12. Average Daily Truck Volumes and Percent of Total Daily Traffic

Corridor	Truck Volume NB	Truck Volume SB	Truck Volume Both Directions	% of Total Daily Traffic[2]
North-South Corridors				
Airport Way S (e/o[3] 5th Ave)	100	155	255	2.9%
1st Ave S (n/o[3] Royal Brougham)	800	540	1,340	4.1%
1st Ave S (s/o[3] Atlantic St)	525	955	1,480	7.1%
4th Ave S (n/o[3] Royal Brougham)	490	560	1,050	4.9%
4th Ave S (s/o[3] Atlantic St)	875	480	1,355	5.3%
6th Ave S (s/o[3] Airport Way S)	50	50	100	1.9%
East-West Corridors	**EB**	**WB**		
S Atlantic St (w/o[3] 4Th Ave)[1]	1,000	495	1,495	8.0%
S Dearborn St (e/o[3] 6th Ave)	225	315	540	6.0%
S Royal Brougham Way (w/o[3] 4th Ave)[1]	295	555	850	7.2%

Source: Based on field traffic counts (2007)
1. Based on 2005 traffic count
2. Daily truck volume divided by total daily traffic volume
3. e/o = east of; n/o = north of; s/o = south of; w/o = west of

In general, trucks represent between 2 and 8 percent of all vehicles over a 24-hour weekday. The largest numbers of trucks are along the S Atlantic Street, 1st Avenue S and 4th Avenue S corridors. These corridors provide access to SR 99 and SR 519 and therefore serve more trucks throughout the day. The traffic count data also indicates that corridors such as S Dearborn Street and Airport Way S serve a somewhat lesser volume of truck traffic than the other corridors evaluated. This is likely because the section of Airport Way S north of S Royal Brougham Way primarily provides access to the Downtown area, while S Dearborn Street connects with I-5 and the Rainier Valley and has less regional truck trips. Even though the S Dearborn Street corridor serves just over 500 trucks a day, that number represents nearly 6 percent of all vehicles and is a higher percentage than many of the other corridors. The distribution of daily truck traffic over a 24-hour timeframe is shown in Figure 4-5 for each corridor.

Figure 4-5. Daily Distribution of Trucks



Source: Based on field traffic counts (2007)

The data indicate that truck activity mostly occurs during daytime hours between 8:00 am and 4:00 pm. Generally, truck volumes decline between the hours of 4:00 pm and 7:00 pm and represent a small fraction of afternoon peak commuter traffic. The truck peak occurs almost in the middle of the day whereas the peak for all traffic occurs in the afternoon commuting hours. Table 4-13 provides truck peak hours and truck peak volumes with corresponding percent of total traffic in the same periods along the major arterials in the study area. The truck percent reported in Table 4-13 is highest during the day and can comprise of 10 to 11 percent of the total vehicular traffic.

Table 4-13. Truck Peak Hour Volumes and Corresponding Percent of Total Traffic

Corridor	Truck Peak Hour From	Truck Peak Hour To	Truck Volume Both Directions	% of Total Truck Peak Hour Traffic[2]
North-South Corridors				
Airport Way S (e/o[3] 5th Ave)	11:00 am	noon	23	4.0%
1st Ave S (n/o[3] Royal Brougham)	9:00 am	10:00 am	126	5.1%
1st Ave S (s/o[3] Atlantic St)	noon	1:00 pm	128	9.0%
4th Ave S (n/o[3] Royal Brougham)	11:00 am	noon	73	6.6%
4th Ave S (s/o[3] Atlantic St)	11:00 am	noon	122	7.0%
6th Ave S (s/o[3] Airport Way S)	10:00 am	11:00 am	14	3.1%[4]
East-West Corridors				
S Atlantic St (w/o[3] 4Th Ave)[1]	8:00 am	9:00 am	149	11.1%
S Dearborn St (e/o[3] 6th Ave)	11:00 am	noon	52	8.0%
S Royal Brougham Way (w/o[3] 4th Ave)[1]	11:00 am	noon	75	10.1%

Source: Based on field traffic counts (2007)
1. Based on 2005 traffic count
2. Truck peak volume divided by total traffic volume in the same period
3. e/o = east of; n/o = north of; s/o = south of; w/o = west of
4. Based on counts in 2002 and adjusted to 2007

Truck Classes

The Federal Highway Administration (FHWA) Vehicle Classification system defines vehicles based on type of vehicle and the number of axles and wheels. The classification system uses 13 categories. Trucks are typically classes 5 through 13. Motorcycles, passenger cars, pickups, and buses are classes 1 through 4.

For the purpose of this study, the truck classes 5 through 13 have been grouped into two main categories to simplify the reporting of information. The two categories include:

- **Single-Unit Trucks** - Includes single-unit (light to medium) trucks for FHWA classes 5 to 7.
- **Multi-Unit Trucks** - Includes heavy truck types for FHWA classes 8 to 13.

A more detailed analysis of the classification data reveals that, on average, more than two-thirds of the counted trucks are either light or medium trucks (single-unit trucks). These types of trucks are typically used for local or regional delivery rather than interstate travel. Heavy trucks (single- and multi-trailers) make up less than one-third of the total number of trucks counted within the study area. Table 4-14 presents the truck distribution results for each of the survey locations.

Table 4-14. Daily Truck Distributions

Corridor	Direction	Truck Distribution [2] Single-Unit	Multi-Unit
North-South Corridors			
Airport Way S (e/o[3] 5th Ave S)	NB	86%	14%
	SB	88%	12%
1st Ave S (n/o[3] S Royal Brougham Way)	NB	68%	32%
	SB	76%	24%
1st Ave S (s/o[3] S Atlantic St)	NB	67%	33%
	SB	72%	28%
4th Ave S (n/o[3] S Royal Brougham Way)	NB	40%	60%
	SB	65%	35%
4th Ave S (s/o[3] S Atlantic St)	NB	63%	37%
	SB	69%	31%
6th Ave S	NB	77%	23%
	SB	68%	32%
East-West Corridors			
S Atlantic St (w/o[3] 4th Ave)	EB	65%	35%
	WB	64%	35%
S Dearborn St (e/o[3] 6th Ave S)	EB	69%	31%
	WB	69%	31%
S Royal Brougham Way (w/o[3] 4th Ave S)[1]	EB	72%	28%
	WB	68%	32%

Source: Based on field traffic counts (2007)
1. Based on 2005 traffic count
2. Percentages of single-unit and multi-unit trucks out of the total number of daily trucks
3. e/o = east of; n/o = north of; s/o = south of; w/o = west of

4.3.3 Railway and Intermodal Facilities

Freight movement across the study area is served also by railway and intermodal facilities that support shipping to and from the port terminals and allow container transfer to railcars.

The railway maintains two mainline tracks through the study area, paralleling I-5 to the south and running to the north between 1st and 4th Avenues S, crossing S Holgate Street and S Royal Brougham Way (SR 519) at-grade. North of S Royal Brougham Way and adjacent to S Jackson Street is the King Street Station and a tunnel under the Downtown area that emerges north of the Pike Place Market. The railway then follows the waterfront north to Everett.

Rail crossings on truck routes are obstacles for truck movement and general traffic, especially in South Downtown where the BNSF mainline railroad, Amtrak, and Sounder Commuter Rail are located. There are approximately 63 train movements on the mainline tracks per day across the east/west arterial streets. These train volumes and associated traffic delays are expected to increase in the future. Additional freight, Amtrak, and Sounder Commuter Rail service will be using the tracks in the future, resulting in the at-grade crossings being closed more often throughout the day. The City of Seattle has very limited capability to control the frequency or the length of time the trains block street crossings.

In the study area, the S Holgate Street and S Royal Brougham Way corridors are two major east-west arterials that cross the BNSF, Amtrak, and Sound Transit commuter rail lines. A WSDOT study issued in 2003 showed the average time per train crossing to be 3 minutes, 10 seconds. Table 4-15 presents a summary of the 2003 daily train volumes crossing S Holgate Street. The same study calculated the total vehicular delay due to train crossings encountered by vehicles crossing the S Holgate Street railway for both the AM and PM peak hours using the approach traffic volumes and the average train crossing duration during the same time period. The results indicate that the total delay due to train crossings during the AM peak hour is 5.87 vehicle-

hours and 16.32 vehicle-hours during the PM peak hour. This total delay is derived by multiplying the traffic volume in the peak hour by the average delay at crossing in this period.

Table 4-15. Number of Train Crossings per Day at S. Holgate Street (2003)

Type of Service	Number of Train Crossing Movements
Sounder (3 trains)	12
Amtrak Cascade (3 trains)	9
Freight (BNSF)	42
TOTAL	**63**

Source: *S Holgate Street Railway Crossing Closure Traffic Impact Analysis*, WSDOT, December 2003

BNSF predicts annual growth in freight rail of five to ten percent per year. This would translate into an annual increase of two to three trains per day. Therefore, by 2030, approximately 100 freight trains are anticipated to cross the study area during a typical weekday. Unlike passenger rail, freight rail schedules are more flexible; therefore, it is not possible to accurately predict freight rail activities at crossings during a specific time period. However, it is likely that a proportional increase in peak period delay at crossings will occur, with up to four trains crossing during each peak hour.

Amtrak conducted another study in 2005 for the S Holgate Street crossing[6]. The study showed that the crossing is typically blocked for 4 hours and 24 minutes each weekday. During the peak hours, the crossings are closed about 25 percent of the time. The study anticipated longer blocking time at the crossing in the future, where analysis indicates that blockages are expected to increase to 70 percent of the time by year 2027.

4.3.4 Freight Operating Conditions

The efficient movement of freight through the study area is an important statewide goal for promoting economic growth and international trade. Facilitating trucks and the movement of freight is an important consideration and is evaluated in this section based upon a set of qualitative and quantitative assessments, which include:

- **Truck Connections:** Ability of current facilities to provide proper connections and circulation options for trucks.
- **Major Truck Street Travel Speed:** Travel speed on designated Major Truck Streets.
- **Design Standards:** Qualitative assessment of design standards that would facilitate truck operations.

Truck Connections

This section addresses the ability of trucks to efficiently circulate through the study area and access locations such as the state highway system, the Port, and other industrial areas.

The current Major Truck Streets provide reasonable access to I-5 and the Alaskan Way Viaduct as well as to I-90. Port properties are accessed via S Atlantic Street, S Royal Brougham Way, and Alaskan Way S. Currently, trucks must use at-grade mainline railroad crossings at S Holgate Street, S Royal Brougham Way, and S Lander Street. In addition, there are tail tracks between 1st Avenue S and Alaskan Way S which

[6] *Analysis of Train Operations Across S Holgate Street, Seattle, WA*, Amtrak, HDR Engineering, January 2005.

occasionally close S Atlantic Street and S Royal Brougham Way. Tail tracks are track extensions beyond the end of a transit mainline used to build up trains. Closures of the tail track crossings, while not as frequent as closures of the mainline crossings, are also anticipated to increase in proportion to freight rail using the mainline and causing additional delays for traffic along S Atlantic Street and S Royal Brougham Way corridors with closure duration of up to 20 minutes. Access to Duwamish and Harbor Island industrial areas is provided by connections at S Spokane Street south of the study area from the 1st Avenue S and East Marginal Way corridors.

There are several planned improvements in the study area that will improve truck connections such as SR 99 improvements, completing SR 519 Phase 2, Spokane Street Viaduct that includes widening the Viaduct, closing the WB off ramp at 4th Avenue S and adding a WB on and off ramp at 1st Avenue S and an EB loop ramp to 4th Avenue S, Alaskan Way S/S Atlantic Street intersection improvements, and S Lander Street Grade Separation. A more detailed description of the planned improvements is provided in Chapter 5. The improvements are expected to provide more direct access to the Port properties and the SIG yard from the regional highway system. In addition, a dedicated roadway is planned to provide direct access between T-46 and the SIG yard to avoid conflicts with traffic along the City arterials.

Major Truck Street Travel Speed

The travel speed performance measure for trucks is similar to that of general traffic. It reflects the operating conditions of street segments and intersections along the truck corridors. Higher travel speeds along the corridors could result from improving the flow of vehicles and reducing the delays at intersections. The travel speeds for the Major Truck Streets were reported previously for corridor operations. It must be noted that trucks often have slower travel speeds than regular passenger vehicles due to reduced accelerating speeds and increased delay when making turns. Trucks can further be delayed at unsignalized intersections or driveways because longer gaps in traffic are needed to safely turn into or cross traffic on the major street.

Even though truck travel speed is a bit longer than that of the general traffic, the corridor operations and LOS represents a reasonable indicator for freight operation performance. If corridor operations decline, it is assumed that truck operations will also decline proportionally, at a minimum. In addition, for an individual trucker, the time to access a specific port gate or intermodal terminal could be affected by other factors such as the operation of the gate or terminal. Such additional delays caused by those factors are not included in the analysis.

Design Standards

Not all streets in the study area have been designed to accommodate large trucks with single- or multi-unit trailers. Therefore, truck traffic often experiences operational problems on arterials due to design related issues such as short curb radii, narrow streets or travel lanes, utility poles that are close to the curb, pavement conditions on truck access routes, and signal control operations that do not assist truck turning movements.

The streets in the study area have limited rights-of-way and are shared by various transportation modes including cars, buses, bicycles and pedestrians. Such interaction, accompanied with the lack of proper street design and congestion, can create possible conflicts between truck traffic and other motorized and non-motorized transportation modes.

Data are not readily available to evaluate all the locations with design issues that contribute to poor truck operations. As part of the Alternatives evaluation, improvements that are commonly a part of higher density development, in addition to any mitigation strategies, will be reviewed to identify potential design issues that could impact the operation of trucks.

4.4 PARKING

The parking impact analysis is summarized in this section and reviewed on-street and off-street parking resources, focusing on the areas most likely to be affected by the potential zoning changes considered in the alternatives and related potential future development by the year 2030.

4.4.1 Off-Street Parking

The surveyed off-street parking consists mostly of paid parking available for the public, though some of the lots include parking reserved for nearby uses. Most of the parking is available for hourly parking, with some available for monthly permit parking. The surveyed off-street parking serves employees, clients and customers of nearby businesses who do not have any, or enough, parking on their own site to serve their businesses. Table 4-16 summarize the parking supply and estimated utilization at the surveyed lots. The mid-day non-event utilization for off-street parking is fairly high, with the exception of the Stadium Area neighborhood. Highest utilization was observed in the Pioneer Square neighborhood, which is closest to the Downtown business district, containing a significant amount of office and retail land use.

Table 4-16. Surveyed Off-Street Surface Parking Supply and Utilization (2007)[1]

Neighborhood[2]	Parking Supply[3]	Parking Utilization[4]
Chinatown/Japantown	900 stalls	70%
Pioneer Square	500 stalls	90%
Stadium Area	400 stalls	10%
South of Dearborn	400 stalls	80%
Little Saigon	350 stalls	60%

Source: Field observations, March 2007
1. Survey was visual in nature, estimating the approximate supply and utilization.
2. Neighborhoods defined by DPD staff.
3. Supply is approximate and does not account for specific-use parking garages, such as the garages for Safeco Field and Qwest Field. Rounded to nearest 50.
4. Utilization is approximate and was observed during weekday mid-day hours, with no events underway at the stadiums.

The off-street parking supply and utilization is discussed below.

- **Chinatown/Japantown**: This neighborhood's surveyed supply consists of mostly public hourly parking lots and reserved parking lots.
- **Pioneer Square**: The majority of the surveyed off-street parking in this neighborhood is public hourly parking lots.
- **Stadium Area:** This neighborhood has fewer public hourly parking lots than other districts, excluding the stadium garages. While daytime utilization of these lots is typically low, the utilization during events is usually quite high.
- **South of Dearborn:** In this neighborhood, most of the parking is available to the public, with some private lots dispersed through the area.
- **Little Saigon**: In this neighborhood, the off-street parking is mainly private or reserved.

4.4.2 On-Street Parking

The on-street parking in the study area is generally highly utilized during the weekday. Types of on-street parking include: free hourly, paid hourly (including meters and pay stations), and unrestricted. The most prevalent are paid hourly and free hourly, with time limitations on the free hourly varying between 1 hour and 4 hours. In all of the neighborhoods, several 3-minute passenger loading zones are dispersed through the blocks, as well as 30-minute loading zones. These loading zones are more prevalent in areas where businesses are located curbside.

Table 4-17 and Figure 4-6 summarize prevalent on-street parking types in each neighborhood and observed utilization rates. Note that at utilization rates of 80 percent and above, the public typically perceives there is no excess capacity available.

Table 4-17. Prevalent On-Street Parking Type and Observed Utilization (2007)[1]

Neighborhood[2]	Dominant Parking Type[3]	Parking Utilization[4]
Chinatown/Japantown	Paid Hourly	90%
Pioneer Square	Paid Hourly	90%
Stadium Area	Free Hourly/Unrestricted	80%
South of Dearborn	Unrestricted	90%
Little Saigon	Free Hourly/Unrestricted	80%

Source: Field observations, March 2007
1. Survey was visual in nature and did not document exact number of spaces by type, but gathered approximate utilization by type.
2. Neighborhoods defined by DPD staff.
3. Dominant parking type is based on field observation.
4. Utilization is approximate and was observed during mid-day hours.

- **Chinatown/Japantown**: This neighborhood primarily has paid hourly on-street parking, with some blocks having free hourly and unrestricted parking. A few areas have dedicated bus zones. The mid-day unrestricted parking was observed to be nearly 100 percent utilized, while the other types were approximately 80 to 90 percent utilized.
- **Pioneer Square:** This neighborhood also has primarily paid hourly on-street parking, with more bus zones than Chinatown/Japantown. In addition, along certain blocks the parking is restricted during one or both of the peak commuting hours (7:00 am to 9:00 am or 4:00 pm to 6:00 pm) in order to increase travel lane capacity for peak hour demand. These restrictions occur primarily along 1st Avenue S. The mid-day utilization in this neighborhood was observed as generally very high, approximately 90 to 100 percent.
- **Stadium Area:** In this neighborhood, the on-street parking is generally either free hourly or unrestricted. Bus zones along certain blocks, mainly on 1st Avenue S, reduce on-street parking supply. In addition, the parking is restricted during one or both of the peak commuting hours (7:00 am to 9:00 am or 4:00 pm to 6:00 pm) in some locations in order to increase travel lane capacity during peak hour demand. Mid-day parking was slightly lower than other neighborhoods, at approximately 70 to 80 percent. .
- **South of Dearborn:** This neighborhood has nearly all unrestricted on-street parking, with a couple of blocks having free hourly parking. The mid-day utilization is high in this area, approximately 90 to 100 percent.
- **Little Saigon:** This neighborhood has mainly unrestricted and free hourly on-street parking, with some bus zones as well. The unrestricted parking has a high mid-day utilization, at approximately 90 to 100 percent, while the free hourly parking mid-day utilization is slightly lower, at approximately 70 to 80 percent.

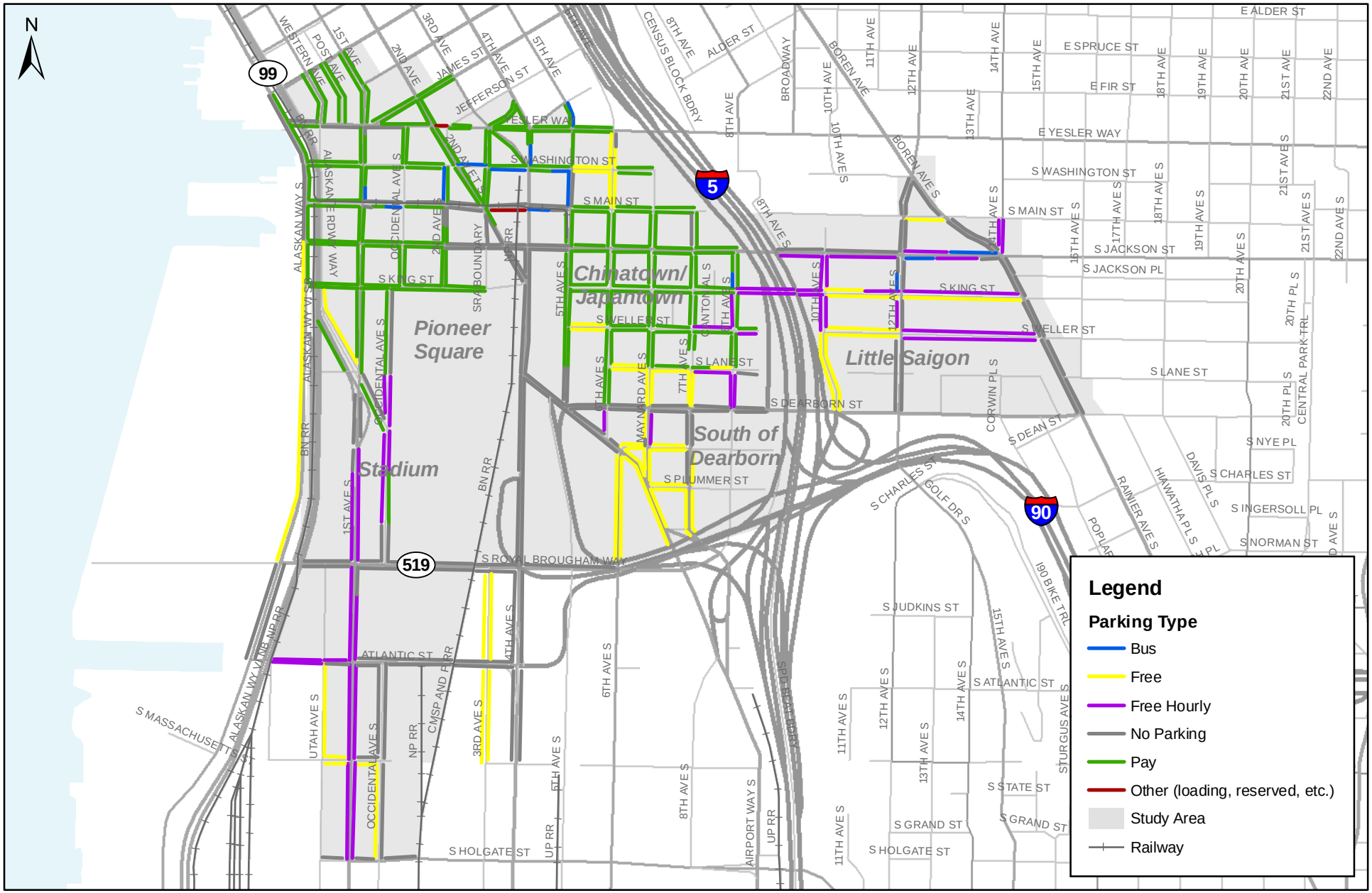


Figure 4-6

Streets Surveyed for On-Street Parking (2007)

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4.5 PEDESTRIANS AND BICYCLES

Pedestrian and bicycle facilities were assessed in the study area to determine connectivity and identify existing issues or deficiencies. These types of facilities help sustain non-motorized travel. With an estimated 6,000 people in Seattle using a bicycle as their primary source of transportation (based on the 2000 United States Census), the facilities are in demand. In addition, travel by walking or bicycling is often more cost-effective than motorized travel and is safer for the environment. A field visit was conducted in May 2007 to survey the facilities. The area is discussed in the context of the five neighborhoods.

4.5.1 Description of Facilities

This section defines the different types of non-motorized facilities observed in the study area, as well as major generators of pedestrians and/or bicyclists.

- Pedestrian facilities – infrastructure which enables the movement of pedestrians.
  - Sidewalks
  - Crosswalks
  - Multi-use trails
  - Mid-block crossings
  - Curb ramps
  - Traffic signals
  - Street furniture
  - Decorative lighting
  - Signage

It should be noted that while many of these facilities are necessary to enable pedestrian movements, some are more for pedestrian comfort, particularly street furniture, decorative lighting, and signage.

- Bicycle facilities – infrastructure which enables the movement of bicyclists.
  - Bike routes
  - Bike lanes
  - Bike parking
  - Multi-use trails

Several uses in or just outside of the study area are pedestrian and/or bicycle generators. Some, like Colman Dock, generate pedestrian and bicycle activity on a daily basis. Others, like Qwest Field, generate activity surrounding particular events. The main generators include (but are not limited to):

- Colman Dock
- King Street Station
- Yesler Terrace Housing Community
- Event Facilities (Qwest Field, Safeco Field, Event Center)
- Bus Tunnel Access Points
- Downtown CBD Businesses

The neighborhoods themselves have many smaller scale generators of pedestrian and bicycle activity. These include (but are not limited to):

- Uwajimaya Village
- S. Jackson Street centers of activity

- 1st Avenue S in Pioneer Square area
- Neighborhood parks
- Local health care facilities
- Community and ethnic center facilities

Pedestrian and bicycle amenities, such as benches, drinking fountains, decorative lighting and bicycle racks, are currently found throughout the Pioneer Square and Chinatown/Japantown neighborhoods. These amenities are not as available, if at all, in the other study neighborhoods.

4.5.2 Pedestrians

The promotion of safe and convenient pedestrian travel is a primary goal of the City. The City is currently developing an inventory and condition rating for all sidewalks, including those in South Downtown that will be completed by the end of 2007. The sidewalk condition will be based on a quantitative analysis and be used to prioritize pedestrian improvements as part of the upcoming Pedestrian Master Plan project. Within the South Downtown study area, a number of key pedestrian facilities already exist, including mod-block crossings and the Weller Street pedestrian bridge. Some of the major pedestrian generators and facilties have been identified in Figure 4-7. Below is a discussion of each neighborhood's facilities and overall pedestrian activity.

Chinatown/Japantown

This neighborhood has a considerable amount of infrastructure for pedestrians, and at least one major generator (a bus tunnel entrance). Throughout much of the area there is infrastructure for pedestrian comfort. Existing land uses consist mainly of mixed-use buildings with residential or commercial space and retail. Nearly all intersections (both signalized and unsignalized) have marked crosswalks and there is a mid-block crossing along 5th Avenue S between S Weller Street and S Dearborn Street. Sidewalks exist on most streets in this area. Table 4-18 shows PM peak hour pedestrian volumes taken at two area intersections.

Table 4-18. Existing (2007) PM Peak Hour Pedestrian Counts - Chinatown/Japantown[1]

Street	Cross Street	North Leg	East Leg	South Leg	West Leg	Total	Control
6th Avenue S	S Jackson Street	64	52	132	47	**295**	Signalized
4th Avenue S[2]	S Washington Street	143	134	21	292	**590**	Signalized

1. Counts taken in January 2007 and represent one day during the PM peak hour of individual intersections.
2. The 4th Avenue S/S Washington Street intersection has five legs – the northwest leg had a count of 125 pedestrians during the PM peak hour.

As shown on Table 4-18, most legs of both intersections experience heavy pedestrian activity, particularly the west leg of the 4th Avenue S/S Washington Street intersection. The number of pedestrians on the west leg is nearly exactly the same as the number of vehicles traveling on that leg[7].

Along streets like 4th Avenue S and S Jackson Street, the combination of high traffic volumes and high pedestrian volumes increases the potential for pedestrian-vehicle conflicts. This includes the 8th Avenue S/ S Jackson Street vicinity where there are transit stops on both sides of the street. Also in this vicinity, the quality of street lighting on S Jackson Street and S King Street is of interest for the overall safety of pedestrians and the public using the vicinity in and under I-5. Along the southern edge of Chinatown,

[7] There were 292 pedestrians counted and 299 vehicles traveling on that leg (both eastbound and westbound traffic). Numbers were taken from the same intersection count, conducted January 31, 2007, and refer to the PM peak hour.

S Dearborn Street and Airport Way S near the former INS building are perceived to be challenging pedestrian crossing areas. While there are signalized intersections along most of S Dearborn Street, the width of the street and amount of traffic that flows on the street may increase its perception as a pedestrian barrier, particularly for people that move more slowly.

Steeper slopes along 6th Avenue S, S Washington Street and Yesler Way create impediments to pedestrian movement, particular senior citizens that live in the vicinity. Sidewalks along some street segments in the study area are missing, in need of repair or have blockages that impede pedestrian travel. These deficiencies may result in pedestrian use of the street, therefore increasing the potential for pedestrian/vehicle conflicts. On other streets just north of S Jackson Street, sidewalks are present but the slopes increase the need for pedestrian respite. Improvements are planned along Maynard Avenue S that will provide resting spots and natural features to improve aesthetics and pedestrian comfort.

Pioneer Square

This neighborhood also has a considerable amount of pedestrian infrastructure. It has two major generators (King Street Station and an access to the bus tunnel), as well as several mid-block crossings. It also has infrastructure for pedestrian comfort, including decorative lighting and street furniture. In addition, Occidental Avenue S is a pedestrian corridor that runs parallel to 1st Avenue S and 2nd Avenue S from S Jackson Street to S Washington Street. Most intersections have marked crosswalks. Sidewalks are present on most streets in the area.

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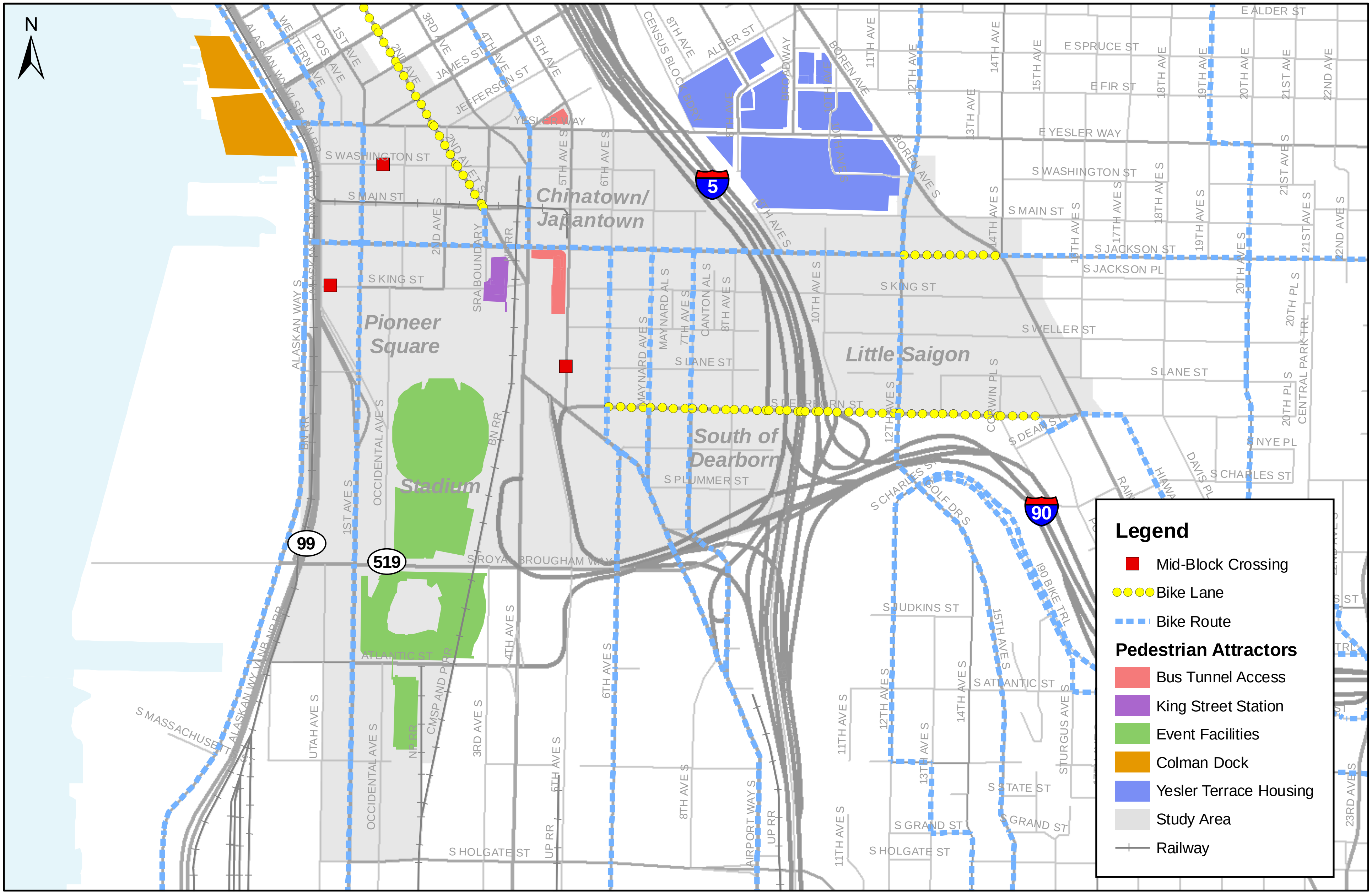

Figure 4-7

Pedestrian & Bicycle Facilities

Livable South Downtown EIS

The Transpo Group

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The Pioneer Square area has a very high level of pedestrian activity. This is supported by the land use, which is similar to Chinatown/Japantown in that it is heavily mixed-use with residential space, retail, and office. However, the type of retail in Pioneer Square generates even more pedestrian activity, with coffee shops, tourist retail and local retail (such as bookstores and furniture stores), and a wide variety of high-turnover restaurants.

In addition, this neighborhood abuts Colman Dock to the west, which houses the ferry terminal. Ferries carry a large volume of pedestrian traffic to the Downtown area. Table 4-19 shows pedestrian counts taken at several intersections in the vicinity of Pioneer Square.

Table 4-19. Existing (2007) PM Peak Hour Pedestrian Counts - Pioneer Square[1]

Street	Cross Street	North Leg	East Leg	South Leg	West Leg	Total	Control
1st Avenue S	Yesler Way	63	199	40	81	**383**	Signalized
1st Avenue S	S Washington Street	133	154	148	138	**573**	Signalized
2nd Avenue	James Street	197	162	216	257	**832**	Signalized
2nd Avenue	Yesler Way	169	169	144	202	**684**	Signalized
3rd Avenue S	James Street	205	137	156	255	**753**	Signalized

1. Counts taken in January 2007 represent one day during the PM peak hour of individual intersections.

As Table 4-19 demonstrates, all four legs of the intersections experience fairly high pedestrian volumes, particularly the James Street intersections. A possible explanation for those intersections having higher pedestrian volumes is the proximity to the Downtown business district and government center, with a majority of employees leaving during the PM peak hour.

Stadium Area

This neighborhood has some pedestrian infrastructure, particularly near the major pedestrian generators such as Qwest Field, Safeco Field, and the Event Center. A major pedestrian connection in this area is the Weller Street bridge, which links the Chinatown/Japantown area to the Stadium area. This is a particularly key connection during events. Sidewalks are provided on most streets. Some infrastructure for pedestrian comfort exists, however it is located mainly around the stadiums. The at-grade railroad crossing at S Royal Brougham Way near 3rd Avenue S is a pedestrian safety issue as fatalities have occurred at this location in the past due to collisions with trains.

The area is also subject to other pedestrian challenges, some due to street and parking configurations and some due to the unique manner in which event patrons use Occidental Avenue S and other streets.

- The parking arrangement on the west side of Occidental Avenue S approximately south of Railroad Way includes perpendicular parking interspersed with business entries and no sidewalk. Although a sidewalk is present on the east side of Occidental Avenue S, pedestrians may instead use the street.
- Due to longstanding habits and the attractions of street-side vending, event patrons have long perceived Occidental Avenue S south of S King Street as being a pedestrian promenade, traveling on foot in any part of the street at almost any time. This unique trait, creates a condition where pedestrians and vehicles are sharing the roadway.. During stadium events, traffic control is typically in place at several key locations and overall safety is maintained despite some mixing of pedestrians and vehicles.
- Stadium event-related pedestrian traffic also contributes to heavier use of various street segments in the vicinity, which can challenge the capacity of the sidewalks and can occasionally result in spill-over of pedestrians onto curbside lanes and jaywalking. This can occur along portions of 1st Avenue S in the Stadium Area, particularly near Safeco Field, on S Atlantic Street, and 4th Avenue S near S Royal Brougham Way. During high attendance events, pedestrians may also be more prevalent near

Alaskan Way S and S Atlantic Street. The combination of higher traffic volumes, possible higher-speed traffic and the potential for jaywalking at S Atlantic Street near 1st Avenue S, means this is a notable area with potential pedestrian safety issues. There is similar potential for such issues near 1st Avenue S/ S Royal Brougham Way.

- Near the existing SR 99 access ramp on the west side of 1st Avenue S, the ramp infringes on the sidewalk such that a segment is quite narrow and sheltered from view of passersby, contributing to illegal activities.

Typically, there is not a lot of pedestrian activity in the area on non-event days. The main land uses in the area are retail and industrial, as well as the event facilities. Table 4-20 shows PM peak hour pedestrian volumes taken at two area intersections for non-event days.

Table 4-20. Existing (2007) PM Peak Hour Pedestrian Counts - Stadium (Non-Event)[1]

Street	Cross Street	North Leg	East Leg	South Leg	West Leg	Total	Control
1st Avenue S	S Royal Brougham Way	10	10	10	10	**40**	Signalized
1st Avenue S	S Atlantic Street	32	8	42	11	**93**	Signalized

1. Table taken from *SR 99: Alaska Way Viaduct & Seawall Replacement Project Transportation Discipline Report, Draft EIS*, March 2004, page 104.

As Table 4-20 demonstrates, afternoon peak hour pedestrian activity in this neighborhood is much less than other neighborhoods. Looking at the intersection of 1st Avenue S/S Atlantic Street, the pedestrian flow seems to be mainly east-west. This could be attributable to the pedestrian pathway located on S Atlantic Street east of 1st Avenue S.

South of Dearborn

Sidewalks are provided on most streets; however several do have weeds growing on top and cracks breaking up the sidewalks. Some sidewalks have a planting strip to act as a barrier between vehicular and pedestrian traffic, though this is not the case on the side streets. Little to no infrastructure for pedestrian comfort exists in this area. Some streets have sidewalks crossing past business entry doors and with perpendicular parked cars in between, which contributes to potential pedestrian safety challenges. Airport Way S and S Dearborn Street, wider streets with higher speed traffic, are perceived as more difficult to cross. The characteristics of the corridors and less frequent crossing locations may contribute to potential pedestrian safety challenges.

Pedestrian activity in this area in minimal, though it does increase when there is an event at Safeco or Qwest fields due to the dispersal of event related parking in this area. The main land uses in this area are industrial or office. Table 4-21 illustrates PM peak hour pedestrian volumes taken at three area intersections.

Table 4-21. Existing (2007) PM Peak Hour Pedestrian Counts - South of Dearborn[1]

Street	Cross Street	North Leg	East Leg	South Leg	West Leg	Total	Control
Maynard Avenue S	S Dearborn Street	25	5	37	14	**81**	Signalized
7th Avenue S	S Dearborn Street	22	1	7	9	**39**	Signalized
8th Avenue S	S Dearborn Street	12	4	n/a	2	**18**	Signalized

1. Counts taken in January 2007 and represent one day during the PM peak hour of individual intersections.

As Table 4-21 shows, most of the pedestrian volumes are more oriented east-west and are located on the north side of S Dearborn Street, which borders the Chinatown/Japantown neighborhood. Very little pedestrian traffic is traveling north-south, which suggests that there is minimal pedestrian traffic in the South of Dearborn area.

Little Saigon

Sidewalks are provided on most streets, though some are cracked and/or overgrown with weeds. Some sidewalks, such as along S King Street have a planting strip and there are newer curb ramps at area intersections to incorporate ADA requirements. Little to no infrastructure for pedestrian comfort exists in this neighborhood.

This area primarily consists of retail, office and light industrial uses with a few residential uses. Pedestrian activity is higher in some places than others, notably near the intersection of 12th Avenue S and S Jackson Street. The Yesler Terrace Housing Community is located just north of Little Saigon and generates additional pedestrian traffic in the neighborhood. Table 4-22 shows PM peak hour pedestrian volumes as measured at several area intersections

Even though this area has sidewalks along its streets, there are a number of locations where relatively high traffic volumes combined with pedestrian activity and other uses or physical characteristics may contribute to pedestrian safety challenges:

- 12th Avenue S/S Jackson Street intersection vicinity
- 12th Avenue S/S King Street intersection vicinity
- 12th Avenue S/S Weller Street vicinity
- Mid-block vicinity on S Jackson Street between 12th Avenue S and Rainier Avenue S
- Rainier Avenue S/Boren Avenue S/S Jackson Street intersection vicinity
- Rainier Avenue S/S Dearborn Street vicinity

Table 4-22. Existing (2007) PM Peak Hour Pedestrian Counts - Little Saigon[1]

Street	Cross Street	North Leg	East Leg	South Leg	West Leg	Total	Control
12th Avenue S	S Jackson Street	133	69	60	113	**375**	Signalized
Rainier Avenue S[2]	S Jackson Street	4	29	9	18	**60**	Signalized
Rainier Avenue S	S Dearborn Street	9	3	18	1	**31**	Signalized

1. Counts taken in January 2007 and represent one day during the PM peak hour of individual intersections.
2. The Rainier Avenue S/S Jackson Street intersection has five legs – the northwest leg had a count of 8 pedestrians during the PM peak hour.

As Table 4-22 demonstrates, there is more pedestrian activity in the core of the neighborhood, whereas along Rainier Avenue S the activity diminishes. This could be due to the high amount of vehicular traffic on Rainier Avenue S, acting as a barrier to pedestrians. Also, there are not as many stores or residences along Rainier Avenue S as other streets, which could also have an impact on pedestrian traffic.

If the proposed S Dearborn Street mixed-use development occurs, additional pedestrian volumes along Rainier Avenue S and S Dearborn Street would be expected, with adjacent sidewalk and signalization improvements, but also a possible higher potential for pedestrian-vehicle conflicts due to increased pedestrian and vehicle traffic.

4.5.3 Bicycle Facilities

Within the study area several roadways have infrastructure for bicycles. The infrastructure mainly consists of bicycle lanes striped onto existing roadways. Bicycle lanes exist on 2nd Avenue S (in the Pioneer Square district), S Dearborn Street (in the Little Saigon and South of Dearborn areas), and S Jackson Street (in the Little Saigon neighborhood). There are also several identified bicycle routes in the area, as well as multi-use paths. The multi-use paths are along Alaskan Way S (along the border of the Stadium Area and Pioneer Square neighborhoods), along 5th Avenue S (south of the South of Dearborn neighborhood), and along I-90

to I-5 (south of the Little Saigon neighborhood). Bike routes are prevalent in all neighborhoods. Figure 4-7 shows the existing bicycle facility locations.

Regional bicycle connections are provided by several paths and trails in the vicinity. The Alaskan Way S trail to the west of the study area provides access north through the Downtown waterfront area and further on to Magnolia. The bicycle lane along S Dearborn Street within the Little Saigon neighborhood connects to the I-90 trail, which provides connections across Lake Washington to Mercer Island and areas east of Lake Washington.

To promote and encourage greater bicycle use, the City of Seattle completed and is in the process of finalizing a Bicycle Master Plan. The plan identifies existing facilities, recommends improvements, discusses ways to educate the public, and identifies funding for the improvements. There are several major improvements discussed including several miles of on-street bicycle facilities, trail connections and a signed bicycle route system. The plan also discusses the need for improvements at roadway crossings and on arterial roadways.

4.6 EVENT MANAGEMENT

Event management discussed in this section refers primarily to transportation management programs (TMPs), updated on an annual basis, that were required by City conditioning of permits for the two athletic stadiums, Safeco Field and Qwest Field. City decisions to permit the construction of these facilities recognized that the number of large events, their potential overlap, and their interaction with typical daily traffic in the vicinity would create substantial traffic volumes that could result in occasional severe traffic congestion. This congestion can and does result in adverse traffic delays and impaired functioning of streets and transit systems.

The TMPs include several strategies that are meant to minimize the frequency, extent and duration of traffic congestion that is influenced by event-related traffic, as well as measurable goals and other required contents. For example, the TMPs define a policy that prevents large events from simultaneously occurring at the stadiums, and requires other "special" TMPs for some added events such as playoff games that may or may not occur. The specific measures that each facility must implement have been summarized in Tables 4-23 and 4-24. The measures will be evaluated as part of the Alternatives analysis to identify which may need to be expanded and what other measures might need to be considered based on the increase in land use density within the areas affected by the event management plans. Another focus of each TMP is on the immediate neighborhoods adjacent to each stadium, to discourage parking and extraneous traffic circulation within the TMP boundaries. Secondarily, some event-related parking may occur in the Central Business District.

The Seattle DPD determined that the most important measurable goal of the Transportation Management Plans for both Safeco and Qwest Field relates primarily to achieving a number of vehicles per thousand attendees for each event to help reduce the amount of traffic congestion and parking impacts as a direct result of the events themselves. The planning boundary for the Qwest Field TMP is the area bounded on the north by Pioneer Square and the International District and on the east by I-5, and the south by the South Downtown/North Duwamish area. The goal of the Qwest TMP is divided into weekend and weeknights. For Qwest Field the weekend single event goal is 277 vehicles per 1,000 attendees and the weeknight single event goal is 307 vehicles per 1,000 attendees. The Safeco Field TMP does not have specific boundaries but generally covers the area south from S Lander Street north to the Central Business District (CBD) and east to the Metro Busway. The Safeco Field regular season single event TMP goal for a baseball event with an attendance of up to 38,500 is no more than 325 vehicles per 1,000 attendees.

In general, there are 81 home baseball games at Safeco and approximately 8 regular season football games at Qwest Field with most of the baseball games occurring during the weeknight and all but two or three football games occurring on Sunday afternoon. The typical routing of traffic for each stadium includes the use of the following highways and streets for primary ingress and egress: I-90, I-5, Highway 99, 1st Avenue S, 2nd

Avenue S, 4th Avenue S, 6th Avenue S, S Jackson Street, Airport Way S, S Royal Brougham Way, and S Atlantic Street.

As a result of this primary routing, a total of up to 37 locations are shown to have traffic control in the Qwest TMP and up to 16 locations in the Safeco TMP. Due to the location of each stadium, the Qwest traffic control extends as far north as S Washington Street, south to S Holgate Street and east to 5th Avenue S while the Safeco traffic control extends as far north as S King Street, south to S Holgate Street and east to 4th Avenue S.

Several objectives are set forth in each TMP, including the following:

- Limiting event-related traffic congestion
- Ensuring adequate access to area residences and businesses
- Reducing event-related on-street parking in the neighboring areas
- Encouraging the use of alternative modes of transportation
- Directing event-related parking toward the Central Business District

The City of Seattle created the Parking and Access Review Committee (PARC) as a means for those stakeholders in the community in the vicinity of each venue to have input into the traffic management planning. PARC makes recommendations and suggestions to improve the TMPs each year.

The evaluation of the effectiveness of both of the TMPs is based on surveys conducted by the athletic teams. Both venues are doing better than the goals set forth in the TMPs and are currently experiencing fewer vehicles per 1,000 attendees as established by the goals in each TMP. Tables 4-23 and 4-24 provide more detail with regard to the specifics of each TMP and how resources are allocated to achieve the overall goals of each plan.

Table 4-23. Qwest Field Transportation Management Plan Details

General Objectives		Specific Measures
Traffic & Parking Demand Reduction	*Transit*	• Support Supplemental Transit Service • Establish Park & Ride Service • Maximize Bus Use • Facilitate Charter Bus Packages • Establish On-Site Charter Bus Parking
	Rail	• Promote Sounder Service • Enhance Event Day Rail Service
	Waterborne	• Facilitate Ferry Use • Promote Charter Boat Service
	Bicycle	• Encourage Use of Bicycle Racks
	Average Vehicle Occupancy	• Provide Priority Taxi/Limousine Access/Loading • Create Carpool Incentive Programs
Manage Resultant Vehicle & Pedestrian Demand	*Event Parking*	• Pre-sell Off-street Parking for Event Guests • Maintain Employee Parking Program
	Traffic Control	• Maintain Access and Egress Routing Plan • Revise Guide Signing System • Support Traffic Signal Timing Coordination and Retiming • Update Police Traffic Control Plan • Employ the Residence/Business Access Permit Program
	Pedestrians	• Support Pedestrian Corridor Enhancements
	Neighborhood Parking and Transportation Plans	• No Parking Signs • Smart Meters or Kiosks • Increase Signed Parking Restrictions • Extended Enforcement Times • Reconfigure On-Street Parking • Advocate Validated Parking • Advocate a Public Parking Authority or TMA • Neighborhood Transportation Initiatives
Event Management & Public Information	*Event Management*	• Event Transportation Manager • Event Scheduling and Management • Pre- and/or Post-Event Activities • Event Transportation Guide
	Public Information	• Public Information Coordinator • Community Flyers • Web Page • Traffic Advisory Services • Transportation Hotline and Special Operators
Implementation and Monitoring		• Participate in PARC • Establish a Traffic Operations Group • Periodic Program Review

Source: *Qwest Field Event Center Transportation Management Program Plan Year 2006 to 2007*, May 2006

Table 4-24. Safeco Field Transportation Management Plan Details

General Objectives	Specific Measures
Limit Event-Related Traffic Congestion	• Implement traffic control at key intersections, railroad, and egress corridors • Restrict traffic on 1st Avenue post-game • Limited use of arterial VMS signs (fixed locations at Lander) • Implement pedestrian improvements per agreement with the City of Seattle • Provide railroad crossing safety information and crossing signs
Ensure Adequate Access to Residences and Lots	• Provide traffic control • Maintain dual event agreement • Coordinate schedules between football stadium and ballpark
Reduce Event Related On-Street Parking	• Offer ballpark parking discount • Maintain website list of lots offering HOV discounts • Provide parking stalls (3,909) on-site or under covenant • Offer pre-sale of on-site spaces for games as well as presale of disabled parking
Encourage Use of Alternate Transportation	• Provide leased event transit service including park-and-ride express and/or regular service routes • Offer secure, weather-protected bicycle storage and outside racks • Provide designated bike routes to ballpark
Provide General Information	• Send mailings to season ticket holders • Publicity in newspapers, pre-game radio programs, in-park video displays, Transportation Guide, website, and Call Center

Source: *Safeco Field Transportation Management Plan, Plan Year March 1, 2007 to March 1, 2008*, Prepared by the Baseball Club of Seattle, LLP.

The specific objectives for Qwest and Safeco generally overlap and are mostly consistent between the two plans. Some of the specific measures are required as part of the entitlements for each venue whereas some of the other measures are done to provide incentives for patrons to carpool and travel via alternative mode versus single occupant vehicle.

Over time, it has become clearer that transportation management practices for each stadium work somewhat differently, with different characteristics that respond to the particular needs created by their events, and differences in event-goers' characteristics that can affect traffic patterns. Observations about these differences include the following:

- The Qwest Field Event Center TMP addresses fewer large events than Safeco Field's TMP.
- The physical location of each stadium and its parking facilities results in somewhat different traffic patterns. Qwest Field tends to generate traffic in Pioneer Square, and to/from its parking facilities near S King Street and on 4th Avenue S. Safeco Field tends to generate southern-oriented traffic volumes where parking resources may be more accessible to event-goers. Given these patterns, there is relatively more concern for pedestrian safety in locations such as the 1st Avenue S and S Atlantic Street vicinity during baseball games (as compared to football games) due to the proximity of Safeco Field, the number of baseball games, and crowd behavior that may induce more jaywalking. These patterns also influence the distribution of police postings to maintain safety.
- Regionally, Qwest Field football events draw many fans from southern suburbs to its weekend day events. Safeco Field baseball events draw fans more evenly from within the region, along with fans walking from Downtown jobs on weekdays. These differences influence different patterns of arrival and pedestrian activity, e.g. "tailgating" before football events, and crowds walking south on Occidental Avenue S for baseball games.
- Safeco Field events typically have included five to seven weekday day games that can create overlap with PM peak commuting periods, depending upon the starting times and eventual

ending times of the baseball games. Experience has led the PARC committee to favor start times that avoid games ending around the PM peak hour commuting period. However, scheduling practices of Major League Baseball and the need for occasional rainout make-up games can lead to day game schedules that are mostly beyond the control of the City and the Mariners.

Several elements of the access to each stadium will be altered as a result of specific planned transportation improvements, such as SR 519 Phase 2 and access improvements to SR 99 as part of the Alaskan Way Viaduct improvements. Key at-grade pedestrian-vehicle conflicts in the immediate vicinity of both Qwest and Safeco Fields will be eliminated with improvements at S Royal Brougham Way as part of the SR 519 Phase 2 project because SR 519 will be rerouted away from S Royal Brougham Way. This transportation improvement will also affect how ingress and egress to the garage at Qwest Field is provided. The result of the improvement will be a re-allocation of resources related to pedestrian and traffic control.

5. IMPACTS AND ALTERNATIVES COMPARISON

This chapter describes future 2030 conditions for the transportation systems within the study area under the No-Action and Action Alternatives. The future transportation system conditions were established based on forecasts of regional population and employment developed by the City of Seattle and PSRC and reflected in the City's travel demand model for the No-Action Alternative. The No-Action Alternative establishes the baseline information for system performance against which the Action Alternatives are compared. For each of the Alternatives, a consistent set of new transportation facilities and services were assumed to be in place by 2030 and accounted for in the development of the 2030 travel forecasts. Analyses of the Alternatives were evaluated based on a set of performance measures for each of the main modal components.

5.1 ALTERNATIVES OVERVIEW

A total of four land use Alternatives have been evaluated, including the No-Action Alternative. The No-Action and Action Alternatives are described in Chapter 1. The Action Alternatives include increased residential land use throughout the study area, with Alternative 1 having increased commercial growth oriented toward the west along 1st Avenue S, Alternative 2 with increased commercial growth along 4th Avenue S, and Alternative 3 that distributes the commercial growth throughout the study area. Table 5-1 provides a summary of the land use growth assumptions under each Alternative by neighborhood, in terms of the projected amount of new commercial development and the new residential dwelling unit growth.

Table 5-1. Approximate Land Use Totals by Alternative[1]

Neighborhood	No Action		Alternative 1		Alternative 2		Alternative 3	
	ksf[2]	DU[3]	ksf	DU	Ksf	DU	ksf	DU
Chinatown/Japantown	330	1,470	570	2,250	240	2,650	400	1,980
Pioneer Square	770	1,570	950	1,660	790	1,660	1,380	1,800
Little Saigon	550	360	1,380	1,360	1,140	1,470	1,190	1,190
South of Dearborn	420	0	620	240	990	230	1,120	660
Stadium Area	420	0	1,430	220	1,890	0	1,160	430
Total	**2,490**	**3,400**	**4,950**	**5,730**	**5,050**	**6,010**	**5,250**	**6,060**

Source: City of Seattle Department of Planning and Development
1. The information displayed in this table is based on data provided by DPD staff and summarized by the neighborhood boundaries identified in Figure 1-1.
2. ksf = thousand square feet, referring to commercial development.
3. DU = Dwelling Unit, referring to residential development.

5.1.1 No-Action Alternative

The No-Action Alternative is consistent with the existing City of Seattle Comprehensive Plan and includes none of the zoning changes being considered as part of the Action Alternatives. A couple of major developments are already in the planning stages and have been incorporated in part under this Alternative. These major developments include projects such as the North Stadium Lot and redevelopment of the Goodwill Site since they are likely to move forward regardless of the Livable South Downtown proposal since they have or will be completing separate Environmental Impact Statements (EIS). While the Goodwill Site would require zoning changes to implement the currently proposed land use, it was assumed in this Alternative to have a lesser amount of development. Table 5-2 summarizes the nature of major development site assumptions, applicable to the various Alternatives.

Table 5-2. Planned Major Developments

Development	Description
WOSCA Site	West of Qwest Field and east of SR 99. Potential land uses include office and residential, varying by Alternative. Some of the land has been sold to WSDOT as part of the Alaskan Way Viaduct project.
Frye Properties	In the South of Dearborn area on both sides of 6th Avenue S, south of Airport Way S and INS Building. Could include office and residential, varying by Alternative.
Stadium North Lot	Located in the north half of the Qwest Field north parking lot. Mostly residential with some commercial (hotel or office) possible.
Goodwill Site	Located in the Little Saigon neighborhood. Assumed under all the Alternatives, with a lesser amount of development under the No-Action Alternative. The development would include commercial with some residential with the Action Alternatives.
Over-the-Tracks	Located west of 4th Avenue S over the existing BNSF tracks. Likely to include primarily office land uses.

Source: City of Seattle Department of Planning and Development

Much of the growth assumed in the No-Action Alternative occurs in the Little Saigon, Chinatown/Japantown, and Pioneer Square neighborhoods. In Pioneer Square, the growth is mainly focused along 1st Avenue S and S King Street corridors. In Little Saigon, the growth is located between S Dearborn Street and S Jackson Street, with much of the new development focused around the Goodwill site. Chinatown/Japantown experiences mainly residential growth, which is spread throughout the neighborhood. The Stadium Area experiences commercial growth exclusively along 1st Avenue S. In the South of Dearborn area, commercial growth is focused along 7th Avenue S and along Airport Way S. No residential growth is forecast for either the Stadium Area or South of Dearborn.

5.1.2 Alternative 1: Infill Residential and Commercial Growth Emphasis toward West

Alternative 1 disperses residential growth in the area, though the majority of the growth is focused in the Chinatown/Japantown and Pioneer Square areas. Commercial growth is similar to that under the No-Action Alternative except that a greater intensity of growth is assumed in Little Saigon as part of the Goodwill site redevelopment. The corridors that experience the most commercial growth are similar to the No-Action Alternative (S Dearborn Street, 1st Avenue S, and 7th Avenue S), with the addition of 4th Avenue S and S Jackson Street. Residential growth is assumed possible in the Stadium vicinity, along 1st Avenue S near Railroad Way.

5.1.3 Alternative 2: Infill Residential and Commercial Growth Emphasis toward East

Alternative 2 is similar to Alternative 1 except no residential growth is assumed in the Stadium Area. More residential growth is instead assumed in Chinatown/Japantown. The Stadium Area instead is assumed to support a larger amount of commercial uses, more than assumed for the No-Action and Alternative 1. Under this Alternative, more commercial growth is also assumed in Pioneer Square.

5.1.4 Alternative 3: Distributed Growth

Alternative 3 focuses more commercial growth in the South of Dearborn area as compared to the other Alternatives. Residential growth is assumed to occur in the South of Dearborn and the Stadium areas. Much of the residential growth in the Stadium area is focused along the 1st Avenue S corridor near Railroad Way, similar to Alternative 1.

5.2 PROGRAMMED AND PLANNED TRANSPORTATION IMPROVEMENTS

The 2030 forecasts for the No-Action and Action Alternatives assume a consistent set of transportation capital and service improvements that will be completed over the next 23 years. Projects that were identified

in local or regional plans and had a likely source of funding were incorporated into the future forecasts and analysis. Some of the planned improvements are part of the Roads and Transit Ballot Measure, to be voted on in November 2007. These projects include Sound Transit's East Link Light Rail and expansion of the Spokane Street Viaduct. Both projects are assumed for all of the Alternatives as they are expected to be completed by 2030. The new transportation capital facilities are listed in Table 5-3 and shown in Figure 5-1.

A significant amount of investment in transportation improvements within and surrounding the study area is planned to occur by 2030. The WSDOT and the City of Seattle are planning two major projects in the area: the Alaskan Way Viaduct Replacement (AWVR) and the SR 519 Phase 2 improvements.

This study assumed that the AWVR would be a limited access facility that handles traffic volumes similar to the existing Alaska Way Viaduct. It would include changes in the Atlantic/Royal Brougham area consistent with Option 10C for the south end. One of the major elements of the AWVR project is new frontage roads between S Atlantic Street and S Royal Brougham Way with a new interchange at S Atlantic Street and the 1st Avenue S ramps relocated to S Royal Brougham Way. The new S Atlantic Street interchange is assumed to provide access to and from the south along SR 99, which is not possible today in the vicinity. It should be noted that WSDOT, the City of Seattle, and King County are working together to identify a recommendation for replacement of the Alaskan Way Viaduct on the Central Waterfront. The final recommendation could be different than what is assumed in this study, but will not be known until the end of 2008.

The second phase of SR 519 will provide a westbound off-ramp from I-5 and I-90 to S Atlantic Street. The project also includes improvements at the intersection of 1st Avenue S/S Atlantic Street with a grade separated crossing at S Royal Brougham Way. An important assumption in the evaluation of the traffic forecasts includes the expected closure of S Holgate Street due to increased Amtrak and BNSF train activity.

The future evaluation for the Livable South Downtown study assumes that Link Light Rail is completed to the University of Washington. Extension of light rail to Redmond is also assumed. Light rail will have two railway stations in the study area with one at the existing Chinatown/International District bus tunnel station and the other located at the Pioneer Square bus tunnel station. Another station will be located south of S Royal Brougham Way, east of Safeco Field, along the E3 Busway (5th Avenue S).

The bus improvements identified in Metro's "Transit Now" initiative that voters approved in April 2006 were also assumed to be completed under all of the Alternatives. The initiative focuses on establishing Bus Rapid Transit (BRT) corridors. The improvements will benefit the study area by providing more direct connections between King Street Station and other regional transit centers such as West Seattle and Ballard.

Table 5-3. Programmed and Planned Transportation Improvements Assumed to be Complete by 2030

Map ID[1]	Improvement	Description	Source	Modes Affected
1	Alaskan Way Viaduct Replacement (AWVR)	Replacement of the Alaskan Way Viaduct with a freeway type structure, including 1st Avenue S frontage roads (consistent with the capacity of Option 10C)	WSDOT	Vehicle Transit Freight Parking
2	SR 519 Phase 2	Realignment of SR 519 to S Atlantic Street & grade separation of S Royal Brougham Way	WSDOT	Vehicle Freight Ped/Bike Parking
3	I-90 HOV Lanes	Installation of High Occupancy Vehicle (HOV) lanes in each direction along I-90 between Rainier Avenue S and Bellevue Way, otherwise known as reconfiguration Option 8A	WSDOT	Vehicle Transit
4	S Lander Street	Grade separation of S Lander Street between 1st Avenue S and 4th Avenue S	City of Seattle (2007-2012 CIP) Roads & Transit	Vehicle Freight Ped/Bike
5	S Jackson Street	Traffic signal, sidewalk, bicycle, and transit improvements between 12th Avenue S and Rainier Avenue S	City of Seattle (2007-2012 CIP)	Vehicle Transit Ped/Bike
6	S Holgate Street	Closure of at-grade crossing between Occidental Avenue S and 3rd Avenue S	City of Seattle	Vehicle Freight Ped/Bike
7	Spokane Street Viaduct Improvements	Closure of the WB off ramp at 4th Avenue S, adding a WB on and off ramp at 1st,Avenue S Construction of a new EB loop ramp at 4th Avenue S and addition of HOV lanes between I-5 and 1st Avenue S	City of Seattle (2007-2012 CIP) Roads & Transit	Vehicle Transit Freight
8	Sound Transit Phase I	Completion of Sounder Commuter Rail, Express Bus, and Link Light Rail between the Airport and University of Washington	Sound Transit	Transit Ped/Bike
--[2]	Metro's 6-Year Transit Improvements	Improvements identified in Metro's 6-year Transit Development Plan	Metro	Transit Ped/Bike
9	Metro's Transit Now Initiative	Improvements identified in the Transit Now Initiative	Metro	Transit Ped/Bike
10	East Link LRT Connection	Extension of Light Rail to Bellevue/Redmond across I-90	Sound Transit Phase 2	Vehicle Transit Ped/Bike
11	Colman Dock Ferry Terminal	Expansion of Colman Dock and remote holding area	WSDOT	Vehicle Transit
12	6th Avenue S / Airport Way S	Addition of a bicycle lane from S Dearborn Street to the existing I-90 multi-use trail	Bicycle Master Plan	Bike
13	7th Avenue S	Addition of a bicycle lane from S Dearborn Street to the existing I-90 multi-use trail	Bicycle Master Plan	Bike
14	12th Avenue S	Addition of a bicycle lane from S Weller Street to the existing I-90 multi-use trail	Bicycle Master Plan	Bike
15	Alaskan Way S	Addition of a designated bicycle lane along the existing pedestrian pathway	Bicycle Master Plan	Bike
16	S Jackson Street	Addition of a bicycle and/or climbing lane to extend from 5th Avenue S to Rainier Avenue S	Bicycle Master Plan	Bike

1. Numbers correspond to Figure 5-1.
2. Primarily includes service improvements and are therefore not shown on Figure 5-1.

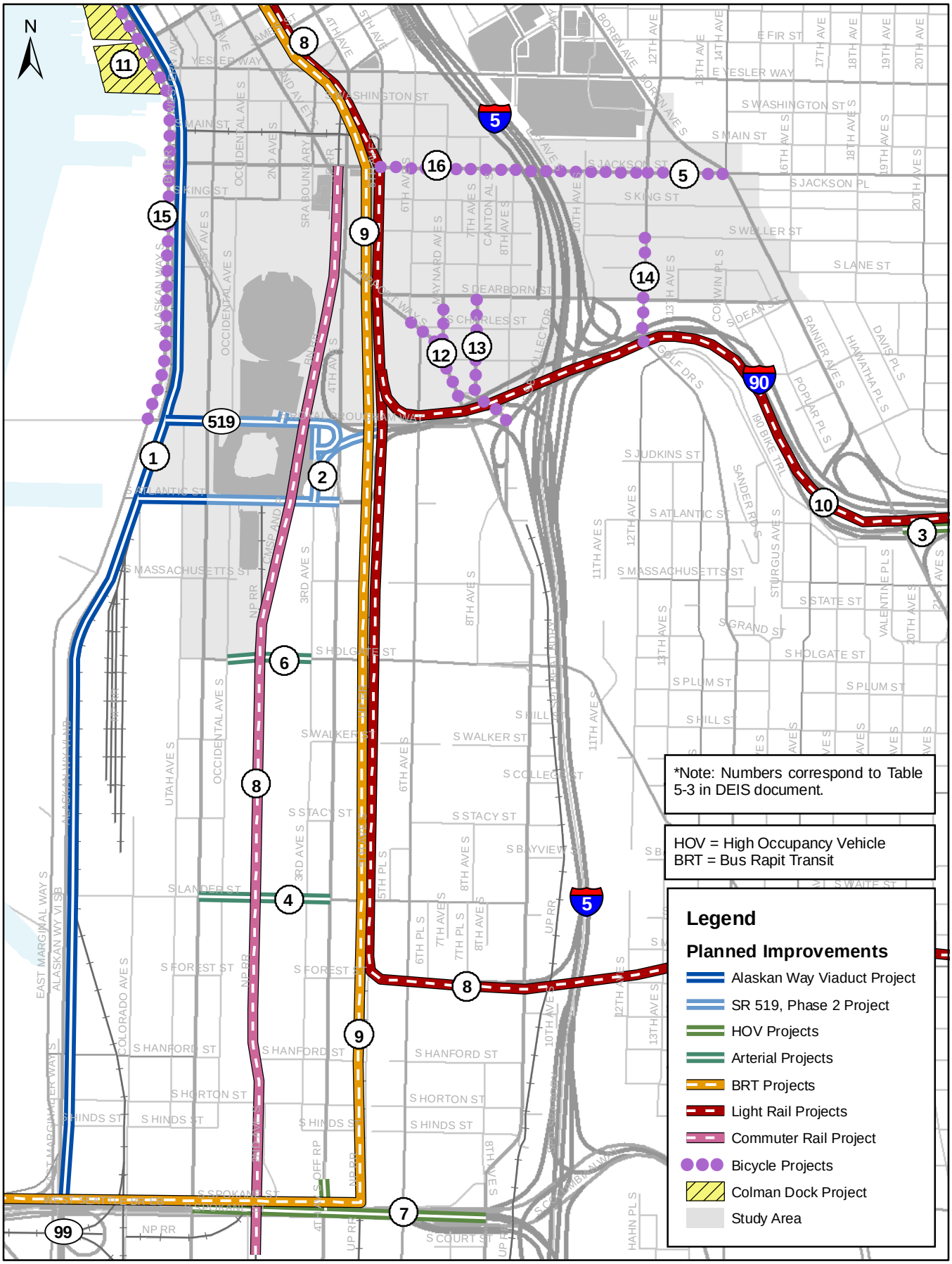

Figure 5-1
Programmed & Planned Improvements to be Completed by 2030

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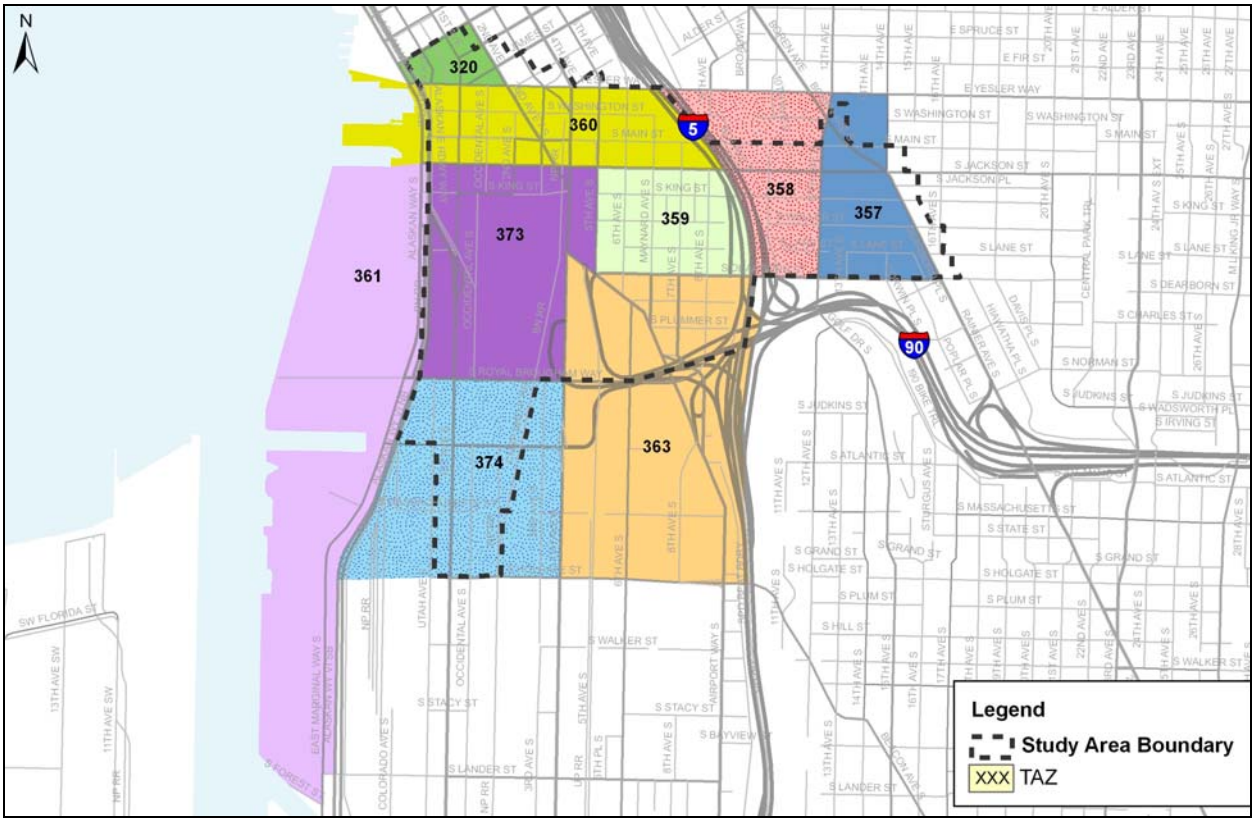
5.3 TRAVEL FORECASTS

The No-Action and Action Alternatives were evaluated under 2030 travel conditions. These conditions assume an increase in travel as the result of forecasted increases in population and employment in the Puget Sound region and the study area. The travel forecasts are estimated based on the expected number of person trips per day generated by the future land uses. This information is calculated using the City of Seattle EMME/2 travel demand model. The model is a refined version of the PSRC regional model with a greater emphasis on travel within the City of Seattle. The model includes smaller transportation analysis zones (TAZs) to provide more sensitivity to local arterials, but has also incorporated other specific enhancements such as updates to the local transit network. The model was utilized to forecast the number of vehicle trips and non-auto trips in the study area for the No-Action and Action Alternatives based on the 2030 horizon year. The resulting forecasts include the improvements listed in Table 5-2.

In the City of Seattle model, the study area is represented by approximately nine TAZs out of the total 1,453 TAZs in the entire model. Figure 5-2 provides the approximate boundaries and locations of the respective TAZs. As shown in the figure, the TAZ boundaries include some areas outside the study area, therefore information summarized at the TAZ level does not compare exactly to other data presented by neighborhood.

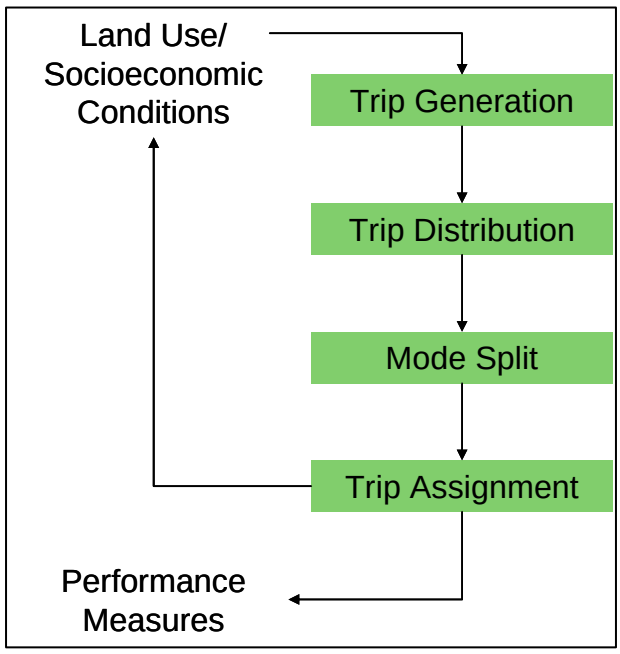
Figure 5-2. Study Area Transportation Analysis Zones (TAZ)



The AM and PM 3-hour peak periods were used to evaluate 2030 travel conditions. The model runs were completed by beginning with the No-Action Alternative and confirming regional and study area land uses along with the future transportation network assumptions. Once the assumptions had been confirmed and/or included, the model was run for each of the Action Alternatives. The only modifications to the model for each of the Action Alternatives included revisions to the land uses for the study area TAZs. No other modifications to the model were made under each Alternative.

The model includes a four-step modeling procedure (schematically illustrated in Figure 5-3) which comprises trip generation based on the land uses, trip distribution among the TAZs, modal split among the various modes available, and trip assignment on the model network. The results from the trip generation and trip distribution components of the model are described below along with a summary of the mode share and trip assignment. Much of the model data described in this section has been compared to the base year model which was calibrated to 2005 conditions.

Figure 5-3. 4-Step Model



5.3.1 Trip Generation and Mode Share

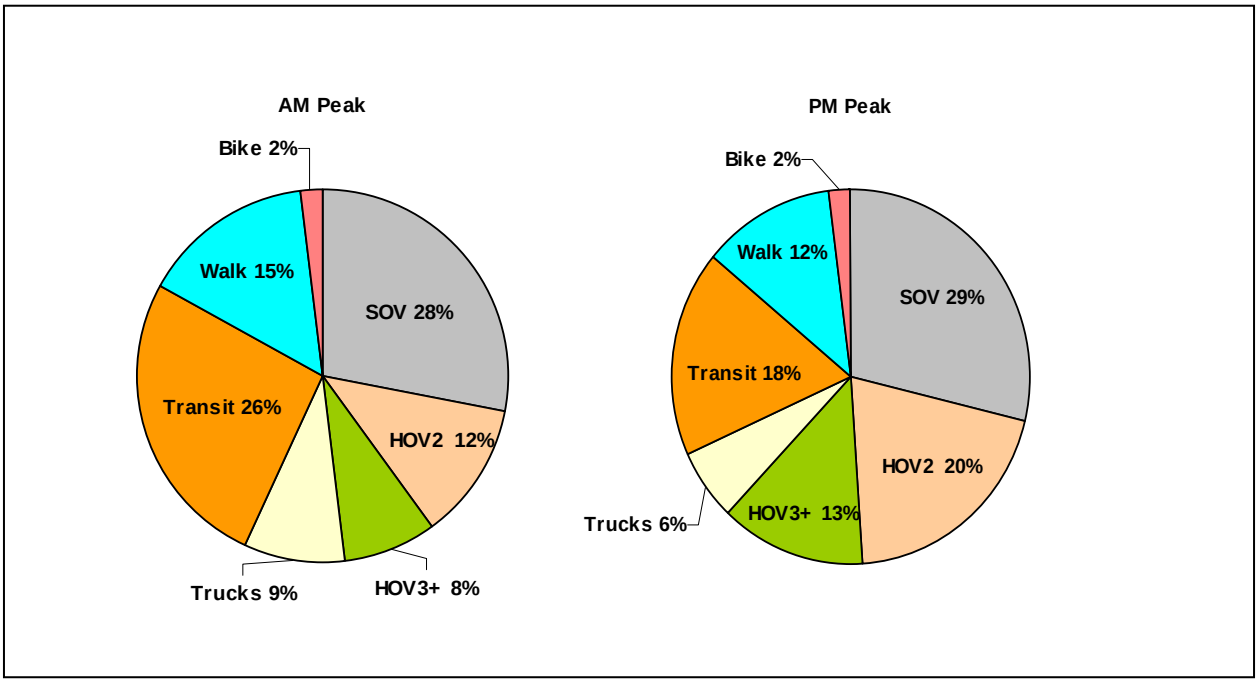
The model estimates the number of person trips generated (produced or attracted) by each transportation analysis zone based on the types of land uses within the specified zone. Residential development is typically the producer of daily trips, whereas employment is typically the attractor of daily trips. The model includes a series of residential and employment land use categories by which it estimates travel. DPD staff developed and provided the land use information to include in the model for each of the Alternatives, which were consistent with those identified in Table 5-1.

The mode choice component of the model estimates the allocation of person trips among the various travel modes. Special attention was given to mode share results to assess the shifts in travel modes between the Alternatives or even over the study horizon compared to the base year travel characteristics. Figure 5-4

illustrates the six primary modes within the model and the approximate mode share for the study area TAZs under the 2030 No-Action Alternative.

The mode share results show an increase in transit share from the 2005 base year model. During the AM peak period the percentage of transit trips increased from 24 percent in 2005 to 26 percent in 2030, while during the PM peak period transit trips increased from 16 percent in 2005 to 18 percent in 2030 under the No-Action Alternative. This shift in mode share is particularly associated with limited parking spaces in the study area and the consequent increase in parking costs.

Figure 5-4. Modal Splits for AM & PM Peak 3 Hour Periods (2030 No-Action)



The number of person trips during the AM and PM peak periods has been summarized by mode in Table 5-4. The 2030 travel characteristics have been compared to the 2005 base year information for illustrative purposes. The TAZ boundaries within the model do not match the extents of the study area; therefore, Table 5-4 also includes data for areas just outside the study area as shown in Figure 5-2.

Table 5-4. Peak Period Travel Characteristics[1] (Base Year vs. No-Action)

	AM Peak Period[2]			PM Peak Period[2]		
	2005	2030 No-Action	% Change from 2005	2005	2030 No-Action	% Change from 2005
Average Person Trips to/from Study Area	18,200	32,100	76%	28,100	46,600	66%
Average Vehicle (Auto) Trips[3] to/from Study Area	9,100	14,600	61%	14,800	23,500	59%
Percent of Study Area Person Trips made by Transit/Walk/Bike (Non-Auto)	37%	43%	--	26%	32%	--
Study Area Person Trips made by Transit/Walk/Bike (Non-Auto)	6,800	13,600	101%	7,200	13,900	94%
Percent of Study Area Person Trips made by Vehicle (Auto)	63%	57%	--	74%	68%	--
Average Study Area Auto Occupancy	1.74	2.19	--	1.68	1.99	--

Source: City of Seattle Travel Demand Model (April 2007)
1. The information displayed in this table is based on the Model TAZ boundaries which include some areas that are outside the identified study area as shown in Figure 5-2.
2. AM and PM peak periods in the SDOT Model are defined as 3 hours each.
3. Vehicle (Auto) Trips includes single occupancy vehicles, high occupancy vehicles, van pools, and trucks

No-Action Alternative

During both the AM and PM peak periods the percent increase in person trips is higher than the percent increase in vehicle trips. This explains the shift in mode share between 2005 and 2030. During the AM peak period, approximately 57 percent of person trips are by automobile in 2030 compared to 63 percent in 2005. During the PM peak period, the automobile share is approximately 68 percent of the total trips compared to 74 percent in 2005. Automobile trips include SOV, HOV, vanpool, and trucks. The increase in non-auto mode (transit/walk/bike) usage is largely attributed to the increase in parking costs in the study area and downtown Seattle in general. Since the rate of increase in person trips is higher than that of vehicle trips, the average auto occupancy within the study area increases from 1.74 passengers per car for the AM peak period in 2005 to 2.19 in 2030. During the PM peak period the study area average auto occupancy increases from 1.68 in 2005 to 1.99 in 2030.

Action Alternatives

The mode share information from the model for each of the Action Alternatives is listed in Table 5-5. Similar to the No-Action Alternative, a mode shift is observed from the 2005 conditions illustrated earlier. Yet, the percent of trips made by non-auto modes under each of the Action Alternatives remains similar to the No-Action Alternative. While the model is predicting a substantial increase in both auto and non-auto modes relative to the No-Action Alternative, it does not indicate that non-auto travel modes will comprise a higher proportion of the travel generated within the study area. It is observed from Table 5-5 that Alternative 3 provides a slightly higher percentage of non-auto mode users.

Table 5-5. Peak Period Travel Characteristics[1] (Action Alternatives)

	AM Peak Period[2]			PM Peak Period[2]		
	Alt 1	Alt 2	Alt 3	Alt 1	Alt 2	Alt 3
Average Person Trips to/from Study Area	37,790	38,270	38,790	54,080	54,550	55,250
Average Vehicle (Auto) Trips[3] to/from Study Area	17,090	17,230	17,380	27,060	27,250	27,430
Percent of Study Area Person Trips made by Transit/Walk/Bike	43%	43%	44%	31%	31%	31%
Study Area Person Trips made by Transit/Walk/Bike	16,290	16,610	16,890	16,560	16,860	17,160
Percent of Study Area Person Trips made by Auto	57%	57%	56%	69%	69%	69%
Average Auto Occupancy	2.22	2.23	2.25	2.01	2.01	2.03

Source: City of Seattle Travel Demand Model (April 2007)
1. The information displayed in this table is based on the Model TAZ boundaries which include some areas that are outside the identified study area as shown in Figure 5-2.
2. AM and PM peak periods in the SDOT Model are defined as 3 hours each
3. Vehicle (Auto) Trips includes single occupancy vehicles, high occupancy vehicles, van pools, and trucks

5.3.2 Trip Distribution and Assignment

The allocation or distribution of trips among the various TAZs in the model was estimated using the destination choice model (gravity model) which allocates trips based on impedances between the TAZs. The travel characteristics within the study area under 2030 conditions are similar to the 2005 base year. For trips generated in the study area during the AM peak period, approximately 51 percent of the trips are heading to the north, 24 percent to the south, 6 percent to the east, and 1 percent to the west. The remaining 18 percent remain within the study area. In the PM peak period approximately 41 percent of the trips are heading to the north, 35 percent to the south, 11 percent to the east, and 1 percent to the west. The remaining 12 percent stay within the study area.

The trip assignment model estimates the volume of trips on each link in the transportation system. The assignment is performed separately for the highway and transit modes and for the AM and PM peak periods. To capture the growth in trips throughout the study area, screenlines were defined along the major corridors. A screenline is an imaginary boundary through which all of the entering/exiting vehicles are collectively viewed. Since the study area was comprised of only nine TAZs, the model was very sensitive to where each TAZ loaded trips to the transportation network. Screenlines are able to capture growth trends throughout the study area and avoid any model over-assignment or under-assignment along study area corridors. The growth along screenlines was then used to determine growth rates for study area intersection approaches. Further post processing of the forecast volumes accounted for improvements to the transportation system within the study area such as completion of SR 519 Phase 2 and the Alaskan Way Viaduct.

The City of Seattle model documentation[8] provides more information about the model and how it was developed.

5.4 ARTERIAL STREET SYSTEM

This section summarizes the 2030 future year conditions along the arterial street system and identifies and compares the performance of each of the Alternatives. Peak hour traffic volumes, traffic characteristics, corridor operations and travel speeds, and intersection operations have been evaluated for the No-Action and Action Alternatives. The analysis focuses on the differences between the Action Alternatives as compared to the No-Action Alternative. The evaluation assumed completion of the planned and programmed improvements identified in Section 5.2, so each of the arterial facilities were identical under the Alternatives.

[8] Seattle Travel Model Update, Model Documentation*, City of Seattle Department of Transportation* (September 2004)

5.4.1 Forecast Traffic Volumes

The forecast traffic volumes were developed using the City of Seattle Travel Demand Model. The process by which the traffic forecasts were developed is summarized in Section 5.3. Detailed AM and PM peak hour traffic estimates for the 2030 No-Action and Action Alternatives were estimated for all the major corridors throughout the study area.

AM Peak Hour

No-Action Alternative

During the AM peak period, the travel demand model forecasted higher growth rates for westbound and northbound traffic compared to eastbound and southbound traffic. This is particularly attributed to the growth in employment centers in the Downtown area, thereby attracting more trips through the study area during the AM peak hour.

The average growth rate, as derived from the model, was 37 percent for westbound traffic compared to 33 percent for eastbound traffic and 22 percent for northbound traffic compared to 17 percent for southbound traffic. This represents the traffic growth over the 25 year horizon from the 2005 base year to the 2030 conditions. These percentages translate to about a 1 percent annual growth rate which is consistent with the historical traffic growth in the study area.

The AM peak hour traffic volumes are presented in Figure 5-5a which illustrates the 2007 and 2030 traffic volumes. Along east-west corridors the highest traffic growth is observed along the westbound direction of S Atlantic Street whereby the AM peak period traffic volume increases from 455 vehicles per hour to 1,065 vehicles per hour. This is attributed to the new SR 519 off-ramp from I-90 to S Atlantic Street which shifts traffic from the I-90 ramp at 4th Avenue S. The impacts of the completion of SR 519 Phase 2 are also observed along S Royal Brougham Way where peak hour traffic volumes decrease in the westbound direction and almost stay the same in the other direction.

S Dearborn and S Jackson Streets are also expected to have relatively high growth rates mainly between 4th Avenue S and Rainier Avenue S. The growth in traffic is primarily in the westbound direction due to the increase in jobs in Downtown Seattle employment centers.

On the other hand, along north-south corridors the highest growth takes place along Rainier Avenue S and 12th Avenue S which is influenced by developments in the Rainier Valley as well as trips destined (via Boren Avenue S) to the Downtown area. Significant growth is also visible on 1st Avenue S and 4th Avenue S, south of S Atlantic Street and north of S Jackson Street. These two corridors "funnel" traffic from I-90 and the southern communities to the Downtown area. Traffic volumes are expected to drop on 1st Avenue S, south of S Jackson Street and north of S Atlantic Street due to the Alaskan Way improvements which move the ramps off of 1st Avenue S.

Action Alternatives

The traffic forecasts for the Alternatives were very similar to the No-Action Alternative for the Pioneer Square and Chinatown/Japantown neighborhoods. The major differences would take place in Little Saigon and South of Dearborn and to a lesser extent in the Stadium Area neighborhood where traffic volumes are to increase another 5 to 15 percent over the No-Action forecasts. This is likely due to the underdeveloped nature of the neighborhoods and the magnitude of the land use changes that are proposed. The traffic volumes within Pioneer Square and Chinatown/Japantown would only grow by less than 5 percent over No-Action traffic volumes because of the amount of through-traffic and the significant amount of land use that already exists.

Overall, the Alternative traffic forecasts are similar to one another, only differing by a few percentage points along the major corridors. Each Alternative has similar amounts of land uses in total when accounting for the land use that already exists today. Together with the through-traffic, the differences in travel forecasts represent a very small share of the overall traffic. In the end, there would be little difference among the Alternatives due to the similar land use totals and resulting trip generation, the fact that vehicle trips from the study area only account for a small share of the traffic on study area roadways, and the fact some of the external traffic shifts to corridors on the periphery of the study area.

PM Peak Hour

No-Action Alternative

The PM peak hour traffic volumes for 2007 and 2030 are illustrated in Figures 5a and 5b. Traffic growth during the PM peak hour is forecast to be higher along the corridors serving traffic leaving the Downtown area. The average 25-year growth rate along southbound corridors is 25 percent compared to 21 percent along northbound corridors, whereas the average growth rate along westbound and eastbound corridors is almost balanced at about 40 percent.

Large increases in traffic volumes would be observed along both directions of S Atlantic Street which are reflective of the Alaskan Way improvements as well as the new SR 519 off-ramp and closure of S Holgate Street. PM peak traffic volumes increase along S Atlantic Street from 1,165 and 380 vehicles per hour in 2007 for the eastbound and westbound directions, respectively, to 1,825 and 865 vehicles per hour in 2030.

Growth in traffic volumes also would be significant along eastbound S Dearborn Street which is influenced by Little Saigon developments and traffic leaving the Downtown area. Westbound S Jackson Street also would see a significant increase in traffic volumes, due to growth in the Downtown area.

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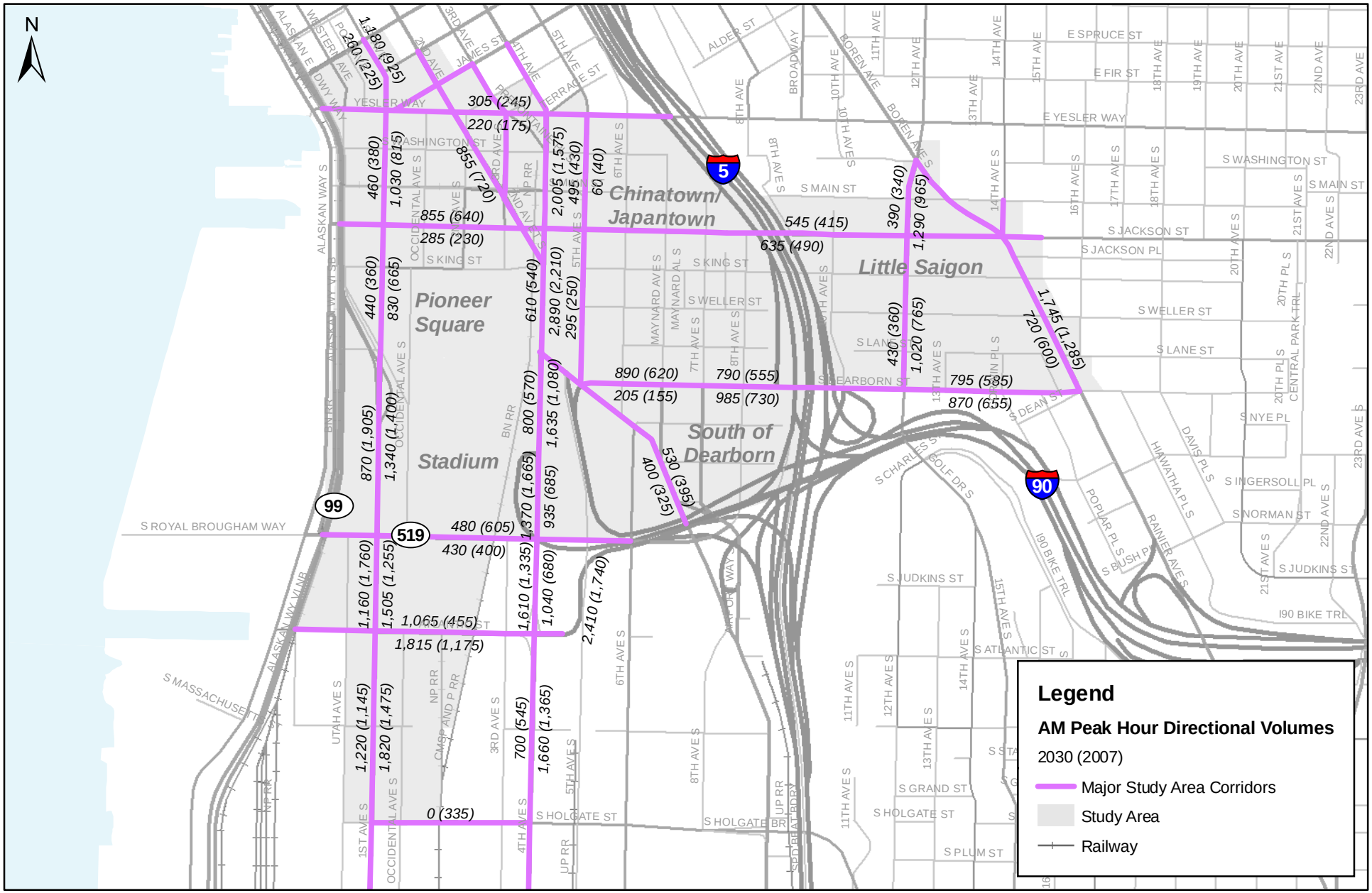

Figure 5-5a

AM Peak Hour Traffic Volumes (2030 No Action Alternative)

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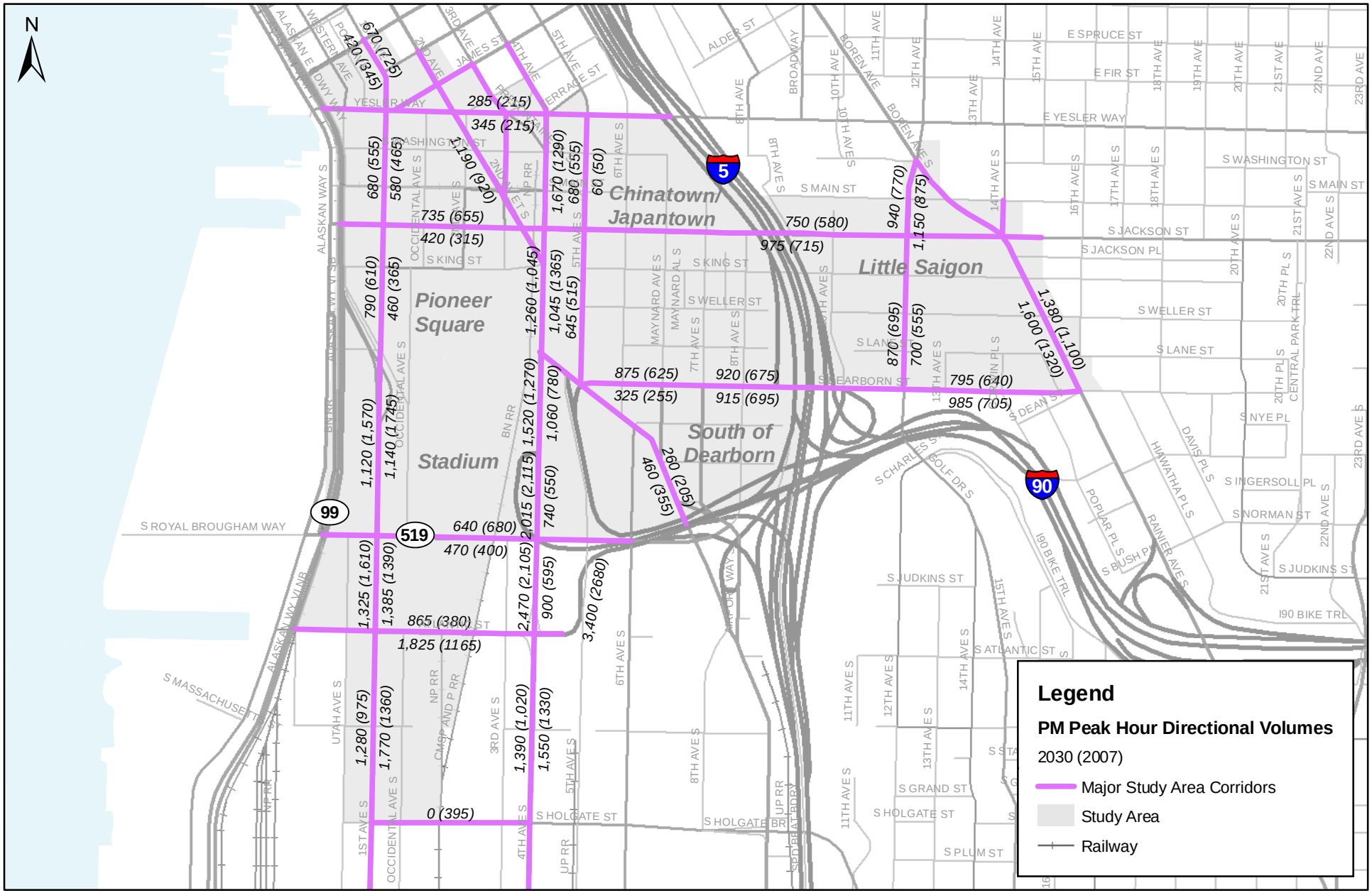

Figure 5-5b

PM Peak Hour Traffic Volumes (2030 No Action Alternative)

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As for north-south corridors, general traffic growth would be slightly higher along the southbound approaches of most corridors. 1st Avenue S traffic volumes drop north of S Atlantic Street and south of S Jackson Street due to the shift in traffic to the new frontage roads which are part of the Alaskan Way Viaduct improvements. Traffic growth on Rainier Avenue S, however, is higher on the northbound approach which is influenced by increased commercial development in Little Saigon and the Downtown area.

Action Alternatives

The Action Alternatives forecasts in the PM peak hour yield similar results to each other and to the No-Action Alternative. The greatest increase from the No-Action Alternative would take place in Little Saigon and to a lesser extent in South of Dearborn particularly due to the increase in development. Overall, the PM peak hour Alternatives' forecasts are very similar to one another.

5.4.2 Vehicle Travel Characteristics

The vehicle travel characteristics within the study area were again evaluated under 2030 conditions for both the AM and PM peak periods. Since South Downtown sits between Downtown and South Seattle, while also providing a gateway to the east via I-90, many of the vehicle trips along study area roadways do not have an origin or destination within the study area. These trips are referred to as external trips and simply use South Downtown roadways to travel between their origin and destination.

No-Action Alternative

The travel patterns in the 2030 No-Action Alternative were determined to be similar to those estimated in 2005 with about 10 percent of the total traffic on roadways within the study area having an origin or destination within the study area. In other words, 9 out of 10 vehicles use study area roadways without stopping within the study area at a residence or business. These travel characteristics are similar for both the AM and PM peak periods.

Action Alternatives

The travel patterns are identical under the Action Alternatives, indicating the increase in vehicle trips caused by the new land uses does not result in a significant shift in the external pass-through trips to other roadways. The travel patterns help explain why the corridor growth rates within the study area are at around 30 percent as opposed to the 60 percent estimated for vehicle trip generation. Since study area trips comprise roughly 10 percent of the total trips within the study area, an increase in land use intensity does not have as large an impact on the study area roadways, which is true under each of the Alternatives.

5.4.3 Corridor Operations and Travel Speeds

This section presents peak hour arterial LOS and average travel speeds for corridor segments under the 2030 No-Action Alternative and each of the Action Alternatives. As identified in Chapter 2, arterial LOS and average travel speeds are used as the primary criteria to measure the performance along the major corridors within the study area. The corridor LOS is based upon the roadway functional classification and the amount of time it takes a vehicle to navigate the length of the identified corridor. To better help normalize travel times and compare them against one another, peak hour travel speeds are presented. Corridor travel speeds are a good quantitative measurement to describe the general operational characteristics of each corridor.

The corridor operations and travel speed analysis has been prepared for both AM and PM peak hours and both directions of travel along the corridors. The results of the corridor operations and travel speeds analyses are based on the average delay per vehicle expected at each signalized intersection along the corridor, consistent with the urban arterial LOS methodology described in the 2000 *Highway Capacity Manual*. The urban arterial LOS methodology is described further in Chapter 2.

The existing signal timing plans provided by the City of Seattle were used as the starting point for the analysis of the 2030 No-Action and Action Alternatives. Where appropriate, signal timing plans were optimized to model future 2030 conditions for the No-Action Alternative. To compare the relative impacts of the Action Alternatives, no changes were made to future No-Action signal timing assumptions for the Action Alternatives.

AM Peak Hour

No-Action Alternative

Table 5-6 summarizes the corridor operations and travel speed results for the weekday AM peak hour conditions for year 2030 under the No-Action Alternative. The existing 2007 conditions are also listed for comparison purposes. Under the 2030 No-Action Alternative the corridor LOS and travel speeds are expected to decline or stay the same for all corridors except along S Royal Brougham Way.

Table 5-6. Corridor Operations and Travel Speeds—AM Peak Hour (2007 vs. 2030 No-Action)

Corridor / Arterial	Extent	Direction	Arterial LOS[1] 2007 Existing	Arterial LOS[1] 2030 No-Action Alternative
North-South Corridors			**Travel speeds in parentheses (mph)**	
1st Avenue S	Yesler Way to S Spokane Street	NB	D (15)[2]	E (13)
		SB	C (19)	D (16)
2nd Avenue Extension S	James Street to 4th Avenue S	SB	F (8)	F (5)
3rd Avenue S	James Street to S Jackson Street	NB	D (12)	D (11)
		SB	D (10)	E (8)
4th Avenue S	S Washington Street to S Spokane Street	NB	D (15)	F (7)
		SB	D (17)	F (8)
Rainier Avenue S	S Jackson Street to S Dearborn Street	NB	E (12)	F (3)
		SB	E (13)	E (11)
East-West Corridors			**Travel speeds in parentheses (mph)**	
S Jackson Street	Alaskan Way S to Rainier Avenue S	EB	E (12)	E (11)
		WB	F (10)	F (9)
S Dearborn Street	Airport Way S to Rainier Avenue S	EB	E (11)	E (11)
		WB	E (11)	F (6)
S Royal Brougham Way	Alaskan Way S to 4th Avenue S	EB	F (7)	F (9)
		WB	F (5)	F (5)
S Atlantic Street	Alaskan Way S to 4th Avenue S	EB	E (11)	F (5)
		WB	F (7)	F (2)

Source: The Transpo Group (July 2007)
1. Arterial Level of Service based on 2000 *Highway Capacity Manual* methodology for urban arterials.
2. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections.

The 2030 operations analysis assumes completion of a grade-separated structure along S Royal Brougham Way, thereby eliminating delays along the corridor caused by the existing at-grade rail crossing. In addition, there is also a shift in traffic from S Royal Brougham Way to S Atlantic Street due to the new off-ramp from I-90 as part of the SR 519 Phase 2 project. Traffic accessing 1st Avenue S from I-90/I-5 would use the new S Atlantic Street off-ramp and reduce the volume of vehicles exiting on 4th Avenue S and heading westbound

on S Royal Brougham Way. The additional traffic along S Atlantic Street is the primary reason why the travel speeds are expected to decrease significantly along S Atlantic Street as compared to existing 2007 conditions.

Other east-west corridor locations expected to have a significant reduction in travel speed in the future include the westbound direction of S Dearborn Street. This is associated with partial redevelopment of the Goodwill site as well as additional growth in traffic heading to Downtown from the Rainier Valley.

A reduction in corridor operations and travel speeds along north-south corridors is expected along each of the corridors. More than half of the arterial study corridors are forecast to operate at LOS F conditions in 2030. The corridors with the worst performance include Rainier Avenue S, 4th Avenue S and the 2nd Avenue Extension S.

New development along Rainier Avenue S and in the Rainier Valley results in additional traffic along the corridor and causes the intersection at S Dearborn Street to decline in LOS. This major intersection primarily contributes to the LOS F arterial operations in the northbound direction along with the delays experienced at the S Jackson Street intersection. A large peak directional flow is observed along Rainier Avenue S causing travel speeds to decline from 12 mph in 2007 to 3 mph in 2030.

The reduced speed along 4th Avenue S is mainly due to increased volumes resulting from the new interchange configuration at S Spokane Street as well as increased delays at the Airport Way S intersection, which in turn are influenced by new developments in Little Saigon and Rainier Valley.

Along 2nd Avenue Extension S, the decline in operations from 8 mph under existing conditions to 5 mph in 2030 is a direct result of the increase in traffic volumes causing more delays at the intersections along the corridor particularly at the intersection with S Jackson Street.

Travel speeds and LOS would not significantly decline along 1st Avenue S due to the new SR 99 frontage roads and relocation of on/off ramps to S Royal Brougham Way. However, additional traffic south of S Atlantic Street would cause operations to decline from LOS D to E in the northbound direction and LOS C to D in the southbound direction. LOS and travel speeds along 3rd Avenue would also decline slightly due to additional volumes along the corridor.

Action Alternatives

Table 5-7 summarizes the AM peak hour arterial LOS and travel speed results for the Action Alternatives and compares these results to those under the No-Action Alternative. Only a few differences are observed in travel speeds and arterial LOS between the No-Action Alternative and the Action Alternatives. Differences between the Action Alternatives are also fairly limited. The only difference in arterial LOS is expected along Rainier Avenue S and S Jackson Street. However, these differences are minor and represent a reduction in average travel speeds of 2 mph or less between the No-Action and Action Alternatives. The additional delay under the Action Alternatives is caused by increased trip generation from redevelopment within the Little Saigon neighborhood. Both the Rainier Avenue S and S Jackson Street corridors border and provide access to the Little Saigon neighborhood. One of the reasons the differences between the No-Action and Action Alternatives are not more distinct results from only 10 percent of the vehicles traveling along study area roadways having an origin or destination within the study area as described in Section 5.4.2.

Table 5-7. Corridor Operations and Travel Speeds—AM Peak Hour (2030 No-Action vs. Action Alternatives)

Corridor / Arterial	Extent	Direction	2030 Arterial LOS[1]			
			No-Action	Alternative 1	Alternative 2	Alternative 3
North-South Corridors			**Travel speeds in parentheses (mph)**			
1st Avenue S	Yesler Way to S Spokane Street	NB	E (13)[2]	E (13)	E (12)	E (12)
		SB	D (16)	D (16)	D (16)	D (16)
2nd Avenue Extension S	James Street to 4th Ave S	SB	F (5)	F (5)	F (5)	F (5)
3rd Avenue S	James Street to S Jackson Street	NB	D (11)	D (11)	D (11)	D (11)
		SB	E (8)	E (8)	E (8)	E (8)
4th Avenue S	S Washington Street to S Spokane Street	NB	F (7)	F (6)	F (6)	F (6)
		SB	F (8)	F (8)	F (8)	F (8)
Rainier Avenue S	S Jackson Street to S Dearborn Street	NB	F (3)	F (2)	F (2)	F (2)
		SB	E (11)	F (9)	F (9)	F (10)
East-West Corridors			**Travel speeds in parentheses (mph)**			
S Jackson Street	Alaskan Way S to Rainier Ave S	EB	E (11)	E (11)	E (11)	E (11)
		WB	F (10)	F (9)	F (9)	F (9)
S Dearborn Street	Airport Way S to Rainier Ave S	EB	E (11)	E (11)	E (11)	E (11)
		WB	F (6)	F (6)	F (6)	F (6)
S Royal Brougham Way	Alaskan Way S to 4th Ave S	EB	F (9)	F (10)	F (10)	F (10)
		WB	F (5)	F (5)	F (5)	F (5)
S Atlantic Street	Alaskan Way S to 4th Ave S	EB	F (5)	F (5)	F (5)	F (4)
		WB	F (2)	F (2)	F (2)	F (2)

Source: The Transpo Group (July 2007)
1. Arterial Level of Service based on 2000 *Highway Capacity Manual* methodology for urban arterials.
2. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections.

The results shown for Alternative 1 are the closest of any Action Alternative to the No-Action Alternative in terms of average travel speeds and corridor operations. Increased development in Little Saigon results in more traffic along the Rainier Avenue S corridor causing speeds to decrease by 2 mph in the southbound direction and by 1 mph in the northbound direction. However, the decrease is relatively minor at 1 mph slower compared to the No-Action Alternative. No measurable differences in travel speed and LOS are estimated along the 1st Avenue S corridor even though more commercial development is assumed in that corridor under Alternative 1. Site access issues could be associated with future development driveways, but those are difficult to capture at this level of analysis. They would be addressed as part of specific site development applications.

Alternative 2 is very similar to Alternative 1 with the only difference in average speed along 1st Avenue S in the northbound direction. Alternative 2 includes more employment opportunities in both Pioneer Square and the Stadium Area which contribute to a slightly lower average travel speed along the 1st Avenue S corridor in the northbound direction. 1st Avenue S is one of the only arterials providing direct access to Pioneer Square from the Alaskan Way Viaduct and SR 519. Since a majority of the home-to-work trips during the AM peak hour would arrive via these major regional facilities, traffic along 1st Avenue S grows slightly compared to Alternative 1 and the No-Action Alternative.

Under Alternative 3, corridor operations and average travel speeds are very similar to Alternative 2. Travel speeds are expected to decline slightly along S Atlantic Street in the eastbound directions compared to the other Alternatives. This is likely due to the fact that Alternative 3 assumes more commercial and residential development in the Stadium Area. However the impacts along Rainier Avenue S in the southbound direction are not as great as under Alternatives 1 and 2.

PM Peak Hour

No-Action Alternative

Similar trends highlighted in the AM peak hour results are also observed during the PM peak hour. Table 5-8 summarizes the corridor operations and travel speed results for the weekday PM peak hour conditions for year 2030 under the No-Action Alternative. The existing 2007 conditions are also listed for comparison purposes. Under the 2030 No-Action Alternative, the corridor LOS and travel speeds are expected to decline or stay the same for all corridors except along S Royal Brougham Way.

Table 5-8. Corridor Operations and Travel Speeds—PM Peak Hour (2007 vs. 2030 No-Action)

Corridor / Arterial	Extent	Direction	Arterial LOS[1] 2007 Existing	Arterial LOS[1] 2030 No-Action Alternative
North-South Corridors			**Travel speeds in parentheses (mph)**	
1st Avenue S	Yesler Way to S Spokane Street	NB	D (16)[2]	D (16)
		SB	D (16)	E (12)
2nd Avenue Extension S	James Street to 4th Ave S	SB	F (9)	F (8)
3rd Avenue S	James Street to S Jackson Street	NB	C (14)	D (10)
		SB	E (8)	E (8)
4th Avenue S	S Washington Street to S Spokane Street	NB	D (16)	E (12)
		SB	E (13)	F (8)
Rainier Avenue S	S Jackson Street to S Dearborn Street	NB	E (12)	F (6)
		SB	F (9)	F (8)
East-West Corridors			**Travel speeds in parentheses (mph)**	
S Jackson Street	Alaskan Way S to Rainier Ave S	EB	E (11)	E (11)
		WB	E (11)	F (9)
S Dearborn Street	Airport Way S to Rainier Ave S	EB	F (9)	F (7)
		WB	F (8)	F (9)
S Royal Brougham Way	Alaskan Way S to 4th Ave S	EB	F (8)	F (9)
		WB	F (7)	F (5)
S Atlantic Street	Alaskan Way S to 4th Ave S	EB	E (11)	F (5)
		WB	F (10)	F (8)

Source: The Transpo Group (July 2007)
1. Arterial Level of Service based on 2000 *Highway Capacity Manual* methodology for urban arterials.
2. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections.

The reduction in corridor operations and average travel speed are mainly associated with traffic leaving the Downtown area. The reduction in operations and travel speeds is not anticipated to be as great as those expected during the AM peak hour. Almost all of the east-west corridors are expected to operate at LOS F in 2030, while approximately one-half of north-south corridors are expected to operate at LOS F.

The 2030 operations analysis assumes completion of a grade-separated structure along S Royal Brougham Way, thereby eliminating delays along the corridor caused by the existing at-grade rail crossing. In addition, there is also a shift in traffic from S Royal Brougham Way to S Atlantic Street due to the new off-ramp from I-90 as part of the SR 519 Phase 2 project. All traffic estimated to access 1st Avenue S from I-90/I-5 would use the new S Atlantic Street off-ramp and reduce the amount of vehicles exiting on 4th Avenue S and heading westbound on S Royal Brougham Way. The additional traffic in the westbound direction along S Atlantic Street results in a reduction of travel speed from 10 mph to 8 mph under the No-Action

Alternative. The shift improves travel speeds on S Royal Brougham Way from 8 mph to 9 mph in the eastbound direction.

One of the corridors with the greatest difference in travel speed compared to the 2007 conditions is the eastbound direction along S Atlantic Street. A significant number of vehicles from the South Downtown and Downtown areas travel in the eastbound direction during the PM peak hour to access the regional freeways due to the direct access the corridor provides to I-90 and I-5. Delays at the 1st Avenue S (elevated) and 4th Avenue S intersections along the S Atlantic Street corridor contribute to the reduction in average travel speed from 11 mph to 5 mph in the eastbound direction. Other east-west corridor locations that would likely experience a reduction in travel speed in the future include the eastbound direction of S Dearborn Street.

Reduction in travel speeds is also observed along southbound and northbound approaches of the north-south corridors. Although most of the traffic in the PM peak hour is southbound leaving the Downtown area, travel speeds also drop along northbound approaches due to traffic signal priority being given to the southbound traffic. This can be observed mostly along 3rd Avenue S whereby the northbound travel speed dropped from 14 mph under existing conditions to 10 mph in 2030. Major reductions in travel speeds are also observed along Rainier Avenue S which are attributed to developments in Little Saigon and the Rainier Valley.

Action Alternatives

Table 5-9 summarizes the PM peak hour arterial LOS and travel speed results for the Action Alternatives and compares these results to those under the No-Action Alternative. Except for locations within the Little Saigon neighborhood, there are few differences in travel speeds and arterial LOS between the Action Alternatives and between the No-Action Alternative. The only corridors that are expected to decline in average travel speeds under the Action Alternatives compared to the No-Action Alternative include Rainier Avenue S, S Jackson Street, and S Dearborn Street; only S Jackson Street shows a decline in LOS as compared to the No-Action Alternative. It is important to note again that one of the reasons the differences between the No-Action and Action Alternatives are not more significant for other corridors is the fact that only 10 percent of the vehicles traveling along study area roadways would have an origin or destination within the study area as described in Section 5.4.2.

Table 5-9. Corridor Operations and Travel Speeds—PM Peak Hour (2030 No-Action vs. Action Alternatives)

Corridor / Arterial	Extent	Direction	2030 Arterial LOS[1]			
			No-Action	Alternative 1	Alternative 2	Alternative 3
North-South Corridors			**Travel speeds in parentheses (mph)**			
1st Avenue S	Yesler Way to S Spokane Street	NB	D (16)[2]	D (16)	D (16)	D (16)
		SB	E (12)	E (12)	E (12)	E (12)
2nd Avenue Extension S	James Street to 4th Ave S	SB	F (8)	F (8)	F (8)	F (8)
3rd Avenue S	James Street to S Jackson Street	NB	D (10)	D (10)	D (10)	D (10)
		SB	E (8)	F (7)	F (7)	F (7)
4th Avenue S	S Washington Street to S Spokane Street	NB	E (12)	E (12)	E (12)	E (12)
		SB	F (8)	F (8)	F (8)	F (8)
Rainier Avenue S (NB)	S Jackson Street to S Dearborn Street	NB	F (6)	F (4)	F (4)	F (4)
		SB	F (8)	F (2)	F (2)	F (2)
East-West Corridors			**Travel speeds in parentheses (mph)**			
S Jackson Street	Alaskan Way S to Rainier Ave S	EB	E (11)	E (11)	E (11)	E (11)
		WB	F (9)	F (8)	F (8)	F (8)
S Dearborn Street	Airport Way S to Rainier Ave S	EB	F (7)	F (5)	F (2)	F (1)
		WB	F (9)	F (9)	F (9)	F (9)
S Royal Brougham Way	Alaskan Way S to 4th Ave S	EB	F (9)	F (10)	F (10)	F (10)
		WB	F (5)	F (5)	F (5)	F (5)
S Atlantic Street	Alaskan Way S to 4th Ave S	EB	F (5)	F (5)	F (5)	F (5)
		WB	F (8)	F (8)	F (8)	F (8)

Source: The Transpo Group (July 2007)
1. Arterial Level of Service based on 2000 *Highway Capacity Manual* methodology for urban arterials.
2. Arterial speed in miles per hour which includes the average speed delay encountered at each signalized intersection along the corridor as well as delays at mid-block sections.

The S Royal Brougham Way corridor actually improves slightly in the eastbound direction, compared to existing conditions, because of the SR 519 Phase 2 project which eliminates the at-grade crossing and builds and elevated roadway structure between Safeco Field and the Qwest Field Event Center.

The primary differences between the Action and No-Action Alternatives are along the corridors that provide access to the Little Saigon neighborhood. The additional delay under the Action Alternatives for corridors such as Rainier Avenue S, S Dearborn Street, and S Jackson Street is believed to be primarily attributable to increased trip generation from projected development within the Little Saigon neighborhood.

Consistent with the AM peak hour results, Alternative 1 is similar to the No-Action Alternative in corridor operations and average travel speeds. The most significant difference between Alternative 1 and No-Action is expected along Rainier Avenue S. The southbound direction of Rainier Avenue S declines from an average operating speed of 8 mph to 2 mph under Alternative 1. A projected increase in traffic volumes at the S Jackson Street and S Dearborn Street intersections also creates significant delays along the corridor. A decline in travel speed is also observed along the eastbound direction of S Dearborn Street manifested by the projected land use increases in the surrounding area.

Corridor operations under Alternative 2 are very similar to Alternative 1 with the only measurable differences in the eastbound directions of S Dearborn Street. This section of S Dearborn Street declines further in travel speed under Alternatives 2 and 3 compared with Alternative 1 because of the higher land uses projected in the South of Dearborn area which are higher from those of the No-Action Alternative by 10 percent, 21 percent, and 31 percent for Alternatives 1, 2, and 3 respectively.

Alternative 3 appears to have the most impact on corridor operations and travel speeds compared to the other two Action Alternatives. This is more obvious along the eastbound direction of S Dearborn Street.

Under all Action Alternatives travel speed declines along Rainier Avenue S to 2 mph from the 8 mph under No-Action conditions. This is manifested by the developments projected in Rainier Valley and South of Dearborn which would contribute to increased delays at both intersections with S Jackson Street and S Dearborn Street.

5.4.4 Intersection Operations

To assess the impacts of each Alternative on intersection traffic operations, the number of intersections along each corridor operating at or below LOS E operations are presented and discussed. Intersection LOS results are presented for 2030 AM and PM peak hour conditions. LOS is a standard measure of intersection performance that describes the average delay encountered by vehicles entering the intersection. LOS is measured on a scale from A (best level of service, representing free flow conditions), to F (very congested, break-down conditions). All signalized intersections along the study corridors were analyzed for the AM and PM peak hours. In addition, signalized intersections created as a result of implementation of the planned or programmed improvements were also incorporated into the analysis.

AM Peak Hour

No-Action Alternative

Several new intersections created as part of the SR 519 Phase 2 and the Alaskan Way Viaduct Replacement (AWVR) projects have been assumed under the No-Action conditions. Two new intersections were created by the new frontage roads west of 1st Avenue S between S Atlantic Street and S Royal Brougham Way. Another intersection was created along S Atlantic Street just west of the 4th Avenue S ramps as a result of the new I-90 off-ramp.

Along S Royal Brougham Way, the signalized intersections in 2030 include those (from east to west) at 4th Avenue S, Occidental Avenue S, 1st Avenue S, and the new AWVR Frontage Road. In addition, S Royal Brougham Way is assumed to be an elevated structure east of Occidental Avenue S with the completion of SR 519 Phase 2. Along the S Atlantic Street corridor the signalized intersections in 2030 include the 4th Avenue S Ramps, SR 519/I-90 off-ramp, 1st Avenue S, AWVR Frontage Road, and Alaskan Way S. Additional improvements at S Atlantic Street/1st Avenue S intersection have been assumed in the analysis as part of the SR 519 Phase 2 project and include dual southbound left-turn lanes.

As summarized in Table 5-10, a total of seven intersections are expected to operate at LOS E or F, out of the 49 signalized intersections that were evaluated under the No-Action Alternative for the AM peak hour. Of these seven intersections, five intersections would operate at LOS F while the rest would be at LOS E. While the information in the table counts an intersection more than once if it is located on two corridors, it provides an overall idea of how intersection operations would impact corridor operations.

The five intersections operating at LOS F are:

- 1st Avenue S/S Spokane Street
- 1st Avenue S/S Atlantic Street
- 4th Avenue S/S Spokane Street
- 4th Avenue S/Airport Way S
- Rainier Avenue S/S Jackson Street

The intersections of Rainier Avenue S/S Jackson Street and 4th Avenue S/Airport Way S deteriorate from LOS D and C under 2007 existing conditions to LOS F in the 2030 No-Action Alternative. The decline in operations is attributed to increases in through-traffic generated by external regional land use growth that would use Rainier Avenue S and 4th Avenue S to access Downtown. In addition, increased development in

Little Saigon would further increase traffic in the area and also contributes to the increase of traffic volumes at these intersections.

The 1st Avenue S/S Atlantic Street intersection in 2030 would operate at LOS F despite the widening of the intersection as part of the SR 519 project. This results from the shift in traffic from S Royal Brougham Way to S Atlantic Street and the closure of S Holgate Street, which would more than offset the capacity improvements at the intersection.

The intersections that would operate at LOS E are located at 4th Avenue S/S Weller Street and AWV Frontage Road/ S Royal Brougham Way. At the 4th Avenue S/S Weller Street intersection, the decline in LOS from B under 2007 existing conditions to LOS E in 2030 is due to increased traffic volumes along the northbound approach. The poor operations at the AWV Frontage Road/S Royal Brougham Way are the result of a large amount of traffic using the Alaskan Way Viaduct and heading to and from Downtown and areas to the south.

Table 5-10. Intersection Operations—AM Peak Hour

Corridor/Arterial	Number of Intersections[1]	Number of Intersections Operating at LOS E or F in 2030			
		No-Action	Alternative 1	Alternative 2	Alternative 3
North – South Corridors					
1st Avenue S	10	2	2	2	2
2nd Avenue Extension S	5	0	0	0	0
3rd Avenue S	2	0	0	0	0
4th Avenue S (NB)	10	3	3	4	4
4th Avenue S (SB)	7	3	3	4	4
Rainier Avenue S	2	1	2	2	2
East – West Corridors					
S Jackson Street	10	1	1	1	1
S Dearborn Street	9	0	1	2	2
S Royal Brougham Way[2]	4	1	1	2	2
S Atlantic Street[2]	5	1	1	1	1

Source: The Transpo Group (July 2007)
1. Number of signalized intersections along the corridor segment.
2. Includes new signalized intersections constructed as part of the SR 519 Phase 2 and the Alaskan Way Viaduct reconstruction.

Action Alternatives

Table 5-10 also summarizes the number of intersections operating below LOS D in each corridor during the AM peak hour for each Action Alternative as compared to the results of the future No-Action Alternative.

Under the Action Alternatives similar trends are observed for all intersections that would operate poorly under the No-Action Alternative. Under Alternative 1, one more intersection would operate below LOS D. This is the intersection of Rainier Avenue S/S Dearborn Street. The LOS at this intersection would decline from LOS D under the No-Action Alternative to LOS E under Alternative 1 due to increased development in the Little Saigon neighborhood.

Under Alternative 2, a total of 3 additional intersections would operate below LOS D as compared to the No-Action Alternative. Similar to Alternative 1, the Rainier Avenue S/S Dearborn Street intersection would operate at LOS E. The two other intersections operating below LOS D are Airport Way S/S Dearborn Street and 4th Avenue S/S Royal Brougham Way which are forecast to decline from LOS D and C, respectively, to LOS E. This is a result of additional traffic from development in Little Saigon and along 4th Avenue S.

In addition, the intersection of 4th Avenue S/S Weller Street would operate at LOS F under Alternative 2 due to more concentrated development along 4th Avenue S. The intersection operates at LOS E under Alternatives 1 and 3 because commercial growth would be more distributed throughout the study area.

Ten intersections would also operate below LOS D under Alternative 3. These are the same locations as under Alternative 2 except that under this Alternative the intersection of S Royal Brougham Way/AWV Frontage Road would operate at an LOS F (compared to LOS E under the other two Alternatives). This is due to increased development in the Stadium Area which attracts more traffic.

As a result, the number of intersections operating below LOS D is lowest for Alternative 1, with two additional intersections operating under LOS D in Alternatives 2 and 3.

PM Peak Hour

No-Action Alternative

As discussed in the AM peak hour intersection LOS summary, several new intersections have been assumed in the stadium vicinity due to completion of SR 519 Phase 2 and the Alaskan Way Viaduct replacement projects. As summarized in Table 5-11, seven intersections would operate below LOS D during the PM peak hour under the No-Action Alternative of the 49 intersections evaluated. Out of the seven intersections, five would operate at LOS F, with the remaining operating at LOS E. The intersections operating at LOS F would include:

- Rainier Avenue S/S Jackson Street,
- Rainier Avenue S/S Dearborn Street,
- 4th Avenue S/S Royal Brougham Way,
- 1st Avenue S/S Lander Street, and
- 4th Avenue S/S Spokane Street.

Those operating at LOS E would be 1st Avenue S/S Royal Brougham Way and 4th Avenue S/S Lander Street.

A primary reason these intersections would operate below LOS D is due to the PM peak hour commute where a significant amount of traffic is exiting the Downtown employment centers. Each of the intersections is located along principal arterials that connect with the regional freeway system and provide access to south Seattle. Other traffic uses 1st Avenue S and 4th Avenue S to access I-5 and eastbound I-90, creating congestion at the intersections with S Royal Brougham Way. Intersections along Rainier Avenue S are expected to decline from LOS D under 2007 existing conditions to LOS F under the No-Action Alternative. The increase in traffic would be caused by growth in the Rainier Valley and increased development in the Little Saigon neighborhood.

The intersection at 1st Avenue S/S Atlantic Street would improve from LOS E under 2007 existing conditions to LOS D under the No-Action Alternative due to improvements at this intersection as part of the SR 519 Phase 2 project. This project will add dual southbound turn lanes along 1st Avenue S.

It is anticipated that both intersections along S Lander Street (with 1st Avenue S and with 4th Avenue S) would operate below LOS D due to the traffic diverted to it from S Holgate Street which is assumed closed in 2030 as well as the prohibition of the northbound left turn at the intersection of 4th Avenue S and S Atlantic Street as part of the SR 519 project.

At S Spokane Street, the proposed interchange configuration would shift traffic at the intersection with 4th Avenue S from the westbound approach to the northbound approach and would yield a LOS F. It is worth mentioning that signal timing and phasing data were kept the same as existing conditions despite the changes in geometric configuration at this intersection.

Table 5-11. Intersection Operations—PM Peak Hour

Corridor/Arterial	Number of Intersections[1]	Number of Intersections Operating at LOS E or F in 2030			
		No Action	Alternative 1	Alternative 2	Alternative 3
North – South Corridors					
1st Avenue S	10	2	3	3	3
2nd Avenue Extension S	5	0	0	0	0
3rd Avenue S	2	0	0	0	0
4th Avenue S (NB)	10	3	3	3	3
4th Avenue S (SB)	7	3	3	3	3
Rainier Avenue S	2	2	2	2	2
East – West Corridors					
S Jackson Street	10	1	2	2	2
S Dearborn Street	9	1	2	2	2
S Royal Brougham Way[2]	4	2	3	3	3
S Atlantic Street[2]	5	2	2	2	2

Source: The Transpo Group (July 2007)
1. Number of signalized intersections along the corridor segment.
2. Includes new signalized intersections constructed as part of the SR 519 Phase 2 and the Alaskan Way Viaduct reconstruction.

Action Alternatives

Table 5-11 also summarizes the intersection operations for each of the Action Alternatives and compares the number of intersections operating below LOS D to those under the No-Action Alternative. During the PM peak hour, the intersection operations under the Action Alternatives are similar to the No-Action Alternative results. The same intersections operating below LOS D under the No-Action Alternative during the PM peak hour continue to operate below LOS D under all Action Alternatives.

However, under each of the Action Alternatives a total of twelve intersections would operate below LOS D, five more than under the No-Action Alternative. The additional intersections below LOS D include:

- 12th Avenue S/S Jackson Street
- Airport Way S/S Dearborn Street
- AWV Frontage Road/S Royal Brougham Way
- AWV Frontage Road/S Atlantic Street
- 1st Avenue S/S Atlantic Street

All these intersections are at LOS E except that of Airport Way S/S Dearborn Street which would decline from LOS D under the No-Action Alternative to LOS F under the Action Alternatives, due to developments planned along or adjacent to the S Dearborn Street corridor. A significant amount of new development is planned for the Little Saigon area under each of the Action Alternatives which would result in additional traffic along corridors such as S Jackson Street, 12th Avenue S, S Dearborn Street, and Rainier Avenue S. The intersection of 12th Avenue S/S Jackson Street would decline from an LOS D under the No-Action Alternative to LOS E under the Action Alternatives.

The impacts of increased development in the Stadium Area would cause the new AWV Frontage Road intersections with S Royal Brougham Way and S Atlantic Street to decline to LOS E operations. These intersections would provide access to the Alaskan Way Viaduct so they are anticipated to serve a significant number of vehicles during the PM peak hour. The intersection of 1st Avenue S/S Atlantic Street would fall from a LOS D under the No-Action Alternative to an LOS E for each of the Action Alternatives. The

intersection of 1st Avenue S/S Royal Brougham Way would continue to operate at LOS E for Alternatives 1 and 2, but decline to LOS F under Alternative 3 due to increased development in the Stadium Area.

In summary, Alternative 1 is most similar to the No-Action Alternative during PM peak hours in terms of the number of intersections operating below LOS D. Alternative 2 and Alternative 3 perform very similar to each other with Alternative 3 having more impacts in the Stadium Area than Alternative 2. The overall differences in intersection operations are not very significant between the Action Alternatives, since traffic operations in the study area are greatly influenced by development outside the area, and because South Downtown acts as a gateway to Downtown.

5.5 TRANSIT

This section summarizes the 2030 future year transit conditions and identifies and compares the performance of the Urban Village Transit Network (UVTN) corridors under each of the Alternatives. The transit performance measures are consistent with those developed as part of the Seattle Transit Plan. The evaluation focuses on the expected growth and distribution in transit ridership and the impacts on the local bus routes under each of the Alternatives. The local bus routes are expected to serve a majority of the transit needs within the study area and therefore are likely to be most impacted by the Alternatives.

The analysis focuses on the differences between the Action Alternatives as compared to the No-Action Alternative. The evaluation assumes completion of the planned and programmed improvements identified in Section 5.2. These improvements include completion of Sound Transit Phase 1 and portions of Phase 2 (East Link). Other improvements included those projects identified in Metro's 6-year Transit Development Plan, along with those identified as part of the Transit Now Initiative that was passed by voters in 2006.

5.5.1 Transit Growth

The City of Seattle developed a Transit Plan in 2005 to help support increased land use density within the City and specifically within the Urban Village growth centers. City policies focus on moving people rather than vehicles, with transit identified as an efficient and effective way to move more people. As discussed previously, a large investment in transit improvements is expected between now and 2030 to accommodate increased land use density throughout the City. As a result of these transit investments combined with the increase in land use, there will be a greater demand for transit. Before the evaluation of the impacts to the transit system were conducted for each of the Alternatives, the growth in transit demand for year 2030 was assessed and compared between Alternatives as summarized in Table 5-12. The transit demand is based on the trip generation results presented in Section 5.3 with similar mode shares as those observed today, but with almost a doubling of transit trips in the study area.

Table 5-12. Study Area Transit Demand Growth in Person Trips (AM Peak Period)[1]

		2030			
Neighborhood	**2007[2]**	**No Action**	**Alternative 1**	**Alternative 2**	**Alternative 3**
Pioneer Square/ Chinatown/Japantown	5,250	10,400	11,750	11,800	11,800
Stadium Area/South of Dearborn	150	250	350	350	500
Little Saigon	550	1,200	2,100	2,050	2,000
Total	**5,950**	**11,850**	**14,200**	**14,200**	**14,300**
Growth vs. 2007 Existing		99%			
Growth vs. 2030 No-Action			20%	20%	21%

Source: City of Seattle Travel Demand Model (April 2007)
1. The information displayed in this table is based on the Model TAZ boundaries which include some areas that are outside the identified study area.
2. Based on King County Metro ridership data (Fall 2006) adjusted to 3-hour period and distributed based on model distribution pattern.

The transit ridership forecasts are based primarily on the City's travel demand model developed for the AM peak period extending from 6:00 am to 9:00 am. Since transit primarily serves commuters during the peak periods, it is assumed that the PM peak period is the inverse of the AM peak period. Therefore transit growth is summarized for the AM peak period.

No-Action Alternative

Within the study area, transit alightings and boardings is expected to increase by approximately 99 percent (almost double) between the 2007 existing year and the 2030 No-Action Alternative. While much of the growth in transit trips is expected to occur in Pioneer Square, Chinatown, and Japantown, the highest increase on a percentage basis is forecast to occur in the Little Saigon area with ridership more than doubling over 2007 conditions. The growth in transit trips in Little Saigon is due to the increase in residential and commercial land uses in that area. In addition, Little Saigon is a farther distance from Downtown compared to the other neighborhoods, thereby making transit a more attractive alternative than walking. The Stadium and South of Dearborn areas are not expected to have a significant increase in the amount of transit riders due to the character of the land use which is more supportive of auto and truck trips.

Action Alternatives

The increase in land uses as part of the Action Alternatives creates more demand for transit. Table 5-12 also lists the expected amount of transit trips by neighborhood for the Action Alternatives. Each of the Action Alternatives would generate a higher transit demand than the No-Action Alternative by approximately 20 to 21 percent. This additional demand is due to the larger number of residents and employment that are forecast for the study area under the Action Alternatives. Alternatives 1 and 2 are expected to result in similar levels of demand to each other, whereas the Alternative 3 will be slightly higher in the Pioneer Square/International District and Stadium Area/South of Dearborn neighborhoods.

5.5.2 Transit Travel Patterns

The primary distribution and travel patterns of person transit trips within the study area provide an understanding of how the Alternatives may impact the transit system. Based on the City's travel demand model, the origins and destinations of transit trips were reviewed for TAZs within the study area. Each of the Alternatives are estimated to have similar patterns of transit trip distribution. As illustrated in Figure 5-6, the north-south flow is the most dominant direction for transit trips generated by the land uses in the study area. During the 2030 AM peak period 78 percent of trips produced by the study area would be destined for areas north such as Downtown Seattle and the University of Washington. Approximately 17 percent would be oriented to the south, 4 percent to the east, and 1 percent would stay within the study area. During the PM peak period, the inverse of these are assumed. For example, 78 percent of the trips destined for the study area during the afternoon period would originate from the north.

Transit trips destined for the study area during the AM peak period are also illustrated in Figure 5-6. Almost equal shares of transit trips would be attracted to the study area from north and south (38 percent and 39 percent, respectively). Similarly, about 11 percent would come from the west (the ferry system is evaluated as a part of transit serving the South Downtown area) and from the east. During the PM peak period the inverse of these patterns would occur, so that 38 percent go north and 39 percent go south.

These travel patterns indicate that land use within the study area are more likely to impact bus routes serving areas to the north and south of the study area.

5.5.3 Bus Performance Measures

The four performance indicators as described in Chapters 2 and 4 were analyzed based on future 2030 conditions for each of the Alternatives. The performance measures focus on the UVTN corridors and measure the quality of transit service that is provided. The measures include Frequency, Span of Service, Travel Speed and Passenger Loading. The existing transit system performance was assessed as part of the

Affected Environment section (Chapter 4) and is used to compare against future 2030 operations. The first two performance measures reflect the availability and density of the transit supply regardless of the level of demands in transit ridership. The other two performance measures take ridership demands into consideration.

Frequency

Frequency is an indicator of the density of service provided during a non-peak hour. Service frequency on a UVTN corridor is described by the "duration of the maximum scheduled gap between consecutive buses" regardless of destination. As discussed in Chapter 2, any corridor not having bus headways less than or equal to 15 minutes is considered passing and any value greater than 15 minutes is considered deficient. A deficiency in transit frequency along the Rainier Avenue S and Yesler Way corridors was noted under existing conditions.

No-Action Alternative

Under the No-Action Alternative, the two corridors not anticipated to meet the existing frequency measure (Rainier Avenue S and Yesler Way) are still assumed to have segments not having 15 minute frequency. While there have been discussions of having Rainier Avenue S become a Bus Rapid Transit (BRT) corridor, it is likely the segment of roadway north of S Jackson Street would continue to offer service that would not meet the 15-minute frequency threshold. No known increase in bus frequency is identified for Yesler Way as part of Metro's long-range plans. All the other UVTN corridors are still assumed to continue meeting the frequency measure in 2030.

Action Alternatives

The Action Alternatives would be identical to the No-Action results because no changes to local bus service are assumed between No-Action and the Action Alternatives.

Span of Service

Span of service is an indicator of the availability of transit service throughout the day. Each UVTN corridor segment must provide bus service 12 hours a day to meet the current acceptable standard. The standard is defined in more detail as part of Chapter 2. The only deficiency observed in 2006 was on the 12th Avenue S corridor which has bus service for approximately 10 hours a day, 2 hours short of the minimum standard. However, the span of service standards should be increased gradually in the future to meet the original objective set by Seattle Transit Plan of 16 hours per day.

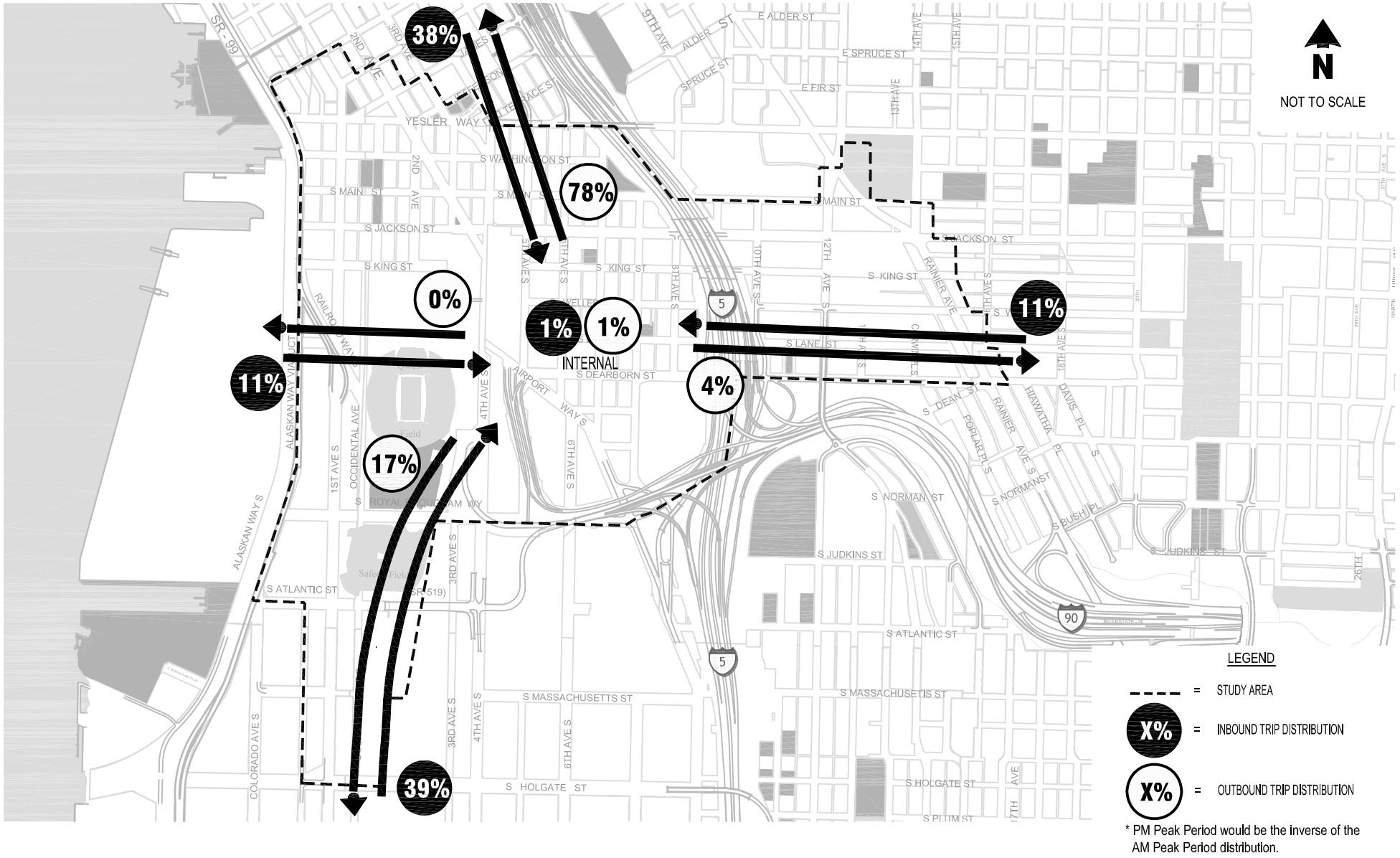

Figure 5-6
Transit Trip Distribution - 2030 AM Peak Period

Livable South Downtown EIS

The Transpo Group

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No-Action Alternative

The 12th Avenue S corridor is assumed to continue providing the same span of service as reported for the existing 2006 conditions. Increases in the span of service for this corridor are not identified in Metro's long-range plans. Therefore, this corridor will not meet the span of service performance measure under the No-Action Alternative. All the other UVTN corridors in the study area are assumed to continue meeting the span of service measure in 2030 based on either the existing span of service being maintained or the minimum 16 hour threshold set by the Seattle Transit Plan.

Action Alternatives

The Action Alternatives are assumed to be identical to the No-Action results. No changes to local bus service are assumed between No-Action and the Action Alternatives.

Travel Speed

The transit travel time or operating speed is expressed as the percentage of post speed limit (%PSL). The minimum threshold has been identified as 30 percent of the posted speed limit. The measure reflects the amount of time it takes a bus to travel along a corridor accounting for general traffic congestion and the dwelling time to load/unload passengers. The measure is described in more detail in Chapter 2.

Existing travel speed conditions for the UVTN corridor segments, reported for 2006 based on field data collected by the UVTN monitoring project, revealed deficient travel speeds along some corridor segments located within the study area. These segments included the east-west corridors of S Jackson Street and Yesler Way. Most of the north-south corridors met the existing standard with only segments in the Downtown area such as the 2nd Avenue Extension S and 3rd Avenue S operating below the 30 percent standard.

General vehicle and truck volumes are expected to increase on average by 30 percent by 2030 under the No-Action Alternative. This results in lower speeds and higher delays along the arterial street segments and at intersections. Increased congestion along the arterials will create a heavier burden on transit operation and deteriorate the reliability of service. An estimate was made for the future transit speed based on the analysis of the arterial performance measures described in Section 5-4. The arterial operations analysis results were adjusted to account for transit dwell time anticipated at bus stops from the increase in regional and local bus ridership. Table 5-13 and Figure 5-7 show the anticipated transit speed indicator expressed as a percentage of posted speed for each of the Alternatives. In nearly all of these locations, under any Alternative, the travel speed threshold would not be met.

Table 5-13. Transit Travel Speed Indicator for UVTN Corridors

			2030 Travel Speed as Percentage of Posted Speed Limit[1]			
Origin	**From**	**To**	**No Action**	**Alternative 1**	**Alternative 2**	**Alternative 3**
1st Ave S	Yesler Way	S R. Brougham Way	24%	23%	20%	23%
1st Ave S	S R. Brougham Way	S Holgate St	19%	18%	15%	16%
2nd Ave Ext S	Cherry St	4th Ave S	9%	9%	9%	9%
3rd Ave S	James St	S Jackson St	14%	14%	14%	14%
4th Ave S	Yesler Way	S R. Brougham Way	17%	16%	16%	15%
Rainier Ave S	S Washington St	S Dearborn St	10%	6%	6%	6%
S Jackson St	1st Ave S	8th Ave S	16%	16%	16%	16%
S Jackson St	8th Ave S	Boren Ave S	14%	10%	10%	10%
City of Seattle Passing Threshold				**30%**		

Source: The Transpo Group (July 2007)
1. Based upon anticipated arterial congestion and increase in transit boardings and alightings.

No-Action Alternative

All UVTN corridor segments within the study area are expected to operate below the minimum acceptable standard of 30 percent of the posted speed limit under the No-Action Alternative. This would include the corridors that are currently operating at acceptable operating speeds such as 1st Avenue S, 4th Avenue S and Rainier Avenue S. The results account for the future operational conditions of the corridor segment combined with the dwell time at bus stops. The corridor with the lowest operating speed is 2nd Avenue Extension S. It is expected to decline from 22 percent in 2007 to 9 percent under the No-Action Alternative. The other corridors are forecast to operate below 20 percent except 1st Avenue S section between Yesler Way and S Royal Brougham Way which is expected to operate at 24 percent of the posted speed limit. Lower running speed due to higher delay along corridors and at intersections are the main reasons leading to the deterioration of transit operating speed.

Action Alternatives

Most of Action Alternatives are expected to operate at even lower speeds than those under the No-Action Alternative. The reduced speeds are the result of increased delays along the arterials combined with additional bus passengers that increase dwell times. All corridor travel speed indicators are forecast to drop several percentage points under each of the Action Alternatives, except for the S Jackson Street section between 1st and 8th Avenues S, and 2nd Avenue Extension S and 3rd Avenue S, that are expected to remain operating almost at the same operating speed as the No-Action Alternative. This is due to similar arterial operations and travel speeds in the future. Travel speed along 1st Avenue S is most affected by Alternative 2, whereas Alternative 3 has a further slight decline in transit speed along 4th Avenue S due to increased commercial growth on the corridor creating more congestion and delays for buses.

Passenger Loading

The passenger loading factor reflects the quality of trip in terms of convenience and comfort. This is expressed as the ratio of passengers to the corridor service capacity. The corridor service capacity is calculated by multiplying the bus frequency by the average number of bus seats. The minimum passing threshold is 90 percent of seated capacity as defined by the Seattle Transit Plan. The passenger loading measure is described in more detail in Chapter 2.

To determine the passenger loading factors, the growth in transit person trips was assessed for the study corridors. Based on the model forecasts, all transit corridors will experience some growth by 2030, except the E3 Busway/5th Avenue S segment. Bus ridership is shown to drop by almost one half along the transit way due to trips moving to Light Rail. The corridors with the highest growth rates include 3rd Avenue S and a segment of S Jackson Street. The resulting passenger loading ratios are listed in Table 5-14 and illustrated in Figure 5-7. The ratios are calculated based on future transit demand in comparison with the transit link capacity (bus frequency multiplied by the average vehicle seat capacity) assuming no increase was introduced to the operation of local bus services along the corridors.

Table 5-14. Passenger Loading Ratio by UVTN Corridor

				2030 Passenger Loading Ratio			
Origin	**From**	**To**	**2007**	**No Action**	**Alternative 1**	**Alternative 2**	**Alternative 3**
1st Ave S	Yesler Way	S R. Brougham Way	1.20	1.31	1.27	1.26	1.31
1st Ave S	S R. Brougham Way	S Holgate St	1.27	1.43	1.40	1.40	1.40
2nd Ave Ext S	Cherry St	4th Ave S	1.01	1.37	1.39	1.40	1.36
3rd Ave S	James St	S Jackson St	0.91	1.52	1.53	1.53	1.48
4th Ave S	Yesler Way	S R. Brougham Way	1.30	1.49	1.50	1.52	1.49
5th Ave S	S R. Brougham Way	S Holgate St	1.15	0.64	0.64	0.65	0.63
Rainier Ave S	S Washington St	S Dearborn St	0.60	0.75	0.74	0.74	0.75
S Jackson St	1st Ave S	8th Ave S	0.86	1.67	1.63	1.65	1.61
S Jackson St	8th Ave S	Boren Ave S	0.99	1.18	1.17	1.17	1.10
City of Seattle Passing Threshold					**0.90**		

Source: City of Seattle Travel Model (April 2007) and current transit capacity.

No-Action Alternative

Figure 5-7 illustrates the passenger loading ratio for the study area corridors for the No-Action Alternative. Almost all corridors will be experiencing growth in loading during the peak period. This growth results from a growing number of population and employment not only in the study area but also in the region. Regional (or through) trips represent a high share of the loading factor of transit routes crossing the study area. Due to this growth, the existing passenger loading ratios have exceeded the 90 percent threshold of seated capacity on almost all north-south corridors, except for Rainier Avenue S and the 5th Avenue S busway. The 5th Avenue S loading ratio has declined due to trips switching to Light Rail. The new Light Rail service also results in Rainier Avenue S not having as much growth in transit trips, thus resulting in acceptable passenger loading ratios for the corridor. Corridors such as S Jackson Street and 3rd Avenue S are expected to decline sharply in the future from increased transit ridership. Similar to 2007 results, 1st Avenue S and the 2nd Avenue Extension S will continue to not meet the existing passenger loading ratio in 2030.

Action Alternatives

The passenger loading ratios for each of the Action Alternatives are very similar to those expected under the No-Action Alternative. The passenger loading ratios change based upon where new land use growth takes place compared to each Alternative. Table 5-14 highlights that corridors such as 5th Avenue S and Rainier Avenue S will continue to operate at acceptable load levels, whereas S Jackson Street segments will be over capacity similar to the other remaining corridors where demand is exceeding average seated capacity of buses. Since local demand represents only a small percentage of total transit ridership, large differences between the Action Alternatives are not observed. The small variations in Table 5-14 reflect, in addition to the small differences in transit demand among Alternatives, the sensitivity of the model parameters to changes in land uses.

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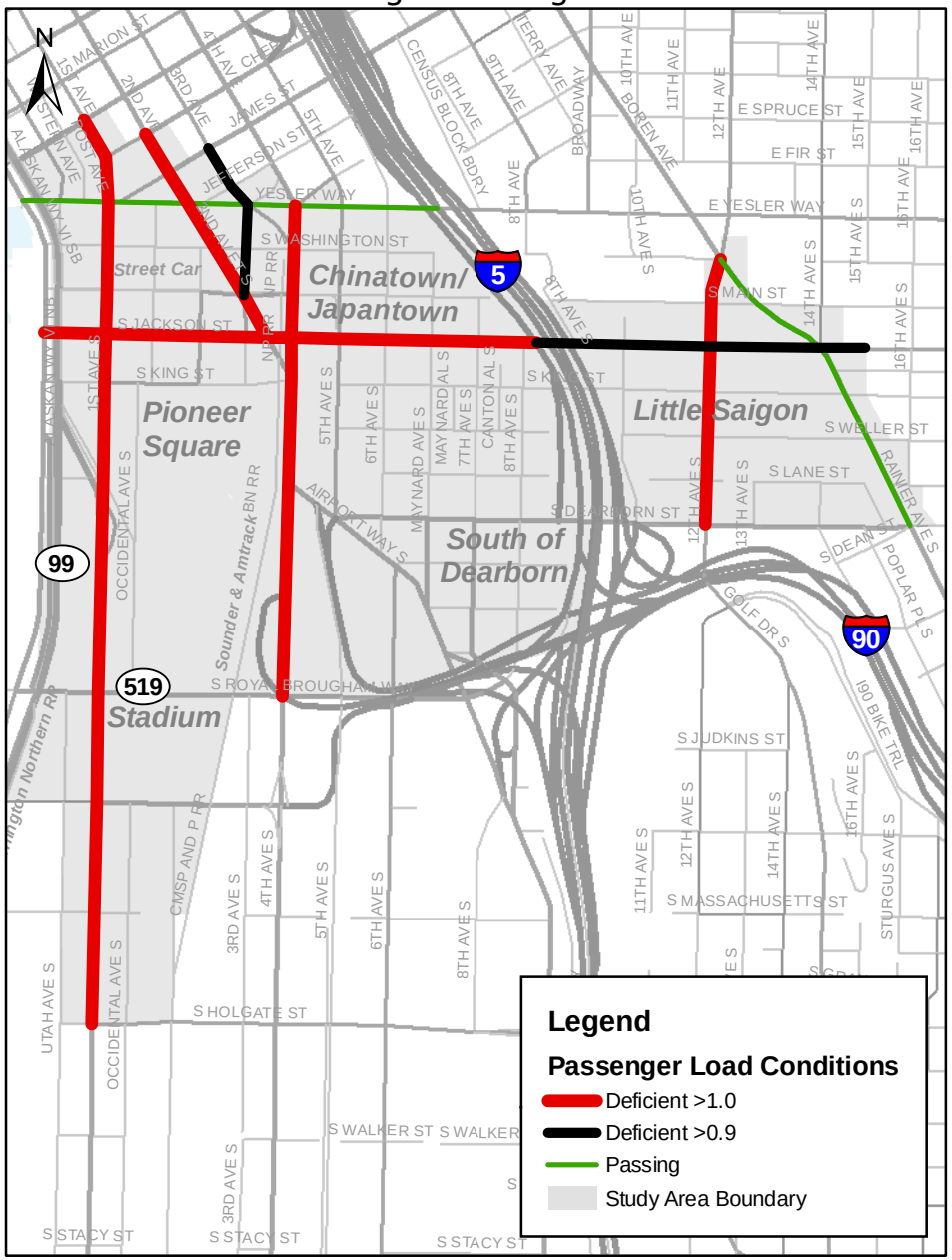
Passenger Loading Ratio



Bus Travel Speed

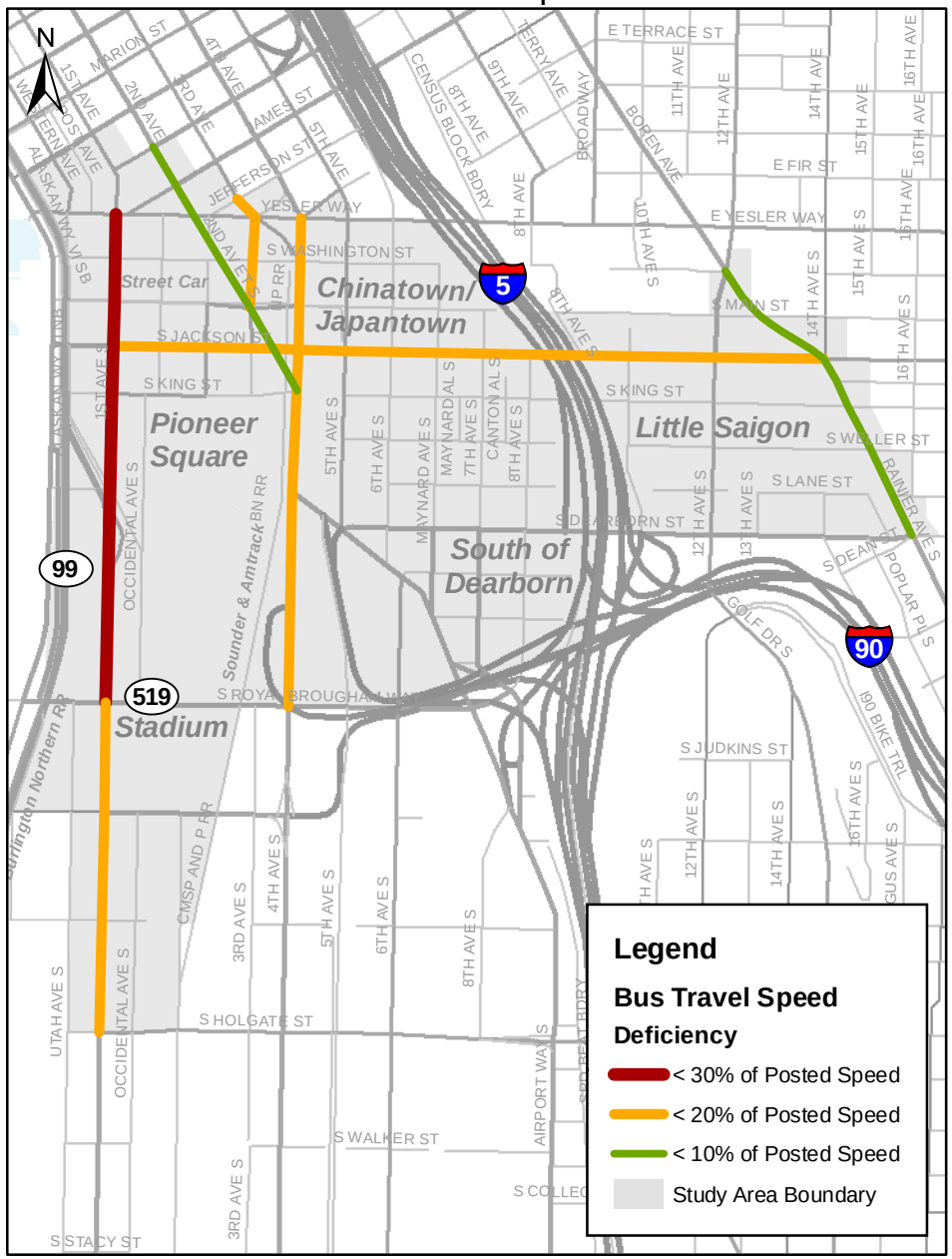


Figure 5-7

Bus Travel Speed & Passenger Loading Performance Measures (2030 No-Action Alternative)

Livable South Downtown EIS

The Transpo Group

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5.6 FREIGHT

This section provides information about the future 2030 freight operating conditions for the No-Action and Action Alternatives. Efficient movement of freight and truck traffic within the study area is critical to the region's economic development due to proximity to the Port of Seattle, Intermodel Rail Yard, and the Duwamish Manufacturing Industrial Center. The freight evaluation focuses on the expected growth and distribution of freight traffic and the impacts on the Major Truck Streets under each of the Alternatives. As discussed in Chapter 2, the evaluation is based on a set of qualitative and quantitative assessments that compare freight operating conditions against those under the No-Action Alternative. The assessments include the ability of trucks to efficiently circulate through the study area and access major destinations such as the Port, regional highway system, and local businesses and land uses; the change in travel time expected along the Major Truck Streets; and design standard issues that could impact truck operations and maneuvers.

The evaluation assumes completion of the planned and programmed improvements identified in Section 5.2. A significant amount of transportation investment is expected to occur by 2030 that will benefit the overall movement of freight within and through the study area. These improvements include projects such as SR 519 Phase 2, Alaskan Way Viaduct, S Lander Street grade separation, and the Spokane Street Viaduct improvements that include widening the Viaduct, closing the WB off ramp at 4th Avenue S and adding a WB on and off ramp at 1st Avenue S and an EB loop ramp to 4th Avenue S. The improvements have been assumed under each of the Alternatives and incorporated into the evaluation results.

5.6.1 Freight Growth

Future freight demand was estimated for future 2030 conditions based in part on Seattle's travel demand model. The model includes a truck component that was adapted from the PSRC regional travel model, which in turn was derived from the FASTrucks Forecasting Model developed in the year 2000 for the Washington State Department of Transportation. The model includes special generators for Port of Seattle terminals and also uses employment categories to estimate light, medium and heavy truck generation. The model results were further adjusted based on forecasts presented in the Container Terminal Access Study completed in 2003 for the Port of Seattle and later updated in 2005[9]. The updated study identified the growth in truck trips from the surrounding container terminals.

In 2004, the Port of Seattle moved 1.8 million twenty foot container equivalent units (TEUs), an increase of 20 percent over 2003. In 2006, there were approximately 2 million TEU carried in 2006. Within the next two years, Terminals T-25/T-30 will be reactivated and anticipated to generate 234,000 TEUs in 2009 and 560,000 TEUs by 2030[10]. Also, it is anticipated that Port volumes would increase to about 4.9 million TEUs by year 2030. This growth results in more truck traffic along the study area arterials. Specific growth rates for Terminal 46, which borders the study area, were noted and included in the forecasts and analyses of the AM and PM peak hour corridor and intersection operations analysis presented in Section 5.4.

The Action Alternatives would generate a higher number of local and delivery truck trips as more employment land uses are proposed within the study area than the No-Action Alternative. The additional demand generated by the study area land uses of Action Alternatives would range from 16 to 17 percent during the AM peak and from 25 to 27 percent during the PM peak period. This increase in local delivery truck trips coupled with the truck trip growth from the Port of Seattle and the industrial areas south of the study area, will create a need for improved access and circulation throughout the study area. By 2030, truck generation is anticipated to increase by approximately 33 to 34 percent throughout the Puget Sound Region.

[9] *Port Truck Trips for Transportation Planning Studies*, Memorundum, Heffron, July 19, 2005

[10] *Terminal 30 Cargo Reactivation*, Heffron Transportation Inc, prepared for Port of Seattle, September 18, 2006

The study area share of truck trips is less than 5 percent of the total regional truck activity reflected in the model based on a summary of the model TAZ data. The data indicate the Action Alternatives do not significantly increase the total share of truck trips as compared to the No-Action Alternative.

5.6.2 Truck Travel Characteristics

The model was also used to assist in identifying local and regional truck travel characteristics based on the distribution of commercial land uses throughout the region. It is expected that each of the 2030 Alternatives (including No-Action) will have similar travel patterns. Figure 5-8 illustrates the distribution of truck trips to and from the study area based on the 2030 model trip tables. The travel characteristics are for all types of trucks from delivery trucks to semi-trucks. The study area only includes a portion of the Port of Seattle container yards, but no other regional truck distribution centers. The figure shows that approximately 80 percent of trucks will be originating or destined for locations north or south of the study area in the AM and PM peak hours. Truck trips to the eastside will comprise 12 percent. Another 3 percent will connect to areas in Kitsap County and beyond. Truck trips that are produced and attracted within the study area will be approximately 4 percent of the total truck trips generated by the study area land uses.

5.6.3 Freight Performance Measures

Improved freight mobility is a major goal of the State of Washington and the City of Seattle. Efficient movement of goods and services through the study area is critical for the economic success of major industrial stakeholders within and bordering the study area such as the Port of Seattle. The future performance of freight transportation was assessed using the performance measures identified in Chapter 2. These measures include Truck Connections, Travel Speed on Major Truck Streets, and Street Design Standards. These indicators provide a mechanism to measure the impacts the Alternatives might have on freight and compare them against one another on a relative basis.

Truck Connections

This performance measure addresses the ability of trucks to efficiently circulate through the study area and access locations such as the regional highway system, the Port of Seattle container yards, and other local industrial businesses. The City of Seattle designated Major Truck Streets are a system of streets that are meant to serve both local and non-local truck traffic. The circulation of trucks is primarily served by these streets. The Major Truck Streets were previously highlighted in Section 4.3.2. As discussed in Chapter 4, the existing Major Truck Streets provide good access to I-5 and the Alaskan Way Viaduct, as well as I-90. Arterials such as 1st Avenue S, 4th Avenue S, S Royal Brougham Way, S Atlantic Street, and S Dearborn Street provide much of the truck circulation throughout the study area.

No-Action Alternative

East-west connectivity between I-5, I-90, the Port, and the other industrial lands in South Downtown is expected to be improved by 2030 with the completion of SR 519 Phase 2. The project will provide direct westbound access from I-5 and I-90 to the S Atlantic Street corridor. This project provides improved access to Terminal 46 and the 1st Avenue S corridor, eliminating possible delays caused by trains along S Royal Brougham Way. Trucks would no longer have to use the S Royal Brougham Way corridor to access the waterfront after exiting at 4th Avenue S.

Improvements as part of the Alaskan Way Viaduct Replacement project will improve regional access to the south with the completion of new freeway ramps along the S Atlantic Street corridor just west of 1st Avenue S. Trucks heading to/from the south will be able to connect to the Alaskan Way Viaduct, which is not possible today at that location. Other improvements in truck connections are those just outside the study area such as the S Lander Street overpass and the 1st Avenue S and 4th Avenue S ramps to the Spokane Street Viaduct. The S Lander Street overpass will reduce delays caused by train activity and the 1st Avenue S and 4th Avenue S ramps to the Spokane Street Viaduct will provide improved access to the regional highway system.

The only improvement likely to negatively impact truck connections is the possible closure of S Holgate Street. Truck trips between 4th Avenue S and 1st Avenue S will be negatively impacted as there will be fewer connections crossing the railroad tracks in this area. However, the City of Seattle has not yet committed to this project and is still evaluating the feasibility and impacts. Even with the assumption of S Holgate Street being closed between 3rd Avenue S and Occidental Street S, the other freight improvements within the study area will result in improved truck connections under the No-Action Alternative.

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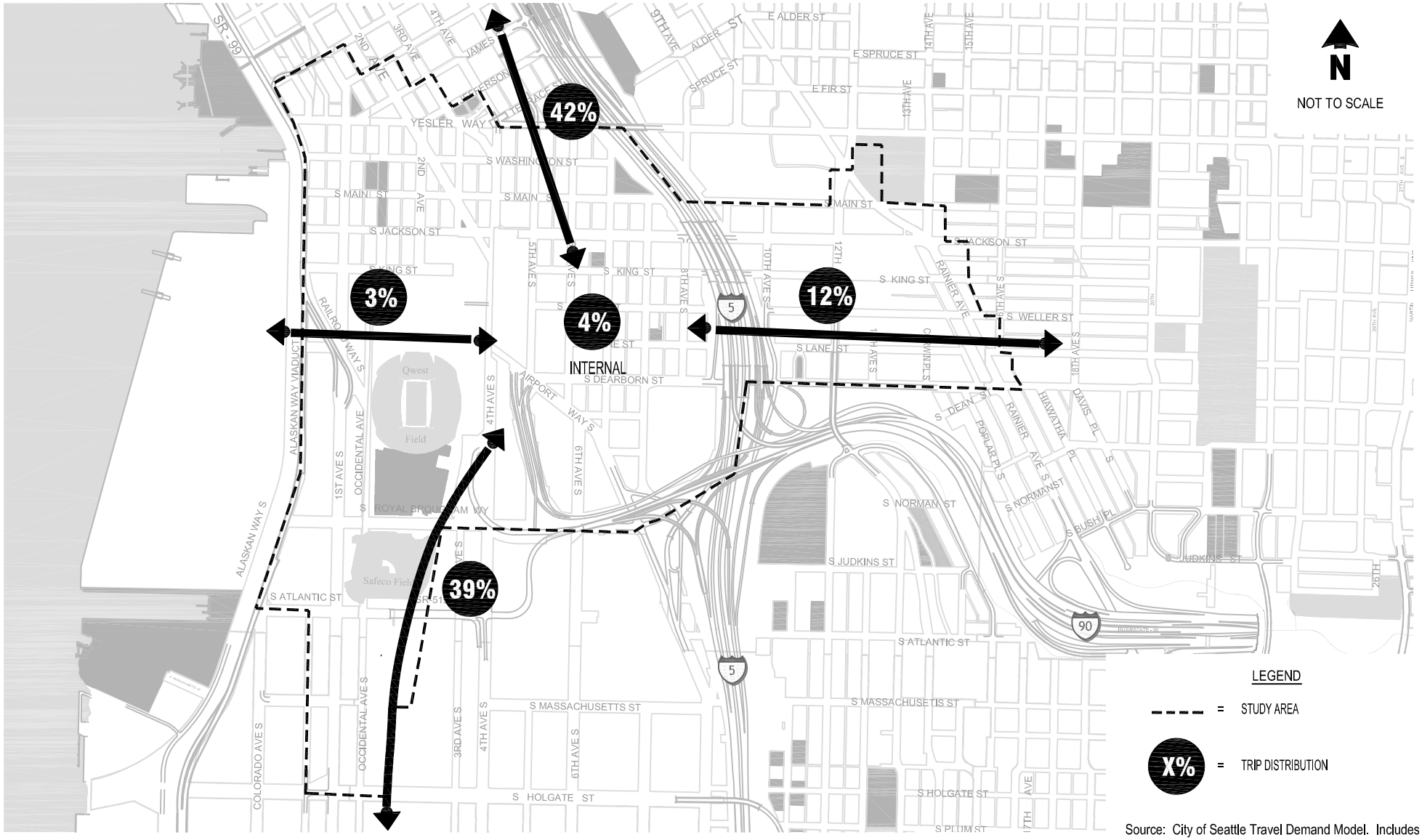

Figure 5-8
Study Area Truck Trip Distribution (2030)

Livable South Downtown EIS

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Action Alternatives

The Action Alternatives are not likely to limit or change the available connections to trucks. While an increase in intensity of land use may impact the total volumes and delays encountered along the Major Truck Streets, the Major Truck Streets will still provide the connections needed to serve the study area. The arterials not designated as Major Truck Streets will also assist in providing local delivery routes to access the new commercial and residential land uses.

The Action Alternatives in the study area would create additional commercial and employment-oriented land uses, which would also generate more demand for local deliveries. The greatest amount of additional non-residential land use is forecast for the Little Saigon neighborhood under Alternative 1 and in the Stadium Area neighborhood under Alternatives 2 and 3. Under those Action Alternatives, the increase in land use intensity would result in additional delivery trucks on S Dearborn Street and Rainier Avenue S to access the Little Saigon neighborhood and on 1st Avenue S, 4th Avenue S, S Royal Brougham Way and S Atlantic Street corridors to access the Stadium Area neighborhood. These corridors are designated as Major Truck Streets and provide primary access to the neighborhoods for local deliveries.

However, the increase in land use intensity would make it more difficult for local delivery trucks and other locally generated truck traffic to access the Major Truck Streets. The additional general vehicle traffic would cause more delay to trucks that are accessing the Major Truck Streets from local streets or vice versa. There would likely be fewer gaps in traffic, making it difficult for trucks to access the Major Truck Street system from local streets or driveways within the study area. Moreover, the higher residential and employment densities would add more non-motorized trips (bicycles and pedestrians) on streets and would create more interaction with general traffic, including trucks, at crosswalks and bicycle lanes, thus creating further frictions and impediments for trucks on study area arterials.

Travel Speed on Major Truck Streets

Travel speed is an indicator of the operating conditions along Major Truck Streets. Higher travel speed means smoother flow along routes and shorter delays at intersections. Since trucks are sharing streets with other types of vehicles, truck speed is directly affected by the operating speed of the general traffic. Usually, posted speed for trucks on highways is lower than that for other vehicles. This is true for I-90 and I-5 mainline freeways. Posted speeds along the arterial streets in the study area, which are much lower than the freeway speeds (30 to 35 mph), do not assign speeds for trucks different from those assigned to the general traffic. It is expected that trucks move slower than general traffic because of the mechanical characteristics of these large vehicles. Trucks have slower acceleration speeds and take more time to maneuver. However, the results of the arterial and intersection traffic analysis in Section 5.4 provide a reasonable indicator of each Alternative's relative impacts to truck travel speeds.

As identified in Chapter 4, the majority of truck trips occur during the mid-day hours along routes within the study area. While the mid-day hours have the highest truck volumes, they have lower passenger vehicle volumes than are observed in the AM and PM peak hours. The increase in land use intensity within the study area would have more of an impact during the peak hours when there is less roadway capacity available, but not as much impact during the mid-day when less congestion occurs, thereby impacting the majority of truck trips proportionately less.

Existing and future travel speed conditions reported by this study are based on an integrated analysis that takes into consideration both link running speed and delays at intersections. The analysis is consistent with the corridor operations data presented in Section 5.4, except that it focuses on specific truck corridor segments. Table 5-15 shows the analysis results of travel speed along the Major Truck Streets for AM and PM peaks hours, based on the worst 15-minute analysis.

Table 5-15. Travel Speed along Major Truck Streets

Corridor	Extents[1]	Speed Limit (mph)[2]	Direction	2007	2030 Travel Speeds (mph)[2] No-Action	Alternative 1	Alternative 2	Alternative 3
AM Peak Hour								
1st Ave S	S King St to S Holgate St	35	NB	12	14	14	12	12
			SB	19	16	16	15	14
4th Ave S	S Dearborn St to S Holgate St	30	NB	17	10	9	9	9
			SB	15	14	13	12	11
S Dearborn St	5th Ave S to Rainier Ave S	30	EB	11	11	10	10	10
			SB	11	6	6	6	6
S Royal Brougham Way	1st Ave S to 4th Ave S	30	EB	7	10	10	10	10
			WB	5	5	5	5	5
S Atlantic St	1st Ave S to 4th Ave S	30	EB	11	6	6	5	5
			WB	7	13	13	13	12
S Holgate St	8th Ave S to Boren Ave S	30	EB	11	CLOSED			
			WB	11				
PM Peak Hour								
1st Ave S	S King St to S Holgate St	35	NB	15	18	17	17	17
			SB	17	12	12	12	11
4th Ave S	S Dearborn St to S Holgate St	30	NB	18	16	16	16	15
			SB	11	9	9	9	8
S Dearborn St	5th Ave S to Rainier Ave S	30	EB	9	7	5	2	1
			WB	8	9	9	9	9
S Royal Brougham Way	1st Ave S to 4th Ave S	30	EB	8	9	10	10	10
			WB	7	5	5	5	5
S Atlantic St	1st Ave S to 4th Ave S	30	EB	11	8	7	7	6
			WB	10	10	10	10	9
S Holgate St	8th Ave S to Boren Ave S	30	EB	10	CLOSED			
			WB	12				

Source: The Transpo Group (July 2007)
1. The corridor extents are for the street segments that are within the study area boundaries. These extents differ slightly than those reported for the corridor operations results in Section 5.4 to be more specific on the impacts to the Major Truck Streets.
2. Miles per hour

No-Action Alternative

Travel speeds along most of the truck routes will generally decline by 2030 compared to 2007 existing conditions. The reduction in speed is the result of the increase in traffic volumes of approximately 30 percent or greater expected under the No-Action Alternative, combined with little or no additional roadway capacity. The exceptions are northbound traffic at 1st Avenue S and eastbound traffic at S Royal Brougham Way due to completion of the Alaskan Way Viaduct frontage roads and grade separation of S Royal Brougham Way. East-west routes along S Dearborn Street and S Royal Brougham Way will likely operate with average speeds of 10 mph or less. North-south routes show relatively better performance than the east-west routes, while 1st Avenue S is expected to operate at speeds higher than any other route, mostly due to shifts in traffic to the new Alaskan Way Viaduct frontage roads.

Action Alternatives

Generally, all Action Alternatives result in slightly lower average speeds on truck routes than the No-Action Alternative as the increase in land use generates additional traffic. The PM peak hour speeds are much lower

than those expected in the AM peak hour. The AM peak hour travel times would likely have the most impact on truck trips, since more truck trips normally occur in the morning than in the early evening. However most of the truck trips occur outside both the AM and PM peak hours during the mid-day when travel speeds are typically higher due to less overall traffic volumes along the corridors.

Action Alternatives' travel speeds along Major Truck Streets are similar to one another. Alternative 3 would have the greatest impacts compared to the other Alternatives especially along the S Dearborn Street corridor, which would be congested due to poor intersection operations along the corridor and especially at the Rainier Avenue S and Airport Way S intersections. Alternative 3 would generate a higher number of trips on study area streets than the other Alternatives which would result in higher congestion and delays. Corridor speeds in Alternatives 1 and 2 are similar even though Alternative 1 shows slightly higher speeds along 1st Avenue S in the AM peak hour and along S Dearborn Street in the PM peak hour.

There is little sensitivity predicted between the Action Alternatives in the time it takes to travel the Major Truck Streets through the study area. However, the future analysis indicates truck operations would encounter low average speeds, similar to the general traffic, along the Major Truck Streets for each of the Alternatives. Reductions in truck travel speed would increase the costs of moving freight within and through the study area regardless of the Alternative.

Design Standards

There is the potential for increased development within the study area to impact the design and function of the designated Major Truck Streets. A greater amount of residential or retail development will create additional demand on the City's sidewalk system due to an increase in pedestrians, while also requiring additional vehicle access points to the arterial street system. In other cases, bike lanes have been targeted for Major Truck Streets such as 4th Avenue S as part of the Bicycle Master Plan. Each of these items has the potential to introduce alternative roadway designs to better accommodate other modes of travel. For example, additional pedestrians could warrant new crosswalk locations or curb bulb-outs to reduce the crossing distance and exposure to pedestrians, while bike lanes could reduce the width of lanes (or eliminate lanes altogether) to provide right-of-way for bicyclists. Each of these design treatments might impact the ease of truck navigation through the study area.

However, a primary focus of many of the transportation investments in the South Downtown area has been to better facilitate the movement of freight, whether it is more direct access to the regional highway system or eliminating conflicts between trains and passenger vehicles. Improvements such as SR 519 Phase 2, Alaskan Way Viaduct, S Lander Street grade separation, and S Spokane Street ramps are expected to include all design elements required for appropriate truck movements such as lane width, bridge vertical clearance, pavement structure, and minimum turning radii. The project designs will also include treatments for non-motorized elements, such as including a pedestrian pathway along the S Royal Brougham Way structure, in addition to the truck design elements. While none of the land use alternatives has specifically identified impacts to roadway designs, it is reasonable to assume that there is the potential for design treatments to be introduced as part of specific development projects that could affect the movement of trucks.

In addition, oversized heavy vehicles are routed to and though the study area periodically. One primary example is the special event venues where equipment and shows have over dimensional trucks that need special routing to accommodate the larger loads, operating under a permit. Not all study area streets are designed to accommodate these types of vehicles. The Right of Way Improvement Manual suggests that a 20' high by 20' wide envelope be maintained on routes that the City decides to maintain for these kinds of trips.

No-Action Alternative

A growing number of trucks will be traveling through the study area due to future growth at the Port of Seattle and other industrial businesses within and surrounding the study area under the No-Action Alternative. The growth in the neighborhoods will have the potential to introduce unfavorable design

treatments for trucks. For example, the No-Action Alternative assumes additional residential and commercial development for the Pioneer Square, Chinatown/Japantown, and Little Saigon neighborhoods. The future growth could potentially impact designs along S Dearborn Street, which is the southern border to the Chinatown/Japantown and Little Saigon neighborhoods. These could include reduced lane widths and/or turning radii to accommodate additional turn lanes or wider sidewalks. On the western side of the study area, growth in the Pioneer Square neighborhood could impact design treatments along 1st Avenue S. New mid-block crosswalks, bike lanes, or even dedicated transit lanes could reduce lane widths along the corridor. Other than the S Dearborn Street and 1st Avenue S corridors, most other Major Truck Streets only pass through the Stadium Area and South of Dearborn neighborhoods, both of which would remain largely unchanged from the type of land use that is observed today.

Action Alternative

As part of the Action Alternatives, the same background growth in industrial land uses and regional truck traffic will take place adjacent to the study area as assumed under the No-Action Alternative. However, as part of the Action Alternatives, increased residential and commercial land development would be located across the study area and would need to be served by commercial vehicles of different sizes depending on the type of business activity. It is anticipated that light, medium and heavy trucks would need to have good circulation and access to the arterial street system based on the regional and local land use growth.

Additional land use within the study area along with growth in surrounding land use intensity would result in more trucks primarily through the South of Dearborn and Stadium Area neighborhoods. These neighborhoods are bisected or adjacent to Major Truck Streets such as S Dearborn Street, Airport Way S, SR 519, 1st Avenue S and 4th Avenue S. Traffic growth along these corridors would not be limited to trucks only. More cars and non-motorized movements would occur along these corridors as more people and businesses would be located in the study area. This would pose challenges to provide the proper streetscape design to accommodate all users. Better visibility, adequate non-motorized facilities, signage and improved street lighting are a few examples of streetscape design features that could be incorporated into the roadway prism. Similar to the No-Action Alternative, there are design treatments that can impact truck movements and make it more difficult for trucks to circulate through the study area. Currently there are no specific street design revisions that are assumed to occur in the future to support the Action Alternatives, but such revisions could be considered to mitigate possible impacts in the future.

5.7 PARKING

The parking impact analysis for this programmatic EIS focuses on the potential displacement of parking resources that could occur with future infill development allowed under the different development alternatives, and related trends that might affect how on-street and off-street parking resources are impacted. Future development patterns assumed for each EIS alternative are those identified by DPD staff. This provides an understanding of the magnitude of parking loss that could occur and its geographic distribution among the neighborhoods. Other parking losses, such as those due to major road improvements, are also described.

5.7.1 Off-Street Parking

Because the properties available for future infill development are primarily those in surface parking uses, future construction of new buildings would displace existing parking supply and therefore displace those who currently park in those spaces. The parking utilization of those spaces predicted to be displaced under each of the Action Alternatives is summarized in Table 5-16.

Table 5-16. Off-Street Study Area Parking (Currently Utilized) Potentially Displaced by Future Development[1]

Neighborhood	No-Action	Alternative 1	Alternative 2	Alternative 3
Chinatown/Japantown	360	610	610	510
Pioneer Square	410	410	270	410
Little Saigon	10	0	0	0
South of Dearborn	60	100	120	250
Stadium Area	0	20	20	20
Total	**840**	**1,140**	**1,020**	**1,190**

Source: Field observations, March 2007.
1. Numbers rounded to the nearest 10.

No-Action Alternative

Future development under the No-Action Alternative would displace approximately 850 utilized parking spaces, primarily affecting Pioneer Square Chinatown/Japantown neighborhoods west of I-5. Some of the demand for this displaced parking could be satisfied in other locations such as public parking in the Stadium Area neighborhood. Such parking is more likely to be used by employees who park for the entire work day and are willing to walk longer distances. Other parking users such as retail or restaurant patrons are not typically willing to walk longer distances for parking. Because on-street parking is already highly utilized in the study area, it likely could not absorb much of the displaced parking demand. Some demand could be eliminated with shifts to transit, ridesharing, or non-motorized travel modes when available parking becomes sparser and more expensive.

The AWVR improvements are also likely to eliminate a substantial amount of surface parking capacity, both on-street (approximately 220 to 650 spaces) and off-street (approximately 50 to120 spaces). This is likely to noticeably impact parking within the study area, particularly in the Stadium Area and Pioneer Square neighborhoods due to spill-over of displaced demand. The timing and final design of the AWVT replacement are not yet determined.

2030 Action Alternatives

As shown in Table 15-6, the Action Alternatives would likely displace approximately 1,000 to 1,200 utilized parking spaces by year 2030, which would be 200 to 400 more spaces than under the No-Action Alternative. This would generate additional amounts of "spill-over" demand for parking in other locations, and would probably also result in some shift of parking drivers to alternative modes of transportation, if available parking supply is reduced, is more difficult to find or is more expensive. The overlap of stadium facility event-related parking demand would also influence the availability and cost of parking during days with events.

Figure 5-9 illustrates the potential loss of utilized parking in each neighborhood per Action Alternative. Alternative 1, which concentrates more development in the Chinatown/Japantown and Pioneer Square neighborhoods would result in the highest loss of parking in those neighborhoods. Alternative 3 shifts more of the lost parking to the South of Dearborn neighborhood. This neighborhood is more removed from the available public parking around the stadiums and, therefore, would potentially have more spill-over impacts to other neighborhoods outside of the study area.

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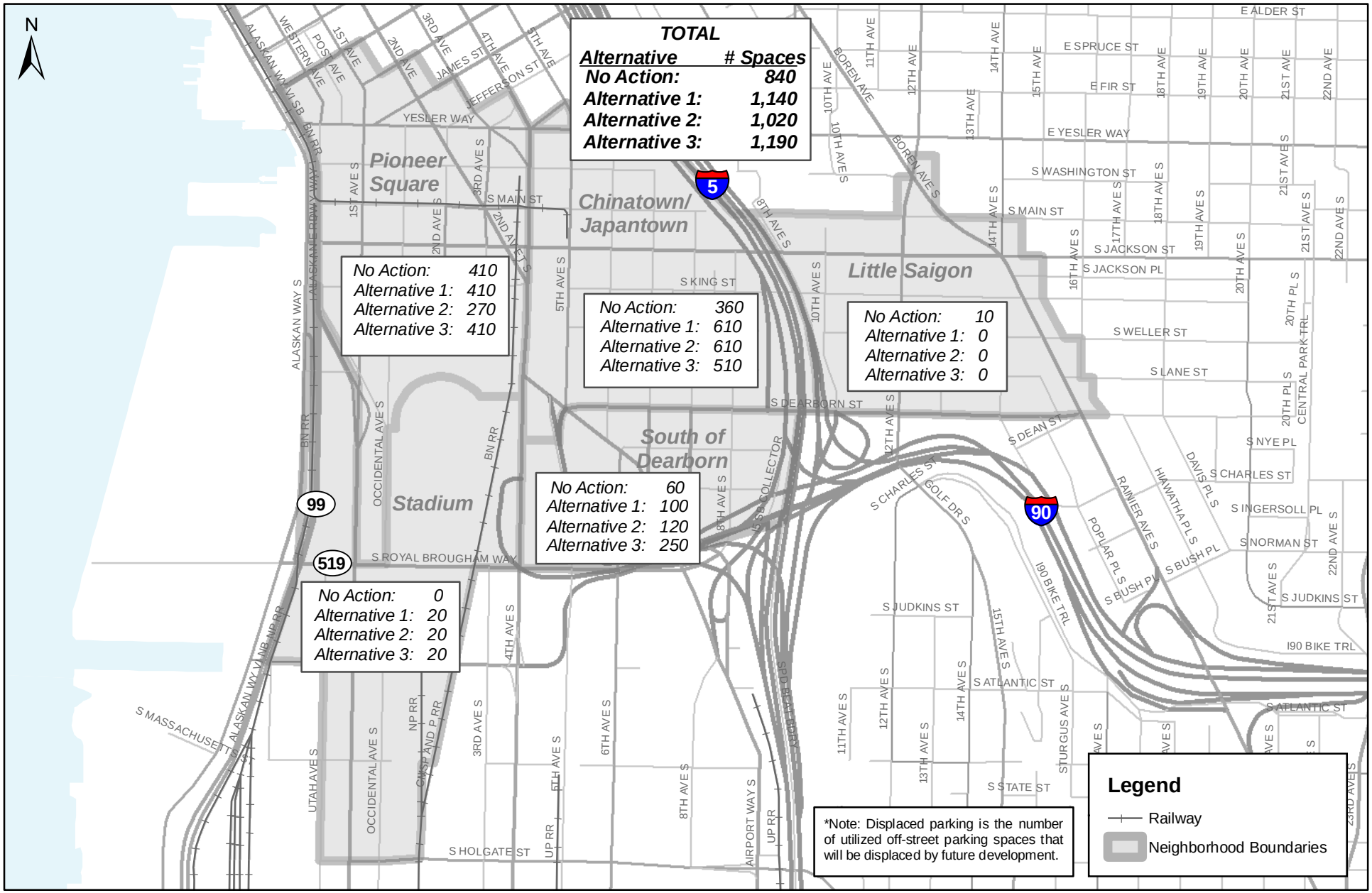

Figure 5-9

Displaced Parking by Neighborhood - No Action & Action Alternatives

Livable South Downtown EIS

The Transpo Group

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Parking Supply for New Development

The City of Seattle has developed unique parking requirements for developments in the Downtown Zones. The Downtown Zones are in an area roughly bordered by Denny Way on the north, the waterfront on the west, I-5 on the east and S Dearborn Street on the south. This zoning recognizes the role the area plays as the dense urban core of the City, accommodating high-rise buildings, a large workforce, shopping and entertainment, and multifamily residential uses. The zones are well served by transit and a certain amount of vehicular congestion is expected. All study neighborhoods except the Little Saigon, South of Dearborn and part of the Stadium Area neighborhoods are covered by these requirements. Land uses within the Downtown Zones are not required to provide any off-street parking and are limited to providing a maximum of one space per 1,000 sf. There is no maximum requirement for residential uses. Table 5-17 provides a comparison of Seattle City Code requirements for off-street parking with peak parking rates from the Institute of Transportation Engineers.

Table 5-17. Seattle Parking Code by Land Use

Land Use	Downtown Zones[1]	Other Zones[2]	ITE Peak Demand Rates
Residential (per unit)	0[3]	1.0[3]	1.0
Office (per ksf)	1.0	1.0	2.4
Hotel (per room)	0.25	0.25	0.91
Retail	1.0	2.0	2.65
Restaurant (per ksf)	1.0[4]	4.0	7.3

Source: Seattle Municipal Code and *ITE Parking Generation*, Third Edition.
1. All study zones except Little Saigon, South of Dearborn and part of the Stadium Area. Rate for hotel is standard for Seattle, as no maximum per room is specifically defined for Downtown Zones.
2. Little Saigon and South of Dearborn neighborhoods.
3. While the Downtown zones have no minimum or maximum require for residential uses, for other zones, for purposes of simplicity, one parking space per unit is assumed. Seattle code actually has varied requirements depending on the total number of units in a development, number of bedrooms in the units and income level (reductions allowed for low income housing).
4. For Chinatown/Japantown, restaurant requirements are 2 spaces per 1,000 for area over 2,500 sf.

These requirements, along with good transit service and a free-ride zone, have helped to create a low single-occupant vehicle (SOV) commute mode in central Downtown. The personal cost of parking is one of the most influential variables that influences travel mode[11]. In 2000, the SOV rate for Downtown Seattle was about 40 percent[12]. Over time, as utilized parking is displaced and if new development puts in little or no parking due to zoning limitations, a similar shift in commute mode would be anticipated if supported by expanded and improved transit service and other supportive programs. Retail and restaurant patrons would be more difficult to influence a shift away from vehicular modes than urban office workers and residents.

2030 No-Action Alternative

Due primarily to planned development projects in the Pioneer Square and the Chinatown/Japantown neighborhoods, parking supply that currently accommodates the demands currently generated by other uses in the neighborhoods will be lost over time, directly displaced by infill development. Therefore, those businesses whose customers and employees currently rely on parking in those surface lots are likely to be negatively impacted.

[11] *Transportation Elasticities: How Prices and Other Factors Affect Travel Behavior*, Victoria Transport Policy Insititute (TDM Encyclopedia), March 2007.

[12] Puget Sound Trends, *Commuting to the Region's Downtown Areas*, PSRC, March 2004.

2030 Action Alternatives

Under all of the Action Alternatives, the largest projected loss of utilized spaces due to development would be in the Chinatown/Japantown neighborhood, followed by the Pioneer Square neighborhood. Alternative 3 would result in some additional lost parking in the South of Dearborn neighborhood.

Parking associated with office land use, as opposed to general commercial land use, would result in less of a disparity between parking demand and parking supply due to:

- The ability to shift office related travel modes to non-SOV alternatives compared to commercial related travel modes; and
- The disparity between the maximum requirements for off-street parking under the zoning code in the Downtown Zones and typical maximum parking demand for office and retail/restaurant land uses. In Downtown Zones, non-residential uses may provide no off-street parking up to a maximum of one space per 1,000 sf. While parking demand in the Seattle CBD appears to be much lower than the rates provided by ITE (due to good transit service and the high cost of parking and limited parking supply) retail and restaurant parking demand are expected to generate a higher demand per square foot than office uses.

Alternative 1 has more office development identified than Alternative 3. Alternative 3 has the largest amount of non-office commercial development. Therefore, the development impacts to the availability and price of off-street parking would be more noticeable for Alternative 3 than Alternatives 1 and 2.

5.7.2 On-Street Parking

With future infill development and other losses incurred through road improvement projects, demand for on-street parking would increase. However, due to its high existing utilization, it could not satisfy much of the demand. Given these demands, it is likely that currently unrestricted on-street parking would be converted to time-restricted paid parking, to encourage frequent turn-over. High turn-over spaces are suited to addressing retail customer needs but not employee needs for the work day. This strategy works well as travel alternatives like transit or biking is less feasible for retail customers than long-term employee commuters, as long as adequate transit service and bicycle facilities are provided. This strategy is echoed in Seattle's Comprehensive Plan parking goals, parking quantity policies and parking development standards policies.

No-Action Alternative

Some on-street parking will be eliminated with the completion of the SR 519 Phase 2 project. Parking for approximately 100 vehicles on both sides of 3rd Avenue S, south of S Royal Brougham Way will be eliminated by this project. The lost parking is a result of traffic being rerouted to 3rd Avenue S to access the S Royal Brougham Way grade separated structure across the railroad tracks. Another 10 to 15 spaces would be lost along the west side of 1st Avenue S, north of S Atlantic Street due to planned improvements at the S Atlantic Street intersection.

Additional on-street parking will be eventually lost with the replacement of the Alaskan Way Viaduct. While the central waterfront portion of the viaduct is still under discussion, any Alternative will result in lost on-street and surface parking that is currently available to the public. According to the EIS for the project, approximately 220 to 650 on-street parking spaces and up to 120 off-street parking spaces would be lost. Some of these will be in the Pioneer Square and Stadium Area neighborhoods. The Surface, Bypass and Tunnel alternatives result in the greatest loss, while the Rebuild and Aerial alternatives lose the least amount of parking. The City is considering aggressive parking management strategies, especially during the construction phase, to support transportation and transit speed and reliability.

The planned major projects are likely to include modifications to the management of the on-street parking where on-street parking is currently unlimited and/or free. For example, the free unrestricted and free hourly parking in the Little Saigon vicinity may convert to paid parking in order to assure the turn-over and availability critical to new commercial needs. Other impacts to on-street parking from planned projects would depend on access, new loading zones, etc. For example, if a planned project required an additional access drive in an area that currently offers curbside parking, some of that curbside parking would be lost in the area of the new driveway and the surrounding clear zone.

2030 Action Alternatives

Impacts to on-street parking would include those identified in the No-Action Alternative. Alternative 1 concentrates development along the northernmost neighborhoods. On-street parking is mostly time-limited and paid parking in the Pioneer Square and Chinatown/Japantown neighborhoods. As such, there is only a modest opportunity to improve turn-over for on-street parking by conversion of free and unlimited parking. Some conversion however, is likely in the Chinatown and Little Saigon vicinities. Alternative 2 is likely to convert more free and unlimited on-street parking to paid and time-limited parking in the Little Saigon and South of Dearborn vicinities than under the No-Action and Alternative 1 scenarios. Alternative 2 would likely include more conversion of on-street parking to paid and limited parking in the Stadium Area vicinity than any of the other Alternatives.

As with the No-Action Alternative, some on-street parking would be potentially lost with new development projects if access points (curb-cuts) are moved or added in an area where on-street parking is currently available. Therefore, with Alternative 1, more on-street parking is at risk in the Pioneer Square and Chinatown/Japantown neighborhoods. Under Alternative 2, more on-street-parking is at risk in the Little Saigon and South of Dearborn neighborhoods than the other neighborhoods. And under Alternative 3, more on-street parking is at risk in the Stadium Area and South of Dearborn neighborhoods than in the other neighborhoods.

In addition to the conversion of free and unlimited on-street parking to higher turn-over time-limited and paid parking or the potential loss of parking due to new or moved curb-cuts, other impacts may result from implemented mitigation measures. For example, if, as a mitigation measure, some curb-side parking is converted to a transit lane, that on-street parking would be lost for use by the general public. The following list identifies some possible mitigation measures that have the potential to impact the supply of on-street parking:

- Pedestrian bulb-outs that are installed at intersections or mid-block crossings in order to narrow the crossing distance for pedestrians as well as make crossing pedestrians more visible to approaching traffic. They are often installed where on-street parking is provided because the curb lanes are not used for through-traffic. Bulb-outs usually increase the clear zones from the intersections and can result in the loss of one to two parking spaces on each side, depending on the existing configuration.
- Transit related modifications that take on-street parking, such as additional transit stops, or bus queue bypass lanes at intersections. The most potential impact from transit related mitigation would be the conversion of curb lanes to transit lanes, in which case entire block-faces of on-street parking could be lost.
- Curb lanes which currently allow parking may be converted to through-lanes for added capacity. This would have a similar impact to on-street parking as the conversion of curb-lanes to transit lanes (see above).

5.8 PEDESTRIANS AND BICYCLES

This section summarizes and compares the impacts to pedestrians and bicyclists under each of the Alternatives. As previously stated, performance measures used for pedestrians and bicycles were qualitatively assessed and are as follows: how well the current facilities would serve the new pedestrian and bicycle population resulting from development in the study area; how accessible pedestrian attractors are to new and existing pedestrian and bicycle users; and how pedestrians and bicyclists would be affected by growth in traffic volumes from new development.

By 2030, several pedestrian and bicycle improvement projects, listed in Table 5-3 are planned to be completed as part of each of the Alternatives. These projects include the Link Light Rail Stadium Station and the planned pedestrian/bicycle pathway nearby; the SR 519 project, with grade separation at the Royal Brougham Way railroad crossing; and grade separation of the S Lander Street railroad crossing. The grade separation at Royal Brougham is an important project as there have been a number of railcar/pedestrian collisions at that location, one in 2005 which resulted in a fatality.

The analysis focuses on the differences between the Action Alternatives as compared to the No-Action Alternative. To compare the different Alternatives, the amount and location of proposed land uses were evaluated, as new pedestrian and bicycle trips would be generated by the new land uses. Table 5-1 provides a summary of land use for each Alternative by neighborhood.

5.8.1 Pedestrians

A portion of the new trips generated by future land use development would be pedestrian in nature. These trips would include walking trips between land uses, as well as trips to/from transit stops. The primary facilities that will support increased pedestrian travel include the City's sidewalk system, crosswalks, signals and multi-use trails. Impacts to the existing pedestrian facilities have been reviewed and are summarized below.

No-Action Alternative

The No-Action Alternative assumes the existing zoning for the area will continue. The largest amount of growth projected to occur would be in the Little Saigon, Chinatown/Japantown, and Pioneer Square neighborhoods, all of which currently serve a large number of pedestrians. In Pioneer Square, the growth is mainly focused in the vicinities along 1st Avenue S and S King Street. Both roadways currently provide sidewalks for pedestrian use, except at locations near the present SR 99 ramps (which are anticipated to be removed in the future). In Little Saigon the projected growth would be mainly along S Dearborn Street, which provides sidewalks. However, the infrastructure on other roadways in the neighborhoods is currently not as conducive to pedestrians, specifically S King Street and S Weller Street, due to poor conditions from overgrown vegetation and trip hazards from heaving and cracking. Chinatown/Japantown is projected to experience mainly residential growth, which would be spread throughout the neighborhood. The streets in this area provide sidewalks to serve pedestrians.

Two other areas anticipated to experience growth where there is currently not as much pedestrian activity on a daily basis are the South of Dearborn and Stadium Areas. The Stadium Area growth would likely be mostly along 1st Avenue S, which provides sidewalks to serve pedestrians except in the location of the existing SR 99 ramps as noted above. The growth forecast in the South of Dearborn area is more likely to occur west of 7th Avenue S including 6th Avenue S and along Airport Way S. While sidewalks are present on these roadways, they have cracks and are in need of improvement. In addition, east-west movement is difficult from this area as it is bounded on one side by I-90 and the other by 4th Avenue S and the I-90 off-ramps.

Pedestrian access to existing major attractors is expected to remain largely similar to current conditions. The Stadium and Pioneer Square areas will have good access to Colman Dock, King Street Station, the bus tunnel entrances, and event facilities near S Royal Brougham Way. The neighborhoods east of 4th Avenue S will most likely continue to access these facilities via current major pedestrian crossings, along 4th Avenue S near King Street Station and at S Jackson Street. Pedestrians in the South of Dearborn area will have the most difficulty traveling to major area attractors as connectivity to/from the west is poor, with S Royal Brougham Way at the very south of the South of Dearborn neighborhood providing the closest east-west connection. In addition, while the Link Light Rail Stadium station will be located just off 5th Avenue S, south of S Royal Brougham Way, some sidewalk segments connecting to the station site, such as along 6th Avenue S and parts of Airport Way S, are in poor condition.

Future development would increase traffic, pedestrian and bicycle volumes, and may result in a potential increase in vehicle/pedestrian and vehicle/bicycle conflicts. However, planned improvements, particularly the grade-separation of pedestrians at S Royal Brougham Way, will help minimize impacts and separate motorized transportation from non-motorized transportation. Other future development would also be expected to result in improved sidewalk conditions over time, which would eliminate a number of deficiencies.

Action Alternatives

The Action Alternatives disperse residential growth in the area, though the majority of the growth is focused in the Chinatown/Japantown, Little Saigon, and Pioneer Square areas. This is similar to the No-Action Alternative; however the amount of growth planned under the Action Alternatives is greater. The corridors that would experience the most growth are also similar to the No-Action Alternative (S Dearborn Street, 1st Avenue S, and 6th Avenue S), along with the addition of 4th Avenue S and S Jackson Street. The majority of these three neighborhoods have good pedestrian connections including S Jackson Street and sections of 4th Avenue S. However, some areas could use improved access, particularly on 4th Avenue S near the I-90 off-ramp which lacks sidewalks.

As discussed for the No-Action Alternative, access to major pedestrian attractors is expected to remain similar to existing access conditions. A large amount of growth is projected for the western portion of the study area, which is near the majority of the pedestrian attractors. However, there is also quite a bit of growth projected in the Little Saigon and South of Dearborn neighborhoods under all Alternatives. This implies that east-west pedestrian movement needs in the area would become greater. Potential conflicts with traffic volumes could occur along roadways with few non-motorized connections, particularly in the South of Dearborn neighborhood and along sections of 1st Avenue S and 4th Avenue S.

To summarize:

- Zoning change leading to residential uses where none currently exist, such as the South of Dearborn neighborhood, would require improved pedestrian crossings of S Dearborn Street to access Chinatown/ Japantown and the many services in this neighborhood.
- Under the No-Action Alternative, current facilities and planned improvements should accommodate most of the expected growth in pedestrian activity, with the exception of needed improvement in the South of Dearborn neighborhood.
- The Action Alternatives could result in residential growth in neighborhoods which currently do not have that type of land use (South of Dearborn and Stadium areas).
- The increase in growth under the Action Alternatives could lead to an increase in conflicts between pedestrians and motor vehicles, particularly in neighborhoods with new types of land use being introduced.
- In terms of pedestrian activity and impacts over the entire study area, there is no substantially distinguishable difference between the Action Alternatives.

5.8.2 Bicyclists

The City of Seattle Bicycle Master Plan (BMP) identifies several bicycle improvements in the South Downtown area. The BMP goals are to increase the use of bicycling and improve bicycle safety in Seattle. These goals are to be met by developing a system of bicycle facilities (including "sharrows"—pavement markings designating bicyclists' use of the roadway, bike lanes, and multi-use paths), providing supporting facilities for bicyclists, identifying partners to assist in bicycle education and enforcement, and obtaining funding to execute the identified improvements. The completion of all of these projects will improve regional and local connectivity and enable easier movement around the South Downtown area and to major attractors (for example, Qwest Field and Colman Dock) for non-motorized travel.

No-Action Alternative

The largest amount of growth is planned in the Little Saigon, Chinatown/Japantown, and Pioneer Square neighborhoods. Bicycle facilities exist in these areas to serve that growth. In particular, bike lanes exist along S Dearborn Street, 2nd Avenue S, and a portion of S Jackson Street. In addition, there are several roadways designated as bike routes in each of the areas, (parts of 1st Avenue S, 4th Avenue S, 6th Avenue S, 7th Avenue S, 12th Avenue S, Maynard Avenue S, and S Jackson Street), but there are no markings communicating this to motorists.

The Stadium and South of Dearborn areas currently do not have the same level of bicycle activity as the other three areas, but a projected increase in growth will likely result in an increase in bicycle activity. Both of these neighborhoods do not have very good bicycle connections, particularly the Stadium Area. The only designated bike route in that area is along 1st Avenue S, with no east-west connection available. The South of Dearborn area does have more bike routes (6th Avenue S, 7th Avenue S, Maynard Avenue S, and Airport Way S), as well as a bike lane nearby along S Dearborn Street. However, the majority of these routes are north-south and the S Dearborn Street bike lane stops at 6th Avenue S to the west. This leaves no direct bicycle connection to the west, which is the direction of several major attractors. It also leaves no direct connection to the Link Light Rail station, though the bike route along 6th Avenue S travels close to the station.

The changes in land uses are expected to increase traffic volumes. The increase in vehicular volumes should proportionally increase the potential for conflicts between bicycles and vehicles. The planned improvements, particularly those as part of the Bicycle Master Plan, will help minimize conflicts between vehicles and bicyclists.

Action Alternatives

As stated previously, the corridors that will experience the most growth under the three Action Alternatives are also similar to the No-Action Alternative (S Dearborn Street, 1st Avenue S, and 6th Avenue S), with the addition of 4th Avenue S and S Jackson Street. All of these corridors have at least a portion designated for bicycle use, with S Dearborn Street and S Jackson Street having bicycle lanes. Still, the growth in these areas would contribute to a need for additional improvements, particularly to better facilitate east-west connections.

As further growth is anticipated in all Alternatives in all the neighborhoods, the effects of existing bicycle deficiencies defined previously would be further felt with future development under the Action Alternatives. Conflicts with traffic are likely to occur where bicycle facilities are absent, particularly in the southern (Stadium Area and South of Dearborn) vicinities.

To summarize:

- All four Alternatives have growth focused in Chinatown/Japantown, Little Saigon, and Pioneer Square, which have some bicycle facilities to accommodate growth. The other two neighborhoods are in need of bicycle facilities to support growth.

- The increase in growth under the Action Alternatives would most likely intensify existing bicycle facility deficiencies. The increase also could lead to an increase in conflicts between bicyclists and motor vehicles, particularly in neighborhoods with few or limited bicycle facilities.
- In terms of bicycle activity and impacts over the entire study area, there is no substantially distinguishable difference between the Action Alternatives.

5.9 EVENT MANAGEMENT

Future development in the South Downtown study area and anticipated road network impacts would alter traffic patterns and access routes over time. This would likely create some changes in how event traffic is managed. Changes to event traffic management needs and programs will likely take place in stages as new development and street network changes occur. This will likely result in a need to progressively adapt the TMPs for the stadium and event venues in the Stadium Area.

Conceptually, this evolution over time could affect event traffic management in several ways. For this analysis, these potential effects are categorized as:

- Increased vehicle traffic volumes and congestion;
- Changes in event goers' vehicular traffic routing and destinations, arising from changes in the street network and differences in parking availability;
- Changes in pedestrian traffic flow patterns, and the potential for increased and decreased pedestrian-vehicle conflicts;
- Changes that might arise due to future development in specific locations; and
- Changes in the definition of police postings and related traffic operational issues.

Increased Vehicle Traffic Volumes

Because the SR 519 Phase 2 improvements will include changes on S Atlantic Street and South Royal Brougham Way, S Atlantic Street will become the vicinity's primary route to and from I-90 and I-5. The anticipated increases in traffic volumes in the 1st Avenue S/S Atlantic Street vicinity will alter traffic flow patterns, increasing congestion and use of street capacity. The higher traffic volumes could increase the potential for pedestrian-vehicle conflicts, particularly for baseball events with large attendance. It could also conceivably alter how traffic is controlled by police during events both in the evenings and for weekday afternoon games. These factors suggest a need to evaluate strategies that would improve pedestrian safety controls in this area. These could involve physical improvements as well as improvements in event traffic management practices by the police.

Possible Changes in Vehicle Traffic Patterns

The anticipated increases in peak-hour congestion in many of the corridors near the Stadium Area could alter how event goers access the area and which parking or alternate transportation choices they choose. For example, event traffic that may use 4th Avenue S from the I-90 off-ramps and S Royal Brougham Way may divert to S Atlantic Street and 1st Avenue S. In addition, availability of free or lower-cost parking could result from future development and road network construction. This could cause a reorientation of many event goers' intended destinations, perhaps to locations further south, north or east of the immediate stadium vicinity. Depending on how police choose to control traffic flows, it may be more difficult for some event goers to reach their original intended destination. Until event goers would learn new patterns, this would probably create driver confusion and additional congestion in the stadium vicinity. These factors would probably be most adverse to traffic conditions if they occurred prior to weekday afternoon and evening baseball games or weekday evening football games, when other pass-through traffic is at peak or near-peak levels.

Possible Changes in Pedestrian Traffic Flow Patterns

With increases in future development under the various alternatives, different configurations of pedestrian facilities might result. For example, the "over-tracks" development could provide a new pedestrian promenade route from the north, accessing Qwest Field and potentially Safeco Field as well. This type of facility would be of great benefit to pedestrian comfort and safety, and provide additional routes for pedestrians, such as improved connections from the Qwest Field north parking lot to points east. Under the No-Action Alternative, this "over-tracks" development would not likely occur and the additional pedestrian connection would not be in place.

The future development condition also may generate additional pedestrian volumes from points further north, south or east with available parking supply spread further from the Stadium area. The longer pedestrian travel distances will likely result in more street crossings and an increase in the potential for pedestrian-vehicle conflicts.

The planned S Royal Brougham Way improvements would generate some probable pedestrian benefits, in that portions of that street would have much less traffic, affording safer pedestrian conditions. Also, an elevated route over the railroad tracks would reduce the potential for train-pedestrian conflicts, which are a known existing safety hazard.

Possible Changes Related to Future Nearby Development

Future development, such as in the north half of the Qwest Field north parking lot, would introduce new land uses into the area. The new land uses would alter pedestrian flow patterns to some degree and also could alter vehicle circulation needs as well. This could create additional potential for pedestrian-vehicle conflicts. This could be controlled by providing sufficient sidewalks in high-traffic areas, and prudent adjustments in police control practices along certain street segments and intersections. These will need to be evaluated on a year-by-year basis, anticipating and proactively planning for how event traffic can safely mix with pedestrians as well as vehicular traffic seeking access to the new development. There would probably also be a need to examine how safe pedestrian routing near large construction sites can be established during construction periods.

Possible Changes in Police Postings

Related to all of the above influences on event traffic, changes over time in pedestrian and vehicular traffic patterns and the road network itself would probably create a need to adjust police posting patterns and management of traffic flows. The police postings would likely need to be evaluated every year for each of the venues' TMPs based on the expected conditions for the upcoming year. Conceivably, this could generate a need for additional police resources to be engaged if a more widespread area is subject to higher traffic volumes, parking access, and potential pedestrian-vehicle conflicts.

6. MITIGATION STRATEGIES

A range of possible mitigation strategies are presented in this section. Mitigation strategies conceptually include approaches such as reduction in travel demands, implementation of funding mechanisms, construction of physical improvements, and traffic and parking management policies. Due to the growth in regional and local traffic and planned development projects alone, future conditions would benefit from implementation of most of the mitigation strategies described in this section even under the No-Action Alternative. While reference is made to mitigating the Action Alternatives, the City may wish to consider incorporating some of these strategies regardless of which Action Alternative is selected, if any.

Impacts to travel are forecast within the study area by 2030 with or without the Alternatives' projected changes to land use and zoning. As the region continues to grow, more travel will take place within the study area since it acts as a gateway to Downtown Seattle. Growth in vehicle trips, combined with increased transit and freight traffic, will increase delays for all users of the transportation system. In most of the neighborhoods, except Little Saigon, projected traffic volumes under any of the Action Alternatives are not likely to be more than four percent higher than those expected under the No-Action Alternative. This overall pattern is reflected in the analysis of performance measures such as arterial travel speeds and transit passenger loading, where the Action Alternative results are very similar to those under the No-Action Alternative. However, within the Little Saigon neighborhood transportation impacts are likely to be more noticeable than in other neighborhoods, regardless of the specific Action Alternative.

In order to reduce the future impacts to the transportation system, a series of mitigation strategies could be implemented over time as development occurs. While some strategies would improve mobility for multiple modes of travel, other mitigation strategies may improve one mode of travel but have negative effects on another mode. Table 6-1 outlines the possible mitigation strategies that could be implemented and identifies whether each strategy has a positive or negative impact on the six major components that were evaluated. Each strategy is then discussed in greater detail below.

6.1 TRANSPORTATION DEMAND MANAGEMENT

The transportation system consists of two basic components: the supply side, which is usually the road infrastructure and transit system, and the demand side, which are the travelers using the system. Due to right-of-way limitations and policies put in place by the City, expansion of the roadway system is not a strategy that the City is encouraging. Therefore, mitigation strategies are more focused on reducing the number of single-occupancy vehicles entering the study area than increasing roadway capacity.

The City has implemented aggressive transportation demand management strategies (TDM) in Downtown Seattle that have helped reduce the percentage of workers driving alone to Downtown. These same strategies could be used in connection with future development within the South Downtown study area. Continuing and strengthening these strategies would help reduce the impacts to the arterial corridors, while also reducing overall parking demand. The following strategies could continue to be promoted throughout the study area:

- Promoting carpooling or car sharing
- Incorporating flex-car with subsidies
- Providing discount transit passes
- Expanding use of vanpools
- Supporting increased use of telecommuting
- Encouraging alternative travel modes like walking and biking
- Requiring preferential parking for carpools and vanpools
- Discontinuing parking subsidies
- Providing a guaranteed ride home program
- Providing incentives for using alternative modes

Table 6-1. Transportation Mitigation Payment Strategies and Impacts to Other Modes

Strategy	Affected Modes					
LEGEND **++ Greatest Positive Impact** **+ Positive Impact** blank **No Impact** **- Negative Impact** **- - Most Negative Impact**	**Arterials**	**Transit**	**Freight**	**Parking**	**Ped/Bike**	**Event Mgmt**
Transportation Demand Management	++	-	+	++	-	+
Area Specific Land Use Modifications			+	+		+
Transportation Mitigation Payment Program	+	+	+		++	+
Arterials						
Implement stringent access management policies along key corridors	++	+	+		+	+
Regularly optimize signal timing & phasing	+	+	+			+
Expand Seattle Traffic Management Center and Invest in Additional Intelligent Transportation Systems (ITS)	++	+	+	+		++
Remove on-street parking/Implement additional time of day restrictions	++	+	+	- -	-	+
Transit						
Increase/expand local bus service frequency and span of service	+	++	+	+	-	+
Convert general purpose lanes/on-street parking to dedicated HOV/bus lanes	- -	++	- -	-		-
Install transit signal priority technology for priority corridors	-	+	-			+
Provide bus bulbs and inline stops	- -	++	- -	-	+	-
Provide transit kiosks and other improved amenities		+			+	
Freight						
Implement traffic management strategies along truck corridors	+		+			
Establish program to address locations with sub-standard designs	+	-	++		-	
Establish performance standards along Major Truck Streets	+		+			
Parking						
Reduce parking demand through aggressive TDM programs	+	+	+	++		+
Expand parking management measures/locations	+	+		+		+
Dynamic parking signage for off-street locations				+		+
Curb lane management (loading/unloading in alleys)		+		+		+
Install pay stations				+		
Pedestrians/Bicyclists						
Sidewalk maintenance/improvements		+		+	++	+
Enhance pedestrian crossings and linkages	-	+	-		++	+
Improve lighting and pedestrian scale facilities		+		+	+	+
Striping of new dedicated bicycle lanes by reducing lane widths	-	-	-		++	-
Striping of sharrow lanes		-	-	-	++	-
Event Management						
Increase parking and traffic control	+	+	+	+	+	++
Further parking restrictions/enforcement	+			+		++
Increase pre-selling of parking	+			+		++
Incorporate Intelligent Transportation System (ITS) technologies	+	+	+	+		++
Additional resources to address pedestrian safety		+			++	++

Source: Based on a review of likely impacts to each mode from a qualitative perspective.

6.2 AREA SPECIFIC LAND USE MODIFICATIONS

Recommendations for rezones in parts of the study area could be influenced by the transportation impact conclusions. This could allow for zoning and future land uses that would generate lesser levels of peak hour traffic impacts.

6.3 TRANSPORTATION MITIGATION PAYMENT PROGRAM

The City of Seattle could develop a program which would require new development in the area to share in the funding and implementation of a system of improvements or program enhancements to help address the need for increased mobility within the study area. A transportation mitigation payment program would define the process where developers would contribute their fair share in costs of their identified impacts. This could take the form of a transportation impact fee program, a local improvement district (L.I.D.), a transportation benefit district (TBD), or SEPA traffic mitigation program. A mitigation payment program could be multi-modal and focus on transit, pedestrian, bicycle, and freight improvements, including additional programs or strategies to promote these travel modes. Such a program would provide developers and the City with more certainty of what mitigation fees will be, and provides an appropriate funding source for needed improvements.

6.4 ARTERIAL STREET SYSTEM STRATEGIES

It was observed that the differences in arterial and intersection operations between the 2030 No-Action Alternative and the Action Alternatives were relatively insignificant in most cases. Differences were most noticeable in the Little Saigon neighborhood along the Rainier Avenue S and S Dearborn Street corridors, as well as along S Atlantic Street in the Stadium Area neighborhood.

This section describes mitigation strategies that are identified to help reduce impacts to arterial and intersection traffic operations, and to facilitate mobility for all users of the arterial street system. The strategies identified are not tied to specific developments but are policy-oriented measures or programs to enhance traffic circulation and operations.

Access Management

Access management policies would restrict or prohibit direct access to and from major corridors, such as 1st Avenue S and 4th Avenue S north of S Royal Brougham Way, or Rainier Avenue S north of S Dearborn Street. Installation of traffic signals or left-turn lanes to serve specific developments could be restricted or prohibited. New traffic control such as signals or turn lanes would reduce the capacity of the corridor and increase overall delays. Full access would only be provided at existing intersections or along the surrounding collector or local street system, where capacity exists or is provided by the developer. If a major corridor is the only option for access, then access could be restricted to right-in/right-out only.

Signal Timing Optimization & Phasing

Monitoring and continuous updating of signal plans is a vital aspect to improving arterial and intersection operations. As traffic volumes shift or grow due to new development and increases in through-traffic, the periodic re-timing or synchronizing of traffic signals is critical. By doing so, movements into and out of the City during the AM and PM peak periods would be accommodated by providing more signal green time and appropriate signal cycle lengths that respond to peak directional flow while facilitating local circulation needs. The mitigation program could provide additional funding that would allow for more frequent analysis and updates for signal timing. The mitigation program also could help fund investments in traffic signal equipment to support improved coordination. The improvements to signal phasing and coordination must be balanced against the need to reduce vehicular delay with pedestrian safety and mobility.

Seattle Traffic Management Center/Intelligent Transportation Systems (ITS)

Expanding the existing Seattle Traffic Management Center (TMC) and increasing its funding is another important measure in improving signal operations within the study area. Enhancing the TMC would enable faster response to incidents and help off-set the consequences of the daily variations in traffic patterns and volumes. This is particularly important in the Stadium Area during events. Traffic along the arterials would be able to be monitored more frequently and signal timing plans could be adapted to changing travel patterns or to facilitate unusually heavy traffic flows. Dynamic message signing could help direct drivers through the area and assist visitors in finding available parking.

On-Street Parking Removal / Additional Time of Day Restrictions

The City should consider removal of on-street parking along the minor street approaches at intersections with key arterials to provide for additional turn lanes or vehicle queuing storage space. New turn lanes on the minor street approaches would allow the City to consider providing longer signal cycle lengths and more green time for traffic on the intersecting major arterial. More efficient signal operations also would be a benefit of having additional turn lanes on the minor streets. These issues would have to be studied on a case by case basis taking into consideration the impacts of these measures on parking supply, pedestrian crossings, and transit. Possible locations would be within the Chinatown/Japantown and Little Saigon neighborhoods. Locations should be considered closely when evaluating traffic impact assessments for new developments. Time of day restrictions, such as are currently in place on several Downtown streets, can also be imposed on existing zones in order to avoid peak hour capacity reductions.

6.5 TRANSIT STRATEGIES

Without the Action Alternatives, the performance of the transit system is expected to decline significantly due to the growth in demand, coupled with the increase in traffic congestion and delays along the UVTN corridors. The differences in performance of the transit system under the 2030 No-Action Alternative and the Action Alternatives would be very similar, with small differences noted along key corridors such as 4th Avenue S and Rainier Avenue S.

This section describes the mitigation strategies to reduce impacts to the transit system, and provide more people-moving capacity throughout the study area, sometimes at the expense of other traffic. Transit mitigation is grouped into three categories focusing on frequency and span of service, travel time, and passenger comfort and convenience. The most significant measures focus on improving transit speed and reliability along the transit corridors, as most are anticipated to be operating below UVTN performance standards.

Local Bus Frequency and Span of Service

Work with King County Metro to increase the level and availability of transit service along key UVTN corridors. For example, increasing the frequency of bus service along the Rainier Avenue S and Yesler Way corridors can provide continual 15-minute bus service during most times of the day and therefore, would meet the minimum performance standards. In addition, expanding the span of service along the 12th Avenue S corridor by a few hours would be required to meet the 12-hour span of service threshold. The increased frequency and longer span of service is needed to mitigate additional development in the Little Saigon neighborhood under each of the Alternatives or under the No-Action Alternative.

Increases in peak hour transit capacity are generally needed in all of the major corridors except Rainier Avenue S and 5th Avenue S. This could be achieved by either providing larger transit vehicles or higher frequency (shorter headways) along the corridors. Alternatives 1 and 2 require more capacity than Alternative 3 for the S Jackson Street corridor, 2nd Avenue Ext S, and 3rd Avenue S sections north of S Jackson Street. Ultimately, transit improvements in the study area could be addressed at an area-wide level and will provide

the most benefit when transit speed and reliability can be better predicted and not impacted as much by arterial congestion.

Dedicated HOV or Bus Lanes

Without additional transit facilities to improve the speed and reliability of the transit system, additional bus service will be difficult to fully implement. Significant revisions to the arterial street system would likely be needed to improve transit reliability and operations to accommodate increased person trips within the study area, while also accommodating transit trips that pass through the study area. Dedicating lanes for transit along the most congested corridors would be needed to meet travel speed and passenger loading performance measures. This could be accomplished by the removal of general purpose lanes or on-street parking to provide the width required to accommodate a dedicated transit lane. Candidate corridors are 1st Avenue S, 4th Avenues S, Rainier Avenue S, and S Jackson Street which all currently accommodate at least five lanes. Yesler Way is another potential corridor, which currently has three lanes with on-street parking on both sides.

Removal of on-street parking through Pioneer Square on 1st Avenue S and S Jackson Street corridors could create a dedicated lane for transit or other high-occupancy vehicles (HOVs). However, removal of on-street parking would have a major impact on area businesses and would also increase the forecast parking deficiencies within the neighborhood. Conversion of general purpose travel lanes along 1st Avenue S, 4th Avenue S north of S Royal Brougham Way, and Rainier Avenue S would improve transit speed and reliability but would also significantly impact arterial and intersection operations for non-transit vehicles, including freight. The decision of switching a general purpose lane to a transit lane should be considered based on a thorough analysis of the person-carrying demand and capacity of the two options. These measures could be studied in conjunction with other transportation modes to assess their impact on overall operations and circulation. Freight mobility is very important in the area, so any modifications that further restricts freight is something that could be investigated and studied further. Moreover, the final decision on introducing HOV/bus lanes could be taken based on more thorough examination and analysis of impacts along the candidate corridors outside the limits of the study area and their connections to the regional transportation system.

Transit Signal Priority

Implementing transit signal priority can also improve transit mobility on City streets. Mitigation could be provided, in part, through investments in technologies to better facilitate transit vehicles along the UVTN corridors such as 1st Avenue S, 4th Avenue S, S Jackson Street, and Rainier Avenue S. Queue bypass lanes complemented with transit signal priority treatments, could be installed in locations where buses have to often wait through multiple signal cycles.

Bus Bulbs / Inline Stops

Provision of bus bulbs at transit stops can make for easier and faster arrival, access, and departure for buses. This mitigation measure is site specific and would be best applied on corridors with at least two lanes per direction. The bus bulbs also would allow for additional space on sidewalks for installing shelters and other transit amenities at the bus stops. In-line bus stops would likely increase delays along the corridor for other vehicles and freight, so they could be primarily explored for locations that minimize impacts to other modes of travel. Note that the bulb-outs may reduce some on-street parking if located in parking lanes, due to needed tapers.

Real-Time Information & Transit Amenities

Transit mitigation also could include providing transit kiosks at major transit stops. In addition, amenities such as improved transit shelters and benches can be useful in improving passenger comfort and

convenience. Additional right-of-way for wider sidewalks also would be desirable where these facilities are located.

6.6 FREIGHT STRATEGIES

Impacts to freight are expected under the No-Action Alternative due to increased congestion within the study area. The most direct mitigation impacts to freight movement would be to increase travel speed. Other strategies address roadway and intersection design standards and truck circulation needs. However, many of the mitigation strategies for other travel modes could impact freight operations and could be balanced against the needs for freight mobility. Items such as curb bulb-outs, narrow travel lanes, new crosswalks or signals, and driveway access locations all can adversely impact truck operations and maneuverability. These types of other mitigation could be discouraged along the Major Truck Streets to promote the efficient movement of goods and services, and reduce delays to trucks, knowing that many major streets also serve other uses and modes especially is the denser urban neighborhood. As individual capital projects are undertaken to maintain and enhance streets for multiple users, the City could evaluate various transportation needs, including those for freight movement. Final design decisions will be guided by adopted plans, the Right of Way Improvement Manual, and the recently passed Complete Streets Ordinance.

Traffic Management Strategies

These strategies would include incorporating traffic management strategies, such as providing signal priority along freight corridors through the use of specific traffic signal plans, which would improve truck mobility along City surface streets. One strategy would be to devote a higher percentage of signal green time to serve established freight movements at the expense of competing movements, particularly outside of major commute peak hours. This strategy could be applied along S Dearborn Street, Airport Way S, 1st Avenue S, 4th Avenues S, or S Atlantic Street corridors; however, the primary corridor would have to be chosen for those corridors that intersect such as 1st Avenue S and S Atlantic Street. These timing strategies would only be implemented after studying the impact to transit operations or other modes of travel. Another strategy would be to introduce technologies that improve communications to better manage logistics, including dispatching of commercial vehicles and dissemination of real-time traffic information to avoid delay where possible.

Fund Truck Route Design Improvements

A dedicated funding program could be established to improve existing truck routes by upgrading street infrastructure to better facilitate truck operations and movement. This could include establishment of a program to fund regular improvements to the major truck streets to accommodate wider turning radii, signal upgrades, relocation of utility poles or other obstacles, and more frequent pavement overlays. Poor pavement conditions also result in an increase in road noise and vibrations that are disruptive to people in adjacent buildings, in particular, sensitive residential, educational and health care land uses. Other funds could go toward installing concrete on major truck streets that front new development to prolong the life of the street and reduce the amount of maintenance required.

Performance Standards

The City could develop and adopt performance standards for the major freight corridors. This would help in identifying operational thresholds for Major Truck Streets and better identify impacts to freight movement. For example, one criterion might establish truck travel speed standards (expressed as an absolute minimum speed or as percent of the posted speed) similar to those developed for transit. This system wide action plan would create a measurable threshold that would help maintain minimum level of system performance to support freight movement. The performance standards also could be used in prioritizing capital and maintenance improvements within the City.

Local Truck Access

New development could comply with delivery trucks requirements for proper access, maneuvering and operations. Where sizeable facilities are planned to serve light trucks (like utility trucks) and heavier delivery trucks, on-site spaces could be planned for loading zones and docks to allow adequate accessibility, loading and maneuvering. Limited number of loading/unloading zones could be provided for light delivery trucks to serve adjacent small shops and businesses that can not be accessed off-street. Intersections at local streets could have turning radii that provide for reasonable access by fire trucks, sanitation trucks, and light delivery vehicles. Curb parking on both sides of the local street must not obstruct accessibility of delivery and utility trucks to land uses. Where the right-of-way or free space allows, controls or special lanes and spaces could be imposed to separate and channelize the heavier trucks away from areas designed for automobiles and pick up trucks.

6.7 PARKING STRATEGIES

All Alternatives, including the No-Action Alternative, would result in lost public parking, mostly in the redevelopment of parcels currently serving as surface parking lots. Further impacts to the neighborhoods would occur from new development that will be limited, under current code, to the amount of parking that can be provided for these new uses. Parking deficits could be addressed by two approaches: reducing demand and managing the remaining supply.

Reduce Parking Demand

Seattle has been quite successful in reducing parking demand in the Downtown core area. This is a result of several factors: limited parking supply, high parking prices, extensive transit coverage, free ride transit zone, bicycle services, pedestrian connections and TDM requirements for larger employers or newer buildings. Likewise, the demand for parking within the study area could be reduced by increasing transit service, providing pedestrian and bicycle improvements, and working with employers and developers to provide aggressive TDM programs. Reduced availability of parking supply typically results in increased parking costs. The shortfall in parking and/or higher parking costs would result in more people shifting modes. Incorporating flex-cars as part of TDM measures also would help reduce resident reliance on individual cars.

Parking Management

The City could expand management measures for on-street parking in order to support commercial businesses in the area. This could be done by instituting time limitations and paid hourly parking where appropriate. Added enforcement may be required to maximize effectiveness. Neighborhoods adjacent to the study area neighborhoods under development could be monitored for impacts of spill-over parking. Time restrictions and special restricted parking zones could be needed to discourage the spread of displaced parking demand to neighboring areas.

Along with converting free on-street parking to paid parking, the City also is able to install all-day paid parking that would effectively allow commuters and employees to park on-street in an area for a fee. The City would need to look at installing a combination of all-day and short-term parking in specific areas of South Downtown, such as Chinatown/Japantown and Little Saigon, in order to best manage the on-street parking. The revenues from the on-street parking could be used to help fund area-wide parking management programs (although this would require a change in current City policy with respect to use of parking revenues).

Short-Term Parking

The City is looking at ways to enhance short-term (up to 2 to 4 hours) parking supply in downtown, Pioneer Square and Central Waterfront buildings that is currently sold as commuter or monthly parking. This

program, called the Center City Parking Program, will help to address the serious parking losses from the Viaduct construction. The cornerstone of the mitigation program is an Electronic Parking Guidance System (see following paragraph), negotiating with downtown building owners and major employers to convert existing off-street parking from commuter parking to short-term visitor use, and creating marketing tools that provide a consistent system for supporting short-term parking.

Dynamic Parking Signage

The City can install variable message signs to indicate the location of available off-street public parking. Signs could be located at off-ramps from the highway system to help drivers navigate vehicles towards public parking areas. This strategy could also reduce excess circulation associated with searching for parking, while also assisting in managing parking on event days.

Curb Lane Management

This strategy would aim at establishing standards for new developments whereby loading zones are located in alleys or side streets rather than on major streets. This would allow for additional space for on-street parking or eliminate additional on-street parking from being removed as a result of new development.

Pay Stations

The remaining parking meters in the study area could be removed and replaced with pay stations. The pay stations allow greater flexibility in the form of payment. Additionally, it is easier to collect parking revenues and manage parking conditions with the pay station technology.

Modify Development Caps to Accommodate Lost Public Parking

The City may want to consider a modification to increase the current parking caps in the downtown zones to allow developers to provide additional short-term public parking to partially address the public parking lost due to the project. This approach could be more strongly encouraged through provision of incentives to provide such parking, or mandated by requiring provision of some of the displaced parking. Legal and financial aspects of such programs or requirements need to be explored further.

6.8 PEDESTRIAN AND BICYCLE STRATEGIES

All of the Alternatives would generate increased pedestrian and bicycle activity throughout the study area, with the Action Alternatives likely to contribute a higher proportion of pedestrians and bicyclists than under the No-Action Alternative. Pedestrians and bicyclists impacts could be addressed with these identified strategies.

Sidewalk Improvements & Maintenance

The City and/or property owners could develop a program to help fund improvements to the sidewalk system to address existing trip hazards, locations not meeting ADA requirements, and to construct missing linkages. Improvements also could include the installation or replacement of non-code compliant curb ramps, and resurfacing of sidewalks to provide safer travel. Developers also could be required to include these measures on their street frontage where substandard facilities exist. The City is currently completing a citywide study of the pedestrian system, which will include recommended projects to improve the sidewalk and trail system covering the study area.

Pedestrian Crossings & Linkages

Enhancing pedestrian linkages to the Stadiums, waterfront, and adjoining neighborhoods will help mitigate and support the higher pedestrian volumes under the Action Alternatives. Installing a pedestrian crossing along 4th Avenue S near S Atlantic Street to join in to the pedestrian staircase leading up to the elevated S Atlantic Street overpass is one of the specific improvements that have been identified. Other pedestrian crossings also should be considered or enhanced along 1st Avenue S north of S Royal Brougham Way. Other locations for new crossings or enhancements to existing facilities could be located along Airport Way and S Dearborn Street to facilitate easier pedestrian access to and from the South of Dearborn area. As development occurs along 1st Avenue S, Airport Way, and S Dearborn Street, additional opportunities for pedestrians to safely cross the corridors could be provided. Linkages to the waterfront trail along Alaskan Way could be promoted and improved. Attractive and safe pedestrian access to neighborhood activity centers (community centers, health care facilities, active retail and cultural amenities) could be emphasized and provided. The use of all-way walk signals within the Pioneer Square, Japantown/Chinatown, and Little Saigon neighborhoods could be explored. These will allow for improved pedestrian crossings while also potentially improving vehicle operations.

Pedestrian Scale Facilities

Programs to improve the pedestrian environment with decorative lighting, more landscaping treatments, and street furniture, such as benches, throughout the neighborhoods could be required of new developments. Allow for increased sidewalk width to accommodate these facilities. These facilities would encourage increased pedestrian travel by enhancing safety and comfort. In larger developments, providing for convenient pedestrian passage through the site may be beneficial.

Bicycle Lanes and Sharrows

Mitigation measures to accommodate bicyclists are included in the Seattle Bicycle Master Plan. While these measures may eventually be incorporated, increased development in the study area would make them even more critical. They are included as mitigation strategies because future development may provide the opportunity to incorporate these measures specifically when frontage improvements are incorporated. The Bicycle Master Plan lists the following specific improvements:

- **Installation of bike lanes**
  - 7th Avenue S (I-90 trail extension to S Dearborn Street)
  - Airport Way S (I-90 trail extension to 6th Avenue S)
  - S Royal Brougham Way (up to the new pedestrian structure associated with the SR 519 Phase 2 project).

- **Striping sharrows** (pavement markings designating bicyclists use of the roadway)
  - 6th Avenue S from Airport Way S to S Jackson Street and S Washington Street to Yesler Way
  - 7th Avenue S from S Dearborn Street to S Jackson Street
  - Yesler Way from Alaskan Way S to 2nd Avenue and from 3rd Avenue to 8th Avenue
  - S King Street from 5th Avenue S to Rainier Avenue S
  - 4th Avenue S (from S Jackson Street to Yesler Way)
  - S Jackson Street (from Alaskan Way S to 5th Avenue S)
  - Maynard Avenue S (from S Dearborn Street to S Jackson Street);

Multi-Use Path

Extending the I-90 multi-use trail from its current terminus to completion, as included in the Bicycle Master Plan would provide a better regional connection to serve additional bicycle traffic generated under the No-Action and Action Alternatives.

6.9 EVENT MANAGEMENT STRATEGIES

As the South Downtown area continues to change and more development occurs, the appropriate allocation of resources to achieve the TMP goals is the primary mitigation strategy for events. The resources could be focused on how event traffic and parking will be managed based on the expected impacts of the Alternatives. Mitigation strategies for each Alternative are dependent on the specific timing and nature of the proposed developments and capital transportation improvement projects (such as SR 519).

Mitigation strategies for event management are important for all Action Alternatives, as well as the No-Action Alternative. These measures may need to be most aggressive under Alternative 3 due to more intense projected development levels assumed in the immediate area of the stadiums, compared to the other Action Alternatives.

Parking and Traffic Control

Increased development and density in the immediate vicinity of each stadium combined with added development along the major corridors providing access to the stadiums would create additional pressures on the accessibility of each venue. This would require additional revisions to traffic control depending on the nature of the parking supply changes that could occur. More resources would need to be contributed to better direct traffic to/from the events, while also providing local access to close-in areas. For example, the increased development in the South of Dearborn and Stadium neighborhoods would require a certain level of accessibility to be maintained. As a result of increased development density along 1st Avenue S, an increased program of pedestrian and traffic control, along with further access restrictions, would be necessary to ensure continued efficient event traffic management. Overall, it is expected that the area and number of intersections where traffic control is provided would need to be expanded based on the increase in level of development, with Alternative 3 requiring the highest level of resources.

Parking Restrictions and Enforcement

During major events, additional parking restrictions and enforcement measures in the South of Dearborn and Stadium neighborhoods could be necessary given the intensity of development under the Action Alternatives. Increased signage would need to be installed to assure that appropriate parking restrictions are in place during events to accommodate the continued needs of surrounding residences and businesses. Higher levels of parking enforcement also would be desirable if issues occur that impact the adjacent businesses and/or residential areas.

Pre-Sell of Parking

Continuing and enhancing a program of pre-selling parking would help to offset impacts associated with continued development around each stadium. The pre-sold parking permits would reduce the overall traffic volumes created by the additional circulation associated with searching for parking.

Intelligent Transportation Solutions

Additional measures to mitigate the impacts to event traffic management would include potential Intelligent Transportation System (ITS) solutions such as parking guidance, variable message signs, and additional camera installations to assist with security and traffic management.

Pedestrian Safety

The City and event managers could work to provide additional traffic control measures during events to increase pedestrian safety and efficiency along the surrounding corridors such as 1st Avenue S and 4th Avenue S during events. Increased development in the study area would generate additional pedestrian demand, which would require more resources in place to safely direct combined event and resident pedestrian traffic.

Subsidized Transit

Additional subsidies for use of transit to/from events would help to reduce the overall impacts of increased development on event traffic and parking. This could be explored as part of the annual review and update of the TMPs.

6.10 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Transportation

Alternatives 1, 2 and 3 would accommodate additional amounts of future development within the study area which would contribute to additional travel demands and congestion along arterial corridors. The additional development would also increase traffic access and circulation in the area, reducing the efficiency of through-traffic. This added congestion would contribute to measurably poorer performance of the transportation network, in terms of slower average speed of movements along corridors and somewhat worse performance at several intersections that would experience LOS F conditions. It would also contribute to declines in bus transit efficiency and freight mobility within the study area.

Parking

No significant unavoidable adverse impacts are identified.

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Appendix A: Intersection Level of Service Methodology and Results

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Highway Capacity Manual, 2000

Signalized intersection level of service (LOS) is defined in terms of the average total vehicle delay of all movements through an intersection. Vehicle delay is a method of quantifying several intangible factors, including driver discomfort, frustration, and lost travel time. Specifically, LOS criteria are stated in terms of average delay per vehicle during a specified time period (for example, the PM peak hour). Vehicle delay is a complex measure based on many variables, including signal phasing (i.e., progression of movements through the intersection), signal cycle length, and traffic volumes with respect to intersection capacity. Table 1 shows LOS criteria for signalized intersections, as described in the *Highway Capacity Manual* (Transportation Research Board, Special Report 209, 2000).

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (sec/veh)	General Description (Signalized Intersections)
A	≤10	Free Flow
B	>10 - 20	Stable Flow (slight delays)
C	>20 - 35	Stable flow (acceptable delays)
D	>35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 - 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

Unsignalized intersection LOS criteria can be further reduced into two intersection types: all-way stop-controlled and two-way stop-controlled. All-way, stop-controlled intersection LOS is expressed in terms of the average vehicle delay of all of the movements, much like that of a signalized intersection. Two-way, stop-controlled intersection LOS is defined in terms of the average vehicle delay of an individual movement(s). This is because the performance of a two-way, stop-controlled intersection is more closely reflected in terms of its individual movements, rather than its performance overall. For this reason, LOS for a two-way, stop-controlled intersection is defined in terms of its individual movements. With this in mind, total average vehicle delay (i.e., average delay of all movements) for a two-way, stop-controlled intersection should be viewed with discretion. Table 2 shows LOS criteria for unsignalized intersections (both all-way and two-way, stop-controlled).

Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)
A	0 - 10
B	>10 - 15
C	>15 - 25
D	>25 - 35
E	>35 - 50
F	>50

Table A-1. Intersection Level of Service—2007 (Signalized Intersections Only)

		AM				PM			
Intersection		Delay[1]	LOS[2]	v/c[3]	ICU[4]	Delay	LOS	v/c	ICU
1	2nd Ave & James St	15.8	B	0.53	63%	16.9	B	0.57	62%
2	3rd Ave & James St	14.4	B	0.35	52%	15.7	B	0.41	59%
3	1st Ave S & Yesler Way	14.6	B	0.59	76%	19.4	B	0.70	84%
4	2nd Ave & Yesler Way	8.7	A	0.40	53%	5.7	A	0.42	55%
5	3rd Ave S & Yesler Way	62.4	E	0.51	76%	20.4	C	0.39	70%
6	1st Ave S & S Washington St	6.2	A	0.36	45%	9.6	A	0.47	64%
7	4th Ave S & S Washington St	14.2	B	0.67	66%	27.0	C	0.69	72%
9	1st Ave S & S Main St	6.0	A	0.37	46%	8.0	A	0.46	51%
10	3rd Ave S & S Main St	18.2	B	0.31	43%	22.4	C	0.48	45%
11	4th Ave S & S Main St	3.0	A	0.45	70%	8.6	A	0.45	68%
12	5th Ave S & S Main St	11.7	B	0.26	39%	12.4	B	0.31	43%
13	Alaskan Way S & S Jackson St	3.2	A	0.24	51%	5.9	A	0.53	53%
14	1st Ave S & S Jackson St	16.4	B	0.63	68%	15.7	B	0.44	56%
15	Occidental Ave S & S Jackson St	6.4	A	0.44	65%	6.4	A	0.42	60%
16	2nd Ave S & S Jackson St	15.8	B	0.45	70%	14.3	B	0.45	84%
17	2nd Ave Extension S & S Jackson St	27.5	C	0.57	68%	18.4	B	0.70	66%
18	4th Ave S & S Jackson St	74.7	E	0.64	73%	>200?	F	0.45	72%
19	5th Ave S & S Jackson St	9.1	A	0.35	54%	12.4	B	0.50	66%
20	6th Ave S & S Jackson St	13.8	B	0.41	61%	16.4	B	0.51	70%
21	12th Ave S & S Jackson St	24.5	C	0.55	63%	29.1	C	0.67	69%
22	Boren Ave S & Rainier Ave S & S Jackson St	36.4	D	0.73	90%	44.1	D	0.73	86%
23	1st Ave S & S King St	10.9	B	0.32	53%	14.1	B	0.39	69%
25	4th Ave S & S Weller St	18.9	B	0.65	78%	10.1	B	0.43	58%
26	4th Ave S & Airport Way	32.9	C	0.63	53%	35.5	D	0.68	64%
27	Airport Way S & S Dearborn St	42.0	D	0.59	77%	44.7	D	0.45	72%
28	6th Ave S & S Dearborn St	15.6	B	0.24	57%	18.6	B	0.24	64%
29	Maynard Ave S & S Dearborn St	12.5	B	0.60	62%	15.0	B	0.52	57%
30	7th Ave S & S Dearborn St	13.3	B	0.32	42%	17.4	B	0.33	35%
31	8th Ave S & S Dearborn St	3.2	A	0.26	51%	17.1	B	0.44	25%
32	I-5 Off-Ramp & S Dearborn St	11.5	B	0.32	33%	7.8	A	0.29	38%
33	I-5 On-Ramp & S Dearborn St	21.0	C	0.39	39%	29.7	C	0.38	43%
34	Rainier Ave S & S Dearborn St	28.0	C	0.59	59%	41.5	D	0.87	74%
35	4th Ave S & I-90 Off-Ramp	33.4	C	0.75	63%	427.0	D	0.68	63%
36	Alaskan Way S & S Royal Brougham Way	27.8	C	0.39	46%	25.0	C	0.34	51%
37	1st Ave S & S Royal Brougham Way	66.2	E	0.82	80%	70.2	E	1.02	82%
38	Occidental Ave S & S Royal Brougham Way	32.2	C	0.33	57%	23.0	C	0.42	54%
39	4th Ave S & S Royal Brougham Way	47.9	D	0.74	77%	71.1	E	1.00	83%
42	1st Ave S & S Atlantic St	90.4	F	1.34	110%	58.1	E	1.19	103%
44	4th Ave S & S Atlantic St	18.1	B	0.52	46%	13.7	B	0.66	64%
48	1st Ave S & S Holgate St	59.1	E	0.82	74%	26.1	C	0.68	65%
51	4th Ave S & S Holgate St	22.1	C	0.51	58%	22.4	C	0.52	63%
52	1st Ave S & S Lander St	18.0	B	0.59	74%	35.6	D	0.88	85%
53	4th Ave S & S Lander St	14.1	B	0.35	54%	27.9	C	0.63	68%
54	1st Ave S & S Spokane St	40.1	D	0.66	62%	47.6	D	0.81	61%
55	4th Ave S & S Spokane St	27.2	C	0.57	47%	36.8	D	0.72	50%

1. Average delay in seconds per vehicle.
2. Level of service, based on 2000 *Highway Capacity Manual* methodology.
3. Volume-to-capacity ratio reported for signalized intersections.
4. The Intersection Capacity Utilization method identifies how much reserve capacity is available or how much the intersection is overcapacity. The ICU does not predict delay, but it can be used to predict how often an intersection will experience congestion.

Table A-2. Intersection Level of Service—2030 No-Action Alternative (Signalized Intersections Only)

Intersection		AM				PM			
		Delay[1]	LOS[2]	v/c[3]	ICU[4]	Delay	LOS	v/c	ICU
1	2nd Ave & James St	20	B	0.62	69%	21	C	0.78	76%
2	3rd Ave & James St	13	B	0.45	56%	15	B	0.54	79%
3	1st Ave S & Yesler Way	16	B	0.77	91%	36	D	0.99	111%
4	2nd Ave & Yesler Way	8	A	0.47	58%	10	B	0.56	67%
5	3rd Ave S & Yesler Way	39	D	0.66	82%	21	C	0.47	734%
6	1st Ave S & S Washington St	6	A	0.47	53%	13	B	0.62	72%
7	4th Ave S & S Washington St	18	B	0.89	84%	29	C	0.96	84%
9	1st Ave S & S Main St	9	A	0.47	52%	8	A	0.58	58%
10	3rd Ave S & S Main St	24	C	0.37	43%	26	C	0.60	48%
11	4th Ave S & S Main St	6	A	0.59	78%	11	B	0.57	76%
12	5th Ave S & S Main St	14	B	0.32	39%	14	B	0.39	44%
13	Alaskan Way S & S Jackson St	5	A	0.32	57%	6	A	0.51	63%
14	1st Ave S & S Jackson St	21	C	0.81	78%	19	B	0.63	72%
15	Occidental Ave S & S Jackson St	8	A	0.52	71%	7	A	0.62	76%
16	2nd Ave S & S Jackson St	16	B	0.54	79%	17	B	0.59	104%
17	2nd Ave Extension S & S Jackson St	43	D	0.83	83%	27	C	0.88	79%
18	4th Ave S & S Jackson St	29	C	0.86	87%	28	C	0.83	91%
19	5th Ave S & S Jackson St	7	A	0.45	64%	14	B	0.67	81%
20	6th Ave S & S Jackson St	18	B	0.55	77%	20	C	0.66	86%
21	12th Ave S & S Jackson St	29	C	0.74	74%	36	D	0.88	88%
22	Boren Ave S & Rainier Ave S & S Jackson St	175	F	1.06	105%	83	F	0.93	94%
23	1st Ave S & S King St	13	B	0.41	58%	20	B	0.55	72%
25	4th Ave S & S Weller St	71	E	0.83	92%	16	B	0.52	64%
26	4th Ave S & Airport Way S	174	F	1.36	84%	49	D	0.83	79%
27	Airport Way S & S Dearborn St	50	D	0.77	82%	36	D	0.60	76%
28	6th Ave S & S Dearborn St	15	B	0.34	64%	14	B	0.29	52%
29	Maynard Ave S & S Dearborn St	18	B	0.77	75%	21	C	0.65	66%
30	7th Ave S & S Dearborn St	16	B	0.44	49%	17	B	0.45	45%
31	8th Ave S & S Dearborn St	5	A	0.45	612%	16	B	0.55	61%
32	I-5 Off-Ramp & S Dearborn St	12	B	0.41	39%	9	A	0.39	45%
33	I-5 On-Ramp & S Dearborn St	20	B	0.53	49%	43	D	0.51	54%
34	Rainier Ave S & S Dearborn St	36	D	0.75	71%	100	F	1.09	88%
35	4th Ave S & I-90 Off-Ramp	27	C	0.65	48%	38	D	0.65	55%
37	1st Ave S & S Royal Brougham Way	47	D	0.78	73%	74	E	1.06	93%
38	Occidental Ave S & S Royal Brougham Way	24	C	0.44	56%	22	C	0.50	54%
39	4th Ave S & S Royal Brougham Way	43	D	0.80	82%	100	F	1.17	97%
40	Alaskan Way S & S Atlantic St	48	D	0.90	69%	39	D	0.68	58%
42	1st Ave S & S Atlantic St	94	F	1.14	95%	54	D	0.87	82%
44	4th Ave S & S Atlantic St	3	A	0.61	60%	14	B	0.94	88%
48	1st Ave S & S Holgate St	16	B	0.77	87%	16	B	0.72	71%
51	4th Ave S & S Holgate St	21	C	0.63	59%	23	C	0.70	64%
52	1st Ave S & S Lander St	42	D	0.93	89%	83	F	1.18	103%
53	4th Ave S & S Lander St	25	C	0.70	74%	67	E	0.98	97%
54	1st Ave S & S Spokane St	98	F	1.15	93%	31	C	0.48	48%
55	4th Ave S & S Spokane St	322	F	1.70	103%	138	F	1.07	74%
New Intersections									
	Frontage Road & S Atlantic St	31	C	0.79	61%	53	D	0.69	67%
	Frontage Road & S Royal Brougham Way	57	E	0.83	71%	51	D	0.95	82%
	SR 519 & S Atlantic St	21	C	0.67	55%	32	C	0.69	56%

1. Average delay in seconds per vehicle.
2. Level of service, based on 2000 *Highway Capacity Manual* methodology.
3. Volume-to-capacity ratio reported for signalized intersections.
4. The Intersection Capacity Utilization method identifies how much reserve capacity is available or how much the intersection is overcapacity. The ICU does not predict delay, but it can be used to predict how often an intersection will experience congestion.

Table A-3. Intersection Level of Service—2030 Alternative 1 (Signalized Intersections Only)

Intersection		AM				PM			
		Delay[1]	LOS[2]	v/c[3]	ICU[4]	Delay	LOS	v/c	ICU
1	2nd Ave & James St	20	C	0.63	70%	21	C	0.79	77%
2	3rd Ave & James St	13	B	0.46	57%	15	B	0.54	79%
3	1st Ave S & Yesler Way	16	B	0.79	93%	38	D	1.00	112%
4	2nd Ave & Yesler Way	8	A	0.48	59%	10	B	0.57	67%
5	3rd Ave S & Yesler Way	42	D	0.67	83%	20	C	0.51	77%
6	1st Ave S & S Washington St	6	A	0.48	54%	13	B	0.62	72%
7	4th Ave S & S Washington St	19	B	0.90	85%	29	C	0.96	84%
9	1st Ave S & S Main St	9	A	0.48	53%	8	A	0.58	58%
10	3rd Ave S & S Main St	24	C	0.38	43%	26	C	0.60	49%
11	4th Ave S & S Main St	6	A	0.60	79%	11	B	0.58	77%
12	5th Ave S & S Main St	14	B	0.32	39%	15	B	0.39	44%
13	Alaskan Way S & S Jackson St	5	A	0.33	58%	6	A	0.52	64%
14	1st Ave S & S Jackson St	21	C	0.83	79%	19	B	0.64	72%
15	Occidental Ave S & S Jackson St	8	A	0.53	71%	7	A	0.62	77%
16	2nd Ave S & S Jackson St	16	B	0.54	80%	17	B	0.60	105%
17	2nd Ave Extension S & S Jackson St	44	D	0.85	84%	28	C	0.90	80%
18	4th Ave S & S Jackson St	32	C	0.88	88%	29	C	0.84	91%
19	5th Ave S & S Jackson St	7	A	0.45	64%	14	B	0.68	82%
20	6th Ave S & S Jackson St	18	B	0.56	78%	20	C	0.66	87%
21	12th Ave S & S Jackson St	35	D	0.89	85%	61	E	1.06	101%
22	Boren Ave S & Rainier Ave S & S Jackson St	312	F	1.27	117%	218	F	1.24	139%
23	1st Ave S & S King St	13	B	0.41	58%	20	B	0.55	72%
25	4th Ave S & S Weller St	78	E	0.84	93%	16	B	0.53	65%
26	4th Ave S & Airport Way S	189	F	1.40	86%	51	D	0.86	81%
27	Airport Way S & S Dearborn St	54	D	0.85	83%	82	F	1.06	76%
28	6th Ave S & S Dearborn St	16	B	0.35	64%	14	B	0.30	53%
29	Maynard Ave S & S Dearborn St	19	B	0.78	77%	21	C	0.67	67%
30	7th Ave S & S Dearborn St	16	B	0.45	50%	17	B	0.46	46%
31	8th Ave S & S Dearborn St	5	A	0.47	62%	17	B	0.58	63%
32	I-5 Off-Ramp & S Dearborn St	12	B	0.42	40%	9	A	0.40	46%
33	I-5 On-Ramp & S Dearborn St	22	C	0.64	57%	44	D	0.62	64%
34	Rainier Ave S & S Dearborn St	65	E	0.90	83%	173	F	1.30	113%
35	4th Ave S & I-90 Off-Ramp	28	C	0.67	49%	39	D	0.67	57%
37	1st Ave S & S Royal Brougham Way	50	D	0.79	74%	80	E	1.09	95%
38	Occidental Ave S & S Royal Brougham Way	24	C	0.46	56%	23	C	0.52	55%
39	4th Ave S & S Royal Brougham Way	47	D	0.83	83%	110	F	1.21	99%
40	Alaskan Way S & S Atlantic St	45	D	0.92	70%	39	D	0.69	58%
42	1st Ave S & S Atlantic St	102	F	1.17	98%	55	E	0.90	84%
44	4th Ave S & S Atlantic St	3	A	0.63	62%	16	B	0.96	109%
48	1st Ave S & S Holgate St	18	B	0.79	88%	17	B	0.74	73%
51	4th Ave S & S Holgate St	22	C	0.65	60%	24	C	0.72	65%
52	1st Ave S & S Lander St	43	D	0.95	90%	85	F	1.19	103%
53	4th Ave S & S Lander St	25	C	0.71	74%	72	E	0.99	98%
54	1st Ave S & S Spokane St	101	F	1.16	94%	31	C	0.48	48%
55	4th Ave S & S Spokane St	330	F	1.72	104%	142	F	1.08	74%
New Intersections									
	Frontage Road & S Atlantic St	33	C	0.81	62%	55	E	0.71	68%
	Frontage Road & S Royal Brougham Way	63	E	0.85	73%	56	E	0.97	84%
	SR 519 & S Atlantic St	22	C	0.69	56%	38	D	0.71	57%

1. Average delay in seconds per vehicle.
2. Level of service, based on 2000 *Highway Capacity Manual* methodology.
3. Volume-to-capacity ratio reported for signalized intersections.
4. The Intersection Capacity Utilization method identifies how much reserve capacity is available or how much the intersection is overcapacity. The ICU does not predict delay, but it can be used to predict how often an intersection will experience congestion.

Table A-4. Intersection Level of Service—2030 Alternative 2 (Signalized Intersections Only)

Intersection	AM	PM

		Delay[1]	LOS[2]	v/c[3]	ICU[4]	Delay	LOS	v/c	ICU
1	2nd Ave & James St	20	C	0.65	71%	21	C	0.79	77%
2	3rd Ave & James St	13	B	0.46	57%	15	B	0.54	79%
3	1st Ave S & Yesler Way	17	B	0.79	93%	38	D	1.00	112%
4	2nd Ave & Yesler Way	8	A	0.49	59%	10	B	0.57	67%
5	3rd Ave S & Yesler Way	43	D	0.68	83%	20	C	0.51	77%
6	1st Ave S & S Washington St	6	A	0.48	54%	13	B	0.62	72%
7	4th Ave S & S Washington St	21	C	0.92	86%	29	C	0.96	84%
9	1st Ave S & S Main St	9	A	0.48	53%	8	A	0.58	58%
10	3rd Ave S & S Main St	24	C	0.38	43%	26	C	0.60	49%
11	4th Ave S & S Main St	6	A	0.61	79%	11	B	0.58	77%
12	5th Ave S & S Main St	14	B	0.33	39%	15	B	0.39	44%
13	Alaskan Way S & S Jackson St	5	A	0.33	58%	6	A	0.52	64%
14	1st Ave S & S Jackson St	22	C	0.85	80%	19	B	0.64	72%
15	Occidental Ave S & S Jackson St	8	A	0.54	72%	7	A	0.62	77%
16	2nd Ave S & S Jackson St	16	B	0.55	80%	17	B	0.60	105%
17	2nd Ave Extension S & S Jackson St	44	D	0.86	85%	28	C	0.90	80%
18	4th Ave S & S Jackson St	34	C	0.89	89%	28	C	0.84	91%
19	5th Ave S & S Jackson St	7	A	0.46	65%	14	B	0.68	82%
20	6th Ave S & S Jackson St	18	B	0.56	79%	20	C	0.66	87%
21	12th Ave S & S Jackson St	35	C	0.88	84%	59	E	1.05	101%
22	Boren Ave S/Rainier Ave S/S Jackson St	304	F	1.25	116%	214	F	1.23	138%
23	1st Ave S & S King St	13	B	0.42	58%	20	B	0.55	72%
25	4th Ave S & S Weller St	83	F	0.85	94%	16	B	0.53	65%
26	4th Ave S & Airport Way S	207	F	1.46	89%	51	D	0.86	81%
27	Airport Way S & S Dearborn St	60	E	0.89	84%	149	F	1.87	87%
28	6th Ave S & S Dearborn St	16	B	0.37	65%	14	B	0.30	53%
29	Maynard Ave S & S Dearborn St	20	B	0.80	79%	20	B	0.67	67%
30	7th Ave S & S Dearborn St	16	B	0.47	51%	17	B	0.46	46%
31	8th Ave S & S Dearborn St	5	A	0.51	64%	17	B	0.58	63%
32	I-5 Off-Ramp & S Dearborn St	12	B	0.44	41%	9	A	0.40	46%
33	I-5 On-Ramp & S Dearborn St	22	C	0.63	56%	44	D	0.61	63%
34	Rainier Ave S & S Dearborn St	62	E	0.89	82%	169	F	1.29	112%
35	4th Ave S & I-90 Off-Ramp	28	C	0.69	51%	39	D	0.67	57%
37	1st Ave S & S Royal Brougham Way	48	D	0.82	76%	80	E	1.09	95%
38	Occidental Ave S/S Royal Brougham Way	24	C	0.48	58%	23	C	0.52	55%
39	4th Ave S & S Royal Brougham Way	57	E	0.86	85%	110	F	1.21	99%
40	Alaskan Way S & S Atlantic St	49	D	0.94	72%	39	D	0.69	58%
42	1st Ave S & S Atlantic St	116	F	1.22	101%	55	E	0.90	84%
44	4th Ave S & S Atlantic St	3	A	0.65	64%	16	B	0.96	109%
48	1st Ave S & S Holgate St	20	B	0.81	90%	17	B	0.74	73%
51	4th Ave S & S Holgate St	23	C	0.67	62%	24	C	0.72	65%
52	1st Ave S & S Lander St	43	D	0.95	90%	85	F	1.19	103%
53	4th Ave S & S Lander St	25	C	0.71	74%	72	E	0.99	98%
54	1st Ave S & S Spokane St	101	F	1.16	94%	31	C	0.48	48%
55	4th Ave S & S Spokane St	330	F	1.72	104%	142	F	1.08	74%
New Intersections									
	Frontage Road & S Atlantic St	33	C	0.81	62%	55	E	0.71	68%
	Frontage Road & S Royal Brougham Way	75	E	0.89	75%	56	E	0.97	84%
	SR 519 & S Atlantic St	23	C	0.72	58%	38	D	0.71	57%

1. Average delay in seconds per vehicle. 2. Level of service, based on 2000 *Highway Capacity Manual* methodology. 3. Volume-to-capacity ratio reported for signalized intersections. 4. The Intersection Capacity Utilization method identifies how much reserve capacity is available or how much the intersection is overcapacity. The ICU does not predict delay, but it can be used to predict how often an intersection will experience congestion.

Table A-5. Intersection Level of Service—2030 Alternative 3 (Signalized Intersections Only)

Intersection		AM				PM			
		Delay[1]	LOS[2]	v/c[3]	ICU[4]	Delay	LOS	v/c	ICU
1	2nd Ave & James St	20	C	0.63	70%	21	C	0.79	77%
2	3rd Ave & James St	13	B	0.46	57%	15	B	0.54	79%
3	1st Ave S & Yesler Way	16	B	0.79	93%	38	D	1.00	112%
4	2nd Ave & Yesler Way	8	A	0.48	59%	10	B	0.57	67%
5	3rd Ave S & Yesler Way	43	D	0.68	83%	20	C	0.51	77%
6	1st Ave S & S Washington St	6	A	0.48	54%	13	B	0.62	72%
7	4th Ave S & S Washington St	19	B	0.90	85%	29	C	0.96	84%
9	1st Ave S & S Main St	9	A	0.48	53%	8	A	0.58	58%
10	3rd Ave S & Main St	24	C	0.38	43%	26	C	0.60	49%
11	4th Ave S & Main St	6	A	0.60	79%	11	B	0.58	77%
12	5th Ave S & Main St	14	B	0.32	39%	15	B	0.39	44%
13	Alaskan Way S & S Jackson St	5	A	0.33	58%	6	A	0.52	64%

14	1st Ave S & S Jackson St	21	C	0.83	79%	19	B	0.64	72%
15	Occidental Ave S & S Jackson St	8	A	0.53	71%	7	A	0.62	77%
16	2nd Ave S & S Jackson St	16	B	0.54	80%	17	B	0.60	105%
17	2nd Ave Extension S & S Jackson St	44	D	0.85	84%	28	C	0.90	80%
18	4th Ave S & S Jackson St	32	C	0.88	88%	28	C	0.84	91%
19	5th Ave S & S Jackson St	7	A	0.45	64%	14	B	0.67	82%
20	6th Ave S & S Jackson St	18	B	0.56	78%	20	C	0.66	87%
21	12th Ave S & S Jackson St	34	C	0.87	83%	57	E	1.04	100%
22	Boren Ave S & Rainier Ave S & S Jackson St	300	F	1.24	116%	209	F	1.23	137%
23	1st Ave S & S King St	13	B	0.41	58%	20	B	0.55	72%
25	4th Ave S & S Weller St	78	E	0.84	93%	16	B	0.53	65%
26	4th Ave S & Airport Way S	223	F	1.50	92%	55	D	0.89	84%
27	Airport Way S & S Dearborn St	64	E	0.91	84%	317	F	3.20	89%
28	6th Ave S & S Dearborn St	16	B	0.37	65%	15	B	0.31	54%
29	Maynard Ave S & S Dearborn St	21	C	0.83	81%	21	C	0.68	69%
30	7th Ave S & S Dearborn St	16	B	0.48	52%	17	B	0.48	48%
31	8th Ave S & S Dearborn St	5	A	0.54	65%	18	B	0.60	65%
32	I-5 Off-Ramp & S Dearborn St	12	B	0.45	42%	9	A	0.42	47%
33	I-5 On-Ramp & S Dearborn St	22	C	0.62	56%	44	D	0.61	62%
34	Rainier Ave S & S Dearborn St	60	E	0.88	81%	164	F	1.28	111%
35	4th Ave S & I-90 Off-Ramp	28	C	0.69	52%	39	D	0.70	59%
37	1st Ave S & S Royal Brougham Way	50	D	0.83	78%	88	F	1.13	98%
38	Occidental Ave S & S Royal Brougham Way	28	C	0.49	58%	23	C	0.55	56%
39	4th Ave S & S Royal Brougham Way	65	E	0.88	87%	124	F	1.26	101%
40	Alaskan Way S & S Atlantic St	53	D	0.96	73%	37	D	0.70	59%
42	1st Ave S & S Atlantic St	121	F	1.25	103%	58	E	0.93	87%
44	4th Ave S & S Atlantic St	3	A	0.67	65%	21	C	1.00	113%
48	1st Ave S & S Holgate St	23	C	0.84	92%	18	B	0.77	74%
51	4th Ave S & S Holgate St	23	C	0.69	63%	25	C	0.74	67%
52	1st Ave S & S Lander St	43	D	0.95	90%	85	F	1.19	103%
53	4th Ave S & S Lander St	25	C	0.71	74%	72	E	0.99	98%
54	1st Ave S & S Spokane St	101	F	1.16	94%	31	C	0.48	48%
55	4th Ave S & S Spokane St	330	F	1.72	104%	142	F	1.08	74%
New Intersections									
	Frontage Road & S Atlantic St	35	C	0.80	64%	64	E	0.70	71%
	Frontage Road & S Royal Brougham Way	82	F	0.91	76%	64	E	1.01	86%
	SR 519 & S Atlantic St	24	C	0.75	59%	48	D	0.74	59%

1. Average delay in seconds per vehicle.
2. Level of service, based on 2000 *Highway Capacity Manual* methodology.
3. Volume-to-capacity ratio reported for signalized intersections.
4. The Intersection Capacity Utilization method identifies how much reserve capacity is available or how much the intersection is overcapacity. The ICU does not predict delay, but it can be used to predict how often an intersection will experience congestion.

Appendix B: Off-Street Surface Parking

Historic & Cultural Resources Report for the Livable South Downtown Draft EIS

July 2007

Table of Contents

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Historic & Cultural Resources Report for the Livable South Downtown Draft EIS

1.1 Introduction

This historic resources report prepared for the Draft EIS summarizes the findings of a review of potential historic resources in selected areas located within the boundaries of the Livable South Downtown planning project's study area. Boundary areas and details of the project are described elsewhere in the EIS. This report encompasses only built structures. Archaeological resources were not included within the scope of study.

1.2 Regulatory Framework

City of Seattle SEPA Review and Landmark Designation

The City of Seattle's Department of Planning and Development (DPD), through a 1995 agreement with the Department of Neighborhoods (DON), requires a review of "potentially eligible landmarks" for commercial projects over 4,000 square feet in area. To be eligible for nomination as a City of Seattle Landmark, a building, object, or structure must be at least 25 years old and it must meet one or more of the following six criteria (SMC 25.12.350):

A. It is the location of or is associated in a significant way with an historic event with a significant effect upon the community, city, state, or nation.

B. It is associated in a significant way with the life of a person important in the history of the city, state, or nation.

C. It is associated in a significant way with a significant aspect of the cultural, political, or economic heritage of the community, city, state or nation.

D. It embodies the distinctive visible characteristics of an architectural style, period, or method of construction.

E. It is an outstanding work of a designer or builder.

F. Because of its prominence of spatial location, contrast of siting, age, or scale, it is an easily identifiable feature of its neighborhood or the city and contributes to the distinctive quality or identity of such neighborhood or city.

The Seattle Landmarks Preservation Board designates City of Seattle Landmarks and reviews proposed changes to landmarks.

Pioneer Square

The Pioneer Square Preservation Board (PSPB) was established by City ordinance (see SMC 23.66 "Special Review Districts") and given the authority to adopt guidelines intended to preserve the unique historic and architectural character, and to ensure the appropriate rehabilitation of buildings within the Pioneer Square Preservation District. A Certificate of Approval is required for any change of use and to alter, demolish, construct, remodel, or to make any visible change to the exterior appearance of any structure, public right-of-way, or public space in the District. The PSPB reviews and acts on applications for Certificates of Approval required for all projects within the District.

The Pioneer Square-Skid Road National Historic District (including boundary increases) is roughly bounded by the Alaskan Way Viaduct, S. King Street, Fourth Avenue S., James Street and Columbia Street, including south to the 500 Block of First Avenue S. The boundaries of the Seattle Pioneer Square Special Review District differ slightly from the National District boundaries, extending west of the Viaduct to include the Washington Street Boat Landing, which is also listed in the National Register. The Pioneer Square Special Review District slightly overlaps the International Special Review District at Union Station, which is located in both districts (see Figure H-1).

International Special Review District

The International Special Review District (ISRD) Board was established by City ordinance (see SMC 23.66.302) to preserve the unique Asian American character of the International District and to encourage rehabilitation of areas for housing and pedestrian-oriented business. A Certificate of Approval from the Board is required for any change of use or to alter or make any visible changes to the exterior appearance of any structure, public right-of-way, or public space in the District.

The ISRD is roughly bounded by Yesler Way and I-5 on the north, S. Dearborn Street on the south, Fourth Avenue S. on the west, and Twelfth Avenue S. on the east. The Seattle Chinatown National Register Historic District is located within the International Special Review District. The National Register District is roughly bounded by S. Main Street and S. Jackson Street on the north, S. Weller Street on the south, Fifth Avenue S. on the west, and I-5 on the east (see Figure H-1).

1.3 Methodology

Historical research and fieldwork were undertaken to gather data relevant to an assessment of potential impacts on historic resources located in the project area.

Resources located within the Pioneer Square National Register/Special Review Preservation District were recently surveyed by the City, so this information from the Seattle Department of Neighborhoods (DON) online Survey of Historic Sites was used for this report. Information about the National Register listing of resources was determined from the Washington State Department of Archaeology and Historic Preservation (DAHP) online database (see Table 1-A).

Resources located within the Chinatown National Historic District were also not physically surveyed, as information on these buildings was already available in the National Register nomination form for the district. The form was accessed through the historic sites database managed by DAHP and these data were included in Table 1-B.

Fieldwork was undertaken in March and April 2007 to survey all other potential resources located within the project study area, including a reconnaissance-level survey of all buildings over 40 years of age. After review of the initial findings, additional historical research was conducted on some properties found to exhibit potential historical significance in order to assess whether they may meet Seattle Landmark Designation Criteria. The results of this survey and research are noted in Table 1-C.

Tables 1-A through 1-C additionally indicate existing historical status of all properties, to the extent they are subject to regulatory review and controls outlined by Federal and local preservation regulations and guidelines.

In addition to the fieldwork and historical research, a review of existing studies of the area was also undertaken.

Existing reports that were consulted for this research include:

- Dearborn Street Draft Supplemental EIS (DPD project # 3001242) (2006)
- Football/Soccer Stadium and Exhibition Center Project EIS (1998)
- Washington State Major League Baseball Stadium EIS (1996)
- SR 99: Alaskan way Viaduct & Seawall Replacement Project DEIS (2004)

1.4 Historical Context

Introduction

The study area includes the Pioneer Square and International Special Review Historic Districts and surrounding vicinity. Pioneer Square includes historic buildings associated with the pioneer era of Seattle's settlement as well as later-era buildings associated with the subsequent general economic, commercial and civic development periods of the city's history. The International District and areas to the east include historic buildings associated with the diverse cultural heritage of south Downtown. Areas to the south of the historic districts include what was once part of the Seattle tidelands and is currently part of the stadium district and south Seattle industrial area. The former tidelands area contains historic buildings associated with the railroad and industrial heritage of the city.

First Peoples

The study area is located within the boundaries of lands originally inhabited by tribal peoples collectively known as the Duwamish. The Duwamish primarily relied upon a salmon-based economy for subsistence, but also hunted and gathered plant resources in the area. Neighboring tribes also traveled to the area and built seasonal encampments to fish, hunt and gather or trade for resources. These included the Snoqualmie, Puyallup

and Green River tribes. All of these tribes and many other native peoples along the Puget Sound shared a common language and culture as Coast Salish Peoples.

Several Duwamish winter villages were once located in what is now Pioneer Square. Most significant among these was the village called Djicjila'letc (djee-djee-lah-letsh), which translates as "little crossing-over place" in the native Lushootseed language. The village was roughly located near the current intersection of Yesler Way and First Avenue. The name derives from the geographic siting of the village on what was then an isthmus that connected high ground to the north with an island to the south, set along a tidal marsh to the east and Elliott Bay to the west. The village, inhabited by as many as 200 people, was one of the most important villages along Elliott Bay (Link, 2005). The distinctive geography of the immediate vicinity was altered by the filling of the marshes by early pioneers, and the subsequent filling of tideflats to the south, as the pioneer settlement expanded and various regrades of the surrounding terrain were implemented. Figure H-2 illustrates the location of the shoreline in 1856 in relation to the street pattern.

Since the end of the nineteenth century, when early pioneers established a public square on the site of Djicjila'letc village, the site has been known as Pioneer Place. Contemporary plaques in the public square, inscribed in both Lushootseed and English, honor the history of the Djicjila'letc village. The Totem Pole (National Historic Landmark) located on this site was actually carved by members of a Coast Salish tribe of the Tongass, Alaska, rather than by local tribes (Link, 2005).

In 1855, Chief Sealth (Seattle), representing the Duwamish and Suquamish tribes, signed the Treaty of Port Elliott with the United States Government. Under the treaty, the tribes exchanged all of their tribal lands for payments, education, medical services and the guarantee of their tribal hunting and fishing rights. The Duwamish tribal rights are currently not recognized by the federal government (Boyle, et al., 2006).

Euro-American Settlement

Beginning in June, 1851, the earliest pioneer settlers in the area established land claims and began farming in the Duwamish Valley, following the exploration of the area by John Holgate. These settlers were followed by the Denny party, who settled at Alki Point in November, 1851. This group included David and Arthur Denny, Carson Boren and William Bell, pioneers who platted the earliest land claims in the area along Elliott Bay, with the intention of building a city. After a brief stay at Alki, the party relocated to the area now known as Pioneer Square in April, 1852.

Another early pioneer was Dr. David Maynard, who was responsible for the development of the land around the Pioneer Square area, including areas to the east that are now part of the International District. Maynard has also been credited with establishing congenial relations with the Duwamish and being instrumental in the treaty negotiations of Port Elliott, as well as originating the idea to name the town after the Duwamish Chief Sealth (Seattle).

Pioneer Square

Maynard established the town's first mercantile store in Pioneer Square and Henry Yesler, another significant early pioneer, developed the first lumber mill on Elliott Bay. Yesler's Mill was at First Avenue and Yesler Way, on land donated by Boren and Maynard. The mill was the small town's primary economic sustenance during the first ten years of settlement (Hart Crowser, 1998; Link, 2005). Yesler Way was known as "Skid Road," because it was the path for logs to be skidded downhill to the mill. The historic district is listed on the National Register of Historic Places as Pioneer Square-Skid Road National Historic District.

As the industry and commerce slowly evolved in the commercial district, outlying areas of the Duwamish Valley continued to develop as small agrarian settlements. After the "Indian Wars" of the late 1850s, Seattle incorporated as a municipality in 1865. By 1870, the city included over 1,000 residents (Hart Crowser, 1998).

By the late 1880s, the population of Seattle had risen to 40,000 people. The Pioneer Square commercial district included a large number of commercial wooden frame structures along First Avenue (Front Street) and First Avenue S. (Commercial Street), flanked by plank sidewalks several blocks long. In 1889, a fire spread rapidly through the center of the commercial district and burned approximately 30 blocks extending from S. Jackson Street north to University Street. Very few buildings survived the Great Fire of 1889 (Link, 2005).

Historic buildings in the district date from four successive periods of significance related to the growth of the city following the Great Fire. The first period is 1889-1899, when the "burnt district," or early commercial core, was rebuilt. The second is 1900-1910, during the time in which Seattle experienced a phenomenal real estate and development boom following the 1897 Gold Rush, accompanied by a huge growth in population. The third period of significance is 1911 to 1927, including pre-war development and growth patterns associated with World War I. The fourth period of significance for buildings in the district is 1928-1931. This timeframe encompasses the development of the Second Avenue Extension, a public-works project that had great impacts on streetscapes and open spaces in the district. The year 1931 is also noted as the year in which construction was completed on the City-County Building (King County Courthouse), the last major construction of a building with historical significance in the district (Link, 2005).

The Railroad Era and Filling of the Tideflats

Seattle's commercial growth during the 1870's and 1880's centered upon the continued development of the lumber industry and the expansion of the city's economic base to include extraction of additional natural resources, such as coal and iron ore. This was accompanied and followed by the related development of the railroads to transport these raw goods and the filling of the tideflats to provide land for development of the rail yards.

The decision to locate the Northern Pacific's Transcontinental Railway terminus in Tacoma, in 1873, was a disappointment to Seattle business boosters. Nonetheless, the development and expansion of small railways and rail networks into the mountains and

coal fields were initiated when the local business boosters established the Seattle and Walla Walla Railroad. They began laying rails in May 1874. Although the railroad never reached Walla Walla on the eastern side of the mountains, it prospered by hauling coal from the South King County mines to Elliott Bay piers (Macintosh, 1999). The Walla Walla's success fostered the economic growth of the city and the further development of important maritime and land transportation networks. These transportation networks were important to the economic success and development of the city as a major industrial port, especially after the turn of the century.

The necessary development of the waterfront, including access networks for the local railways to the docks, continued in the 1880's and was first accomplished via a network of wooden piers and trestles that extended across the tideflats. Railroad Avenue was constructed along the waterfront from Pioneer Square north to Broad Street. In 1882, the First Street extension was constructed to expand development along the waterfront. Early regrading of the Downtown business district began around this time. Gradually, the area along First Avenue was filled and by 1888 the tidelands had been pushed back to Second Avenue to the east and Jackson Street on the south (Hart Crowser, 1998; Boyle et. al., 2006).

In the 1890's, the Pacific Northwest was served by 31 separate railroad companies that were operating in Washington and Oregon. Rail lines continued to expand across Washington, and nationally, up until about 1916. Between 1906 and 1914, the Milwaukee, Great Northern, Union Pacific, and Northern Pacific, all national concerns, developed extensive rail yards and support facilities on the reclaimed tideflats. The historic Oregon and Washington Station (now Union Station, 1911), King Street Station (1906), and the railroad tunnel below Downtown were also built during this time (Boyle et. al., 2006). The filling of the tideflats south of Pioneer Square provided the much-needed land necessary to accommodate the development and expansion of the rail lines and the support facilities for the railroads.

Between 1895 and 1910, several earth-moving projects were undertaken that reshaped the south Downtown and tideflats areas and the Duwamish delta. The Seattle and Lake Washington Waterway Company was granted the rights to dredge the Duwamish and to sluice through Beacon Hill for the development of the proposed "South Canal" to connect Elliott Bay with Lake Washington. Although the canal development was eventually abandoned, partly due to major slides resulting from the sluicing of Beacon Hill, the reshaping of the area was accomplished by 1910 through several related projects. The dredging of the Duwamish resulted in the creation of the East and West Waterways and Harbor Island (1895-1909). Dredge materials also contributed to the filling of the tideflats along the bulkhead of the East waterway. The Rainier Valley was opened up through the Dearborn cut and the S. Jackson Street regrade (1907-1909). Material from the S. Jackson Street regrade and the Dearborn cut were deposited on the tideflats north of Connecticut Avenue S., and Fourth Avenue S. was completed to S. Holgate Street on a fill several feet above the surrounding area, which was later filled. Sanitary fill was also later added, especially along Seattle Boulevard (now Airport Way S.) (Sale, 1976; Phelps, 1978). The S. Jackson Street regrade was designed to improve connections from

the waterfront to the Rainier Valley, especially for transportation of goods, which consisted primarily of produce. The Twelfth Avenue South Bridge, which is listed in the National Register, was constructed over the S. Dearborn Street cut in 1911 to reconnect Beacon Hill to S. Jackson Street.

At the turn of the century, Seattle's economy was shifting from a resource-oriented base to a manufacturing and distribution base. From 1900 to 1910, the population increased dramatically from almost 90,000 people to just over 237,000 people, creating a substantial base of available labor (Sale, 1976). The development of the tideflats and the rail yards set the stage for the growth of manufacturing and distribution industries that could take advantage of the rail and maritime network for the import and export of raw materials and finished products. Seattle became the leading port on the West Coast in terms of dollar value of its imports and exports by 1916 (Boyle et al, 2006).

Industrial Development of South Seattle

The earliest industries to develop in the south Downtown area were related to the processing of local resources, such as lumber milling and planing, shipbuilding and metal working shops. Pre-World War I and wartime manufacturing focused on the shipbuilding and metal trades which prospered during that time. Food processing was also an early industry. Most mills, including both lumber and flour mills, and shipbuilding were located on the waterfront. Warehouses and manufacturing plants that supported these operations were located, initially, along First Avenue S., and then in areas farther east as more land became available in the reclaimed tideflats (Boyle et al, 2006).

The Washington Iron Works is an example of a still-existing building from this era. The original foundry and shop burned down in the Great Fire of 1889, but after re-locating twice and expanding, by 1920 the firm grew to encompass at least two blocks of the tideflats located between Seattle Boulevard (Airport Way S.) and Eighth Avenue S. at S. Connecticut Street and S. Norman Street (Bagley, 1916). At least one building associated with the firm still exists in this location. Other firms that were located in the tideflats east of First Avenue around 1920, illustrating the types of manufacturing plants in the area at that time, included the Vulcan Ironworks and U.S. Steel Company, the J.W. False Paper Company, the Pacific Coast Biscuit Company and the Sylvester Bros. Furniture Company (Kroll Map, 1920).

According to a 1923 Chamber of Commerce publication that promoted commercial development, the principal manufactured products of the Northwest were diverse, including lumber shingles, paper, furniture, flour and grist mill products, packing house products, canned and preserved fruits, fish, foundry and machine shop products, dairy and clay products, cement and woolen goods. These goods for the most part came from raw materials extracted from the region. The publication stated that more than half of the copper produced in the United States came from the Pacific Northwest and Alaska, while ores extracted from the west coast of South America were also smelted at Puget Sound locations. Raw silk and vegetable oils were two important commodities imported from Asia. The importance of the rail and steamship lines, the availability of cheap hydro-electric power and the access to raw goods from the Orient were promoted as key reasons

that Seattle was situated to become a manufacturing and commerce center for the West Coast (Seattle Chamber of Commerce, 1923).

By 1929, the Chamber of Commerce published a pamphlet illustrating the successful growth of industry with photographs of over 50 manufacturing plants as examples of successful ventures. An aerial photograph of the industrial area in the former tidelands, viewing southeast from the Skinner and Eddy shipyards along the waterfront, was used as an illustration for the pamphlet's cover. Although foundry operations, steel fabrication and mills and furniture manufacturing are well-represented, newer industries related to electrical manufacturing and chemical processing are illustrated. Expanded and new food processing and packaging industries are also included. The Bemis Bros. Bag Company and the Crescent Manufacturing Company are examples of these extant historic buildings in the tidelands (Seattle Chamber of Commerce, 1929).

Despite the development of the manufacturing sector and the establishment and/or expansion of many significant firms—including the growth from 826 manufacturing firms in 1923 to 1,157 firms in 1927, overall economic values of manufacturing declined by about 27% between 1919 and 1929. This was mostly due to post-war declines in the shipbuilding industry and related foundry work. In 1929, the publishing and printing trades were the main growth industry—doubling the value of their products from 1919 to 1929 (Berner, 1992).

After the Depression and the economic shifts brought about during World War II, the post-war era was dominated by shifts toward a more consumer products- and services-oriented economy. The construction of the Alaska Way Viaduct in the 1950's and Interstate 5 in the 1960's expanded the transportation and distribution network of the shipping industry in new directions and precipitated a shift in importance of the railway concerns in the industrial area toward a trucking-oriented network for regional distribution of imported goods and regional agricultural products. Meanwhile, the ports were expanded for the shift to a more global consumer market focused on worldwide distribution of finished goods.

Industrial Buildings

Industrial buildings typically convey their historic functions in the articulation of their architectural form. Rather than being examples of stylistic forms of architecture, they convey historic meaning as illustrations of the use of construction techniques and materials and the advancement of related building technologies.

The "shed" form was typical of industrial buildings constructed in the late nineteenth century and through the 1920's. Early shed-type buildings used various roof forms to allow for clerestory windows, and rooftop skylights for daylighting of workspaces. Ventilation and fireproofing were also concerns. Typically, this form is a single-story building with interior space that is an undivided volume formed by repetitive structural bays that allowed for expansion of the building. These were typically constructed of timber wood frames with wood or metal siding or riveted frames with brick bearing walls. Early twentieth century forms included steel sheds with steel siding and various

framing methods, including timber, wood truss, steel or concrete, used to support poured-in-place concrete sheds (Boyle et al, 2006).

Modern facilities in the late 1930's and early 1940's used simplified massing, horizontal window banding, glass blocks and smooth curved walls to convey a clean modern look on the exterior and open spaces and light on the interior. The interior space needed to be flexible for a variety of arrangements of the mechanical fixtures. Butterfly trusses were employed to open the interior spaces (Halin, 1940).

After improvements in artificial lighting and development of mechanical ventilation, the industrial building forms were simplified further. Roof forms were more typically flat, and windows were often eliminated altogether (Boyle et al, 2006).

International District

Historic resources located in the study area that are associated with ethnic cultures in the community are predominantly concentrated in the International District. The district is currently and historically the center of Asian American communities including Chinese, Japanese, Filipino and more currently Vietnamese peoples. Historically Italian and African Americans were also part of the cultural diversity of the area, although these two groups are more strongly associated with the settlement of adjacent neighborhoods of the Central Area and the Rainier Valley.

Historic resources in the Chinatown Historic District were built during the period of significance from 1907-1936, beginning with the development of the area after the S. Jackson Street regrade and ending the year of the assassination of Filipino labor organizer Virgil Duyungan, just a few years prior to the internment of the Japanese community.

The Chinatown National Register District includes twenty-six historic hotels known as single room occupancy workers' hotels. These were built to house the many Asian men that came to work in the lumber, mining, railroad and other industries. Despite the loss of at least 40 similar hotel buildings that were demolished after 1950, the extant hotel buildings make up the largest category of historic building types in the district. The other building types of historical significance are one- and two-story commercial buildings and a small number of automobile-related structures (Kreisman, 1986).

<u>Chinese</u>

Beginning in the 1870's, during the early development of the railway in Seattle, Chinese immigrants came to Seattle to work in the rail and mining and lumber industries. They also worked in canneries, laundries and retail businesses. The Chinese district was first concentrated at First Avenue S. and Occidental Avenue S., but gradually shifted east to S. Washington Street between Second and Third Avenues S. Subsequent to the S. Jackson Street regrade in 1907, the community shifted southeast to the present location of Chinatown, centered along S. Jackson and S. King Streets, east of Fourth Avenue S. and the King Street Station (Hart Crowser, 1998; Kreisman, 1986).

The national Chinese-Exclusion Act of 1882, and general anti-Chinese sentiment in the West, precipitated the deportation of many local Chinese in 1886 during anti-Chinese riots. Despite this, the community gradually grew and Chinatown grew to include a large number of mixed retail/hotel buildings that housed the many single working men.

Chinese working men were an important source of labor for the development of the city's early economic infrastructure. In addition to the working class Chinese, some successful Chinese businessmen prospered as labor contractors, built the hotels and rooming houses to house the laborers, and established trade businesses in Seattle. Some of the historic buildings in the district are associated with these businesses. Additionally, the Chinese formed social benefit clubs such as Chong Wa Benevolent Association. In 1929, this group built a prominent building that exhibits distinctive Chinese architectural characteristics that contributes to the historic character of the district today (Kriesman, 1986).

Japanese

After the deportation of numerous Chinese laborers in 1886, Japanese immigrants began to arrive in the area and joined the recently depleted labor force. Gradually, the Japanese developed their own community enclave adjacent to the Chinese community. The business center of Nihonmachi, or "Japan town," was centered at S. Main Street near Fifth Avenue and the community extended eastward to 12th Avenue (Kreisman, 1986). By 1940, the Japanese far outnumbered the Chinese. The census that year lists 6,975 Japanese and only 1,781 Chinese (Berner, 1992).

Just prior to the advent of World War II, the Yesler Terrace housing project was begun. The project, and the subsequent relocation of the Japanese community to internment camps in 1942, effectively destroyed the core of the Japanese commercial district. Today, the small remaining portion of Japantown includes two historic buildings particularly associated with the Japanese heritage of the area. The Nippon Kan Theater building and the Panama Hotel are both individually listed in the National Register of Historic Places and the Panama Hotel has the status of a National Historic Landmark.

Additionally, two historically significant buildings associated with the Japanese community are located outside of the International District boundaries near the eastern edge of the study area. The Japanese Language School, or Kokugo Gakkō, is the oldest operating Japanese language school in the continental United States (Krafft, 2006). The school, which is located at S. Weller Street and 16th Avenue S., is a Seattle landmark and is listed in the National Register. The Seattle Buddhist Church, a City of Seattle Landmark, is located on Main Street east of 14th Avenue S.

Filipinos

By 1920, a small number of Filipinos were living in the district and many began working in the cannery factories. Although the community's population increased gradually, it often fluctuated seasonally, as many Filipinos were sojourners who moved often to seek employment opportunities, especially in the fishing and processing trades. The Filipino laborers became a strong force in the labor movement. A Filipino who was a key

organizer in the movement, Virgil Duyungan, was assassinated on Main Street in 1936. The National Register nomination form for the historic district identified S. Weller Street as "Filipino Town." (Kriesman, 1986)

Little Saigon and Jackson Street Jazz

Currently, the Vietnamese community has a strong presence in the part of the International District that lies east of the I-5 overpass on S. Jackson Street. Members of this community arrived in the 1970's and Vietnamese businesses along S. Jackson Street include restaurants, groceries and other retail stores and service-oriented businesses. Many of these businesses are housed in newer buildings or older buildings that had previously been occupied by Japanese, Chinese and other groups for varied uses. For the most part, very few buildings along the street exhibit any historic character related to historic uses. Rather, they have been extensively altered for contemporary uses.

From the 1920's through the 1950's, S. Jackson Street was the center of jazz culture in Seattle. This was predominantly part of the African American cultural scene. Although some whites performed in mixed groups at the "speakeasy," or after-hours clubs in the district, African American musicians were not allowed to play in white-owned clubs patronized by whites until the late 1950's. Yesler Way was the unofficial racial segregation line between the white community and the racially mixed community of south Downtown. The district's jazz clubs fostered the development of several local musicians that became nationally known, while also hosting nationally famous musicians who came to play in Seattle. Musicians were also known to stay in the hotels located in the Chinatown area while visiting Seattle (DeBarros, 1993).

An interpretive historic marker located on the north side of S. Jackson Street near 12th Avenue S. tells this story, as the buildings that formerly housed the clubs do not visibly convey their history. Opposite this marker, on the southeast corner of the intersection, is a building that once housed one of the most popular of the jazz clubs—the Black and Tan Club. During the 1930's, this building housed a Japanese retail store at the street front, while the jazz club was conducted out of the backrooms by an African American. Today, it serves as a retail space for a Chinese grocery and herb store, and its former associations are no longer apparent.

The north and east edges of the study area are characterized by historical and current overlap of diverse cultures. The east end of the S. Jackson Street corridor and the intersection of Rainier Avenue S. at 14th Avenue S. forms the boundaries and gateway for three neighborhoods. North and east of the International District is the Central Area. This neighborhood has historical associations with Jewish and African American communities and some overlap of Asian American communities. Rainier Avenue S. extends south from S. Jackson Street into the Rainier Valley, traditionally inhabited by Italian immigrants and some Japanese and currently inhabited by people from a diverse mix of cultures. These adjacent neighborhoods supported more residential development, while S. Jackson Street and Rainier Avenue S. served as commercial and transportation corridors.

As early as 1891, an electric railway built by J.K. Edmiston connected Downtown Seattle with the Rainier Valley, via S. Washington and S. Jackson Streets. This facilitated the transportation of people and goods to and from Downtown and the valley. Italian and Japanese farmers in the valley transported produce to the Pike Place Market (Tobin et al, 2004), but early business development on S. Jackson Street and the area to the south also seems to have been influenced by this transportation connection, which by the 1930's was being developed as an automobile-oriented business corridor.

In the 1930's, S. Jackson Street was a retail and wholesale strip with a large proportion of agricultural-related enterprises, including food processing and distribution. Enterprises included the Acme Poultry Company and numerous produce and grocery shops and stands. A dairy was once located at the north end of Rainier Avenue S. near S. Weller Street. The area south of S. Jackson Street developed as a warehouse district. As late as the 1950's, some new warehouse and distribution buildings were built in the area to support Asian food imports and distribution enterprises.

1.5 Tables

See attached Tables 1-A through 1-C

1.6 Figures

See attached Figure H-1 and H-2

HISTORIC RESOURCES LOCATED IN THE PIONEER SQUARE PRESERVATION DISTRICT (Table 1-A)

Property Address	Historic and/or Common Building Names	King County Tax Parcel #	Resource is Contributing to the NR Historical District Status	Resource is Individually Listed on National or Local Register	Resource is Non-Contributing to the NR Historical District Status
562 First Ave. S.	Bornstein & Sons, Inc. Warehouse	7666206865	☑		
1000 First Ave. S	A. L. Palmer Building	7666206676	☑		
1014 First Ave. S.	M. F. Backus Warehouse / Olympic Reprographics	7666206690	☑		
1022 First Ave. S.	E. O Graves Building / F & O Inc	7666206700	☑		
1028 First Ave. S.	Geo. T. Maginnis Bottling Works / Kalimantan/Bladesmith's Retail	7666206705			☑
104 First Ave. S.	Lippy Building	5247800461	☑		
105 First Ave. S.	Schwabacher Building	5247800046	☑		
109 First Ave. S.	Terry Denny Building/ Northern Hotel	5247800041	☑		
119 First Ave. S.	Dexter Horton Building / Maynard Building	5247800035	☑		
201 First Ave. S.	J & M Hotel	5247800130	☑		
202 First Ave. S.	Buttnick Building	5247800380	☑		
206 First Ave. S.	Gottstein Building / City Loan Building	5247800385	☑		
207 First Ave S.	Skagit Hotel / The Central	5247800120	☑		
209 First Ave. S.	Marathon Building	5247800125	☑		
211 First Ave S.	Parker Building / Lucky Hotel	5247800115	☑		
213 First Ave. S.	Branagen-Smith Building Hotel	5247800110	☑		
214 or 216 First Ave. S.	Squire Latimer Bldg. / Grand Central	5247800390	☑		
219 First Ave. S.	New England Hotel	5247800105	☑		
301 First Ave. S.	Matilda Winehill Blk. / Bread of Life Mission	5247800190	☑		
310 First Ave. S.	Marshall-Walker Bldg. / Globe Bldg.	5247800320	☑		
311 First Ave. S.	Maud Bldg.	5247800180	☑		
313 First Ave. S.	Crown Hotel	5247800170	☑		
314 First Ave. S.	Nord Hotel / Apartment	5247800330	☑		
316 First Ave. S.	Walker Bldg. / Seattle Quilt Bldg.	5247800335	☑		
317 First Ave. S.	Squire Bldg.	2285430000	☑		
322 First Ave S.	Capitol Brewing Co. / Jackson Bldg.	5247800345	☑		
401 First Ave. S.	Schwabacher Hardware Bldg. / Merrill Place Condo	5479600000	☑		
411 First Ave. S.	Seller Bldg. / Hambach-Seller Bldg.	5247800200	☑		
419 First Ave. S.	Hambach Bldg. / Hambach-Seller Bldg.	5247800200	☑		
500 First Ave. S.	Mueller Wholesale Blk.	7666206830	☑		
501 First Ave. S.	Seattle Hardware Co. Whse. Annex	7666206895	☑		
508-534 First Ave. S.	Seattle Security Co. Whse. / Florentine Apts.	766206831	☑		
536 First Ave. S.	Kaufman Whse. / Chippers Restaurant	7666206850	☑		
542 First Ave. S.	Washington Shoe Co. Bldg.	7666206851	☑		
547 First Ave. S.	Duncan & Sons Bldg.	7666206930	☑		
548 First Ave. S.	Carstens Bros. Cold Storage	7666206855	☑		
551 First Ave. S.	Triangle Hotel / Flatiron Bldg.	7666206935	☑	NR/LR	
558 First Ave. S.	E. N. Fobes Bldg. / Westinghouse Electric Supply Co.	7666206865	☑		
568 First Ave. S.	Provident Bldg.	7666206871	☑		
590 First Ave. S.	Seattle Plumbing Co. / Old Johnson's Plumbing Bldg.	7666204879	☑		
605 First Ave.	Yesler Bldg. / Mutual Life Bldg.	8591400075	☑		
606 First Ave.	Pioneer Bldg. (Collectively listed with the Pergola and Totem Pole)*	0939000150	☑	NR*	
612 First Ave.	Howard Bldg.	0939000140	☑		
616 First Ave.	Lowman & Hanford Bldg.	0939000125	☑		

Property Address	Historic and/or Common Building Names	King County Tax Parcel #	Resource is Contributing to the NR Historical District Status	Resource is Individually Listed on National or Local Register	Resource is Non-Contributing to the NR Historical District Status
627 First Ave.	Silver Hotel / Totem Pole Loans	8591400055			☑
625 First Ave.	K & R Bldg. / Emerald City Bldg.	8591400060	☑		
820 First Ave. S.	Cedarstrand Rentals Whse.	7666206631			☑
900 First Ave. S.	Roebling Bldg.	7666206240	☑		
902 First Ave. S.	Alaskan Copper Works Bldg.	7666206655	☑		
904 First Ave. S.	Anaconda Wire & Cable Co. Whse.	7666206660	☑		
215 Second Ave. S.	Lucknow Bldg. / Ruggles Bldg.	5247800660	☑		
220 Second Ave. S.	Furuya Bldg. / Masin's Furniture	5247800900	☑		
301 Second Ave. S.	Fiesta Bldg. / Number 1 Teriyaki	5247800915	☑		
305 Second Ave. S.	Fire Station # 10 / Fire Station # 2	5247800725	☑		
312 Second Ave. S.	Moses Bldg.	5247800855	☑		
313 Second Ave. S.	Hambach Whse. / Masin's Furniture	5247800690	☑		
315 Second Ave. S.	Duncan & Sons Bldg. / Duncan Bldg.	5247800720	☑		
318 Second Ave. S.	Fulton Hotel Bldg.	5247800860	☑		
319 Second Ave. S.	Wittler Blk. / Cadillac Hotel	5247800715	☑		
402 Second Ave. S.	Crane Bldg. / Goldsmith Bldg.	5247800755	☑		
502 Second Ave.	Smith Tower	0939000060	☑		
512 Second Ave.	Florence Theater / Paris Theater	0939000055			☑
520 Second Ave.	Collins Bldg.	0939000025	☑		
600 Second Ave.	Hartford Bldg.	0939000115	☑		
601 Second Ave.	Butler Hotel / Garage	0939000155	☑		
606 Second Ave.	Corona Bldg.	0939000100	☑		
618 Second Ave.	Alaska Bldg.	0939000080	☑		
619 Second Ave.	Bailey Bldg. / Broderick Bldg.	0939000130	☑		
108 Second Ave. Ext. S.	408 Second Ave. Ext. S. / Harbor Light	5247800960			☑
318 Second Ave. Ext. S.	Ace Hotel / Union Gospel Mission	5247800930	☑		
423 Second Ave. Ext. S.	H.K. Owens Bldg. / Metropole Bldg.	5247800595	☑		
222 Second Ave. Ext. S.	Metropolitan Bldg. / Seattle Light Fixture Co.	5247801115	☑		
400 Second Ave. Ext. S.	Chin Gee Hee Bldg. / Kon Yick Bldg.	5247800980	☑		
411 Second Ave. Ext. S.	Circle Theater / Commercial Retail Store	5247800580			☑
406 / 412 Third Ave. S.	Lexington Hotel / Monterey Hotel	5247800960	☑		
115 Third Ave. S.	Frye Hotel Garage	5247801000	☑		
200 Third Ave. S.	Union Hotel Apartments	5247801060	☑		
206 Third Ave. S.	Northcoast Electric Co. / Norton Bldg.	5247801065	☑		
210 Third Ave. S.	Richmond Paper Co. / The Lofts	4397500000	☑		
307 Third Ave. S.	Mottman Bldg.	5247800875	☑		
319 Third Ave. S.	Pacific Drug Co. / U.S. Rubber Bldg.	5247800865	☑		
501 Third Ave.	Artic Club & Hotel Seward / Morrison Hotel	0939000040	☑		
519 Third Ave	Drexel Hotel	0939000035	☑		
110 Alaskan Way S.	Heffernan Engine Works / Old Firehouse Market	5247800015	☑		
114 Alaskan Way S.	Prudential Bldg.	5247800025	☑		
212 Alaskan Way S.	O.K. Hotel	5247800090	☑		
304 Alaskan Way S.	Oregon & Washington Railroad & Navigation Co. / C & H Co.	5247800140	☑		
316 Alaskan Way S.	Terminal Garage / Old Seattle Parking Garage	5247800150			☑
107 Cherry St.	Lowman Bldg.	0939000120	☑		
110 Cherry St.	Scheuerman Blk.	0939000235	☑		
61 Columbia St.	Polson Bldg.	7666202565	☑		
83 Columbia St.	Daily Journal of Commerce Bldg.	7666202580	☑		
101 S. Jackson St.	Western Dry Goods Co. / Heritage Bldg.	5247800255	☑		
115 S. Jackson St.	Simonds Bldg. / Fisher Bldg.	5247800265	☑		

Property Address	Historic and/or Common Building Names	King County Tax Parcel #	Resource is Contributing to the NR Historical District Status	Resource is Individually Listed on National or Local Register	Resource is Non-Contributing to the NR Historical District Status
122 S. Jackson St.	Ingels Blk / Herman Blumenthal Bldg.	5247800350	☑		
123 S. Jackson St.	Seattle Transfer Co. / Jackson Sq. Supplies	5247800275	☑		
171 S. Jackson St.	Chapin Bldg. / Northcoast Bldg.	5247800745	☑		
301 S. Jackson St.	Union Station / King Street Station	5247801160	☑	NR	
80 S. Jackson St.	Smith Bldg. / 80 S. Jackson St. Condiminiums	2285430000	☑		
83 S. Jackson St.	Schwabacher Hardware Annex	5247800230	☑		
100 S. King St.	Westland Bldg.	5247800300	☑		
83 S. King St.	Seattle Hardware Co. Bldg.	7666206895	☑		
117 S. Main St.	Union Trust Co. Annex	5247800365	☑		
119 S. Main St.	Union Trust Bldg.	5247800360	☑		
213 S. Main St.	Cascade Laundry / Old Cannery Bldg.	5247800880	☑		
222 S. Main St.	Corgiat Bldg. / Main Hotel Bldg.	5247800910	☑		
75 S. Main St.	Alaska Hotel / Our Home Hotel Condominuim	6437000000	☑		
76 S. Main St.	Boston Hotel	5247800095	☑		
102 Occidental Ave. S.	Seattle National Bank Bldg. / Interurban Bldg.	5247800555	☑		
107 Occidental Ave. S.	Walker Bldg. / Al & Bob's Saveway	5247800535	☑		
117 Occidental Ave. S.	Star Theater / New Stage Theater	5247800530			☑
300 Occidental Ave. S.	State Bldg.	5247800695	☑		
311-1/2 Occidental Ave. S.	Waltham Blk. / Occidental Bldg.	5247800355	☑		
314 Occidental Ave. S.	Sportscaster & Co. Bldg. / Burke Bldg.	5247800695	☑		
400 Occidental Ave. S.	J.M. Frink Bldg. / Washington Shoe Bldg.	5247800735	☑		
416 Occidental Ave. S.	Graybar Electric Co. Bldg.	5247800780	☑		
419 Occidental Ave. S.	Manufacturers Exchange Bldg. / McKesson & Robbins Bldg.	5247800280	☑		
606 Post Ave	Fischer & MacDonald Wholesale / 606 Post Ave Condominium	7804120000	☑		
611 Post Ave	Elgin Hotel / Traveler's Hotel	8670450000	☑		
633 Post Ave	New Post Station / Seattle Steam Co.	8591400100	☑		
101 Prefontaine Pl. S.	Tashiro Bldg & Exchange / Tashiro-Kaplan Bldg.	8566600000	☑		
110 Prefontaine Pl. S.	Prefontaine Bldg.	5247801045	☑		
108 S. Washington St.	Terry & Kittinger Bldg. / Delmar Bldg. & State Hotel	5247800481	☑		
116-118 S. Washington St	Scandanavian Hotel & Clancy Bldg.	5247800525	☑		
124 S. Washington St.	Hotel Interurban / Last Supper Club	5247800515			☑
164 S. Washington St.	Nugent Blk. & Considine Blk. / Barney's Loans	5247800575	☑		
171 S. Washington St.	McCowan Blk. / McCoy's Tavern	5247800675	☑		
219 S. Washington St.	Graham Blk. / Union Gospel Mission Hotel	5247800940	☑		
221 S. Washington St.	Graham Blk. / Washington Court Bldg.	5247800935	☑		
68 S. Washington St.	Lowman & Hanford Printing Co. Bldg. / Washington Park Bldg.	5247800030	☑		
77 S. Washington St.	Pacific Coast Co. / Lutheran Compass Center	5247800070	☑		
81 S. Washington St./619 3rd Ave.	St. Charles Hotel / Rector Hotel / St. Charles Hotel	5247800065	☑	NR	
89 S. Washington St.	J & M Hotel Annex	5247800130	☑		
611 Western Ave.	611 Western Ave.	7666202575	☑		
1 Yesler Way	Bedford Hotel	7666202594	☑		
109 Yesler Way	Merchant's Café	5247800550	☑		
119 Yesler Way	Korn Bldg.	5247800545	☑		
223 Yesler Way	Frye Hotel	5247801000	☑		
400 Yesler Way	City Hall Bldg. / Old Public Safety Bldg. / Yesler Bldg.	0924001150	☑	NR	
77 Yesler Way	Yesler Hotel / Pioneer Square Hotel	5247800005	☑		
95 Yesler Way	Bank of Commerce Bldg. / Yesler Bldg.	5247800055	☑		
Foot of Washington Street88	Washington Street Boat Landing			NR/LR	

*The Pioneer Bldg., Totem Pole and Iron Pergola are additionally distinguished as National Historical Landmarks

**The Washington Street Boat Landing is part of the Pioneer Square Special Review District, but is not included in the National Historic District.

RESOURCES LOCATED IN THE SEATTLE INTERNATIONAL SPECIAL REVIEW / SEATTLE CHINATOWN NATIONAL REGISTER DISTRICTS (Table 1-B)

Property Address	Historic and/or Common Building Names	King County Tax Parcel #	Resource is located within the Seattle Chinatown National Register Historic District	Resource is Listed as Contributing to the NR Historical District Status	Resource is Individually Listed on National or Local Register	Resource is Non-Contributing to the NR District Status
212-216 Fourth Ave. S.	Dome Stadium Tavern / Fourth Ave. Market	5247801430				
220 Fourth Ave. S.	Aristocrat's Club Lounge	5247801431				
308 Fourth Ave. S.	Dowtowner Apts.	5247801370				
200 Fifth Ave. S.	Ascona Apts.	9820700090				
206-212 Fifth Ave. S.	Manila Bay & Tenoch Mexican Grill Restaurants	9820700095				
404-416 Fifth Ave. S.	Depot Garage / Fiore D'Italia Café	5247801620	☑	☑		
418-422 Fifth Ave S. / 500-512 S. King St.	One-Story Commercial Bldg.	5247801630	☑	☑		
504-512 Fifth Ave. S. / 501 S. King St.	Hotel Publix	5247801655		☑		
100 Sixth Ave. S.	Ticino Apts.	5247802050				
304-310 Sixth Ave. S.	N.P. Hotel	5247801970	☑	☑		
307 Sixth Ave. S.	Main Street School Annex	5247801606	☑	☑		
414 Sixth Ave. S.	United States Postal Station: International District	5247801935	☑			☑
612 Sixth Ave. S.	TCC Printing	5247801835				
410-416 Seventh Ave. S.	Republic Hotel / Lyn Yuen Apts.	5247802735	☑	☑		
413-417 Seventh Ave. S.	China Garage / T.C. Garage	5247802330	☑	☑		
418-424 Seventh Ave. S. / 704-710 S. King St.	Norway Hotel / New American / Bing Kung Assoc. Apts.	5247802740	☑	☑		
513-519 Seventh Ave. S.	Gee How Oak Tin Hotel	5247802375	☑	☑		
514-518 Seventh Ave. S.	Chinese Garden / China Gate	5247802690	☑			☑
522 Seventh Ave. S.	Chong Wa Benevolent Assoc.	5247802695	☑	☑		
610 Seventh Ave. S.	Two-Story SFR	5247802590				

Property Address	Historic and/or Common Building Names	King County Tax Parcel #	Resource is located within the Seattle Chinatown National Register Historic District	Resource is Listed as Contributing to the NR Historical District Status	Resource is Individually Listed on National or Local Register	Resource is Non-Contributing to the NR District Status
612 Seventh Ave. S.	Duplex Apts.	5247802600				
710-712 Seventh Ave. S.	Arts of China Whse.	5247802540				
409 Eighth Ave. S.	House of Hong	5247802755	☑			☑
410-416 Eighth Ave. S.	Don Hee Apts	5391600095	☑	☑		
413-421 Eighth Ave. S. / 714 S. King St.	Four Seas Restaurant	5247802745	☑			☑
418-422 Eighth Ave. S.	Hip Sing Assoc. Bldg. / Chinn Apts	5391600100	☑	☑		
605 Eighth Ave. S.	Garage	5247802665				
611 8th Ave S.	One-Story SFR	5247802650				
615-619 Eighth Ave. S.	Lindsay Industrial Tool	5247802630				
616 Eighth Ave. S.	Reprographics NW (2 Bldgs Assemblage)	8592900080				
417 9th Ave. S. or 914 S. King St.	2 Bldg. Assemblage-Uni Part Whse.	5391600161				
424 Tenth Ave. S.	Office Bldg / Restaurant	8170100005				
424 Tenth Ave. S.	Office Bldg.	8170100106				
501 Twelfth Ave. S. or 301 Twelfth Ave. S.	Art Process Silk Screen	8170100251				
507 Twelfth Ave. S.	Hau Hau Inc. Whse.	8170100250				
519 Twelfth Ave. S.	MacPherson Leather Co. Whse.	8170100260				
650-652 S. Dearborn St.	Spic-n-Span Cleaners	5247802485				
700 S. Dearborn Bldg #1	One Story Retail Bldg	5247802560				
503-511 S. Jackson St.	Buty Bldg / Idaho Hotel	5247801615	☑	☑		
514-526 S. Jackson St.	Governor Apts.	5247801595	☑	☑		
525 S. Jackson St.	Seattle First National Bank	5247801640	☑			☑
600-612 S. Jackson St.	Jackson Bldg.	5247801975	☑	☑		
601 S. Jackson St.	United Savings & Loan	5247801925	☑			☑
614-624 S. Jackson St.	Havana Hotel	5247801985	☑	☑		
615-627 S. Jackson St.	Bush Hotel	1275100000	☑	☑		

Property Address	Historic and/or Common Building Names	King County Tax Parcel #	Resource is located within the Seattle Chinatown National Register Historic District	Resource is Listed as Contributing to the NR Historical District Status	Resource is Individually Listed on National or Local Register	
650-662 S. Jackson St. / 316 Maynard Ave. S.	Rainier Heat & Power Co.	5247802260	☑	☑		
651-661 S. Jackson St. or 400 Maynard Ave. S.	Tokiwa Hotel / Evergreen Apts.	5247802295	☑	☑		
664-676 S. Jackson St	Jackson Hotel	3644600000	☑	☑		
667-677 S. Jackson St.	T & C Bldg.	5247802335	☑	☑		
701-711 S. Jackson St.	Seventh Ave. Auto Service	5247802725	☑	☑		
913 S. Jackson St.	Crown Automotive / Van's Produce	5391600140				
923 or 925 S. Jackson St.	Buu Dien Café	5391600130				
1001 S. Jackson or 410 Tenth Ave. S.	IPC Restaurant Supplies Bldg # 2	8170100005				
1001 S. Jackson St.	IPC Restaurant Supplies Bldg # 1	8170100005				
1017-1019 S. Jackson St.	Garland Florist Bldg. / Coho Real Estate Bdg.	8170100020				
1032 S. Jackson St.	Viet Wah Supermarket	8591900145				
1032A-B S. Jackson St.	Nam Phuong Bookstore / New Saigon Deli	8591900150				
1033 S. Jackson	2 Bldgs.-ACME Poultry & Egg Whse. / Seattle Produce Whse.	8170100025				
1043 S. Jackson St.	Jackson St. Garage / Hop Thanh Market	8170100045				
518-526 S. King St. / 417-421 Sixth Ave. S.	American Hotel	5247801635	☑	☑		
605-613 S. King St. / 500-506 Sixth Ave. S.	Two-Story Commercial Bldg.	unknown	☑	☑		
615-625 S. King St. / 505-511 Seventh Ave. S.	Louisa Hotel/Hotel Hudson* & Chinese Bulletin Board** (Listed Collectively on the NR Nomination Report)	5247802380	☑	☑	LR	☑
615-625 S. King St.	Alps Hotel	5247801920	☑	☑		
651-665 S. King St.	Rex Hotel	5247802345	☑	☑		
664-676 S. King St.	Goon Dip Bldg. / Milwaukee Hotel	5247802325	☑	☑		
701-711 S. King St. Or 508-1/2 Seventh Ave S.	King Yick Apts.	5247802680	☑	☑		
715-725 S. King St.	Freeman Hotel	5247802715	☑	☑		

Property Address	Historic and/or Common Building Names	King County Tax Parcel #	Resource is located within the Seattle Chinatown National Register Historic District	Resource is Listed as Contributing to the NR Historical District Status	Resource is Individually Listed on National or Local Register	
801-811 S. King St.	One-Story Commercial Bldg.	5391600300	☑	☑		
925 S. King St.	Chinese Southern Baptist Church	5391600220			NR	
1005 S. King St.	Rising Produce	8170100205				
1024 S. King St.	ACME Poultry Whse.	8170100085-90				
1030 / 1034 S. King St.	ACME Poultry Whse.	8170100075				
1041 S. King St.	Furniture Whse.	8170100245				
513-527 S. Main St.	Russell Bldg. / Kayo Restaurant	5247801610	☑	☑		
601-611 S. Main St.	Panama Hotel	5247801965	☑	☑	NR	
315 Maynard Ave. S.	U.S. Hotel / International Apts.	5247801990		☑		
412 Maynard Ave. S.	Atlas Theater / Kokusai Theater	5247802300	☑	☑		
416-424 Maynard Ave. S.	Atlas Hotel	5247802315	☑	☑		
506-510 Maynard Ave. S.	Eastern Hotel	5247802350	☑	☑	LR	
507-511 Maynard Ave. S.	Mar Hotel	5247801915	☑	☑		
512-516 Maynard Ave. S.	Sing Keong Family Assoc.	5247802360		☑		
513-517 Maynard Ave. S.	Freedman Bldg. / Adams Hotel	5247801910	☑	☑		
514-522 Maynard Ave. S.	Altered Commercial Bldg.	unknown	☑			☑
614 Maynard Ave. S.	Bush Restaurant Bldg.	5247802410				
622 S. Washington St. or 633 Yesler Way	Nippon Kan Theater / Kobe Park Bldg.	5247802080			NR	
616-624 S. Weller St. or 525 Maynard Ave. S.	Ohio Hotel	5247801900	☑	☑		
651-661 S. Weller St. / 606-610 Maynard Ave. S.	New Central Hotel	6054550000	☑	☑		
664-670 S. Weller St.	Eclipse Hotel	5247802370	☑	☑		
711 S. Weller	Two-Story Rooming House	5247802580				
1000 S. Weller St.	Displaymaker.com Whse.	8170100295				
1001 S. Weller St.	M & M Insurance	8170100405				
1007 S. Weller	Mixed Use Apt. Bldg. / Kun-Lin Rooming House	8170100410				
1042 S. Weller St.	Nichiren Buddhist Church	8170100270				

*The Louisa Hotel is Contributing to the NR District Status

**The Chinese Bulletin Board is Non-Contributing to the NR District Status, but is individually designated a Seattle Landmark

POTENTIAL RESOURCES LOCATED IN THE LIVABLE SOUTH DOWNTOWN STUDY AREA (EXCLUSIVE OF PRESERVATION DISTRICTS) (Table 1-C)

Property Address	Historic and/ or Common Building Names	King County Tax Parcel #	May Meet Seattle Landmark Designation Criteria	Not Likely to Meet Seattle Landmark Designtation Criteria	Listed in Local and /or National Register
801 First Ave. S.	WOSCA Freight House	7666206950	☑		
801 First Ave. S.	WOSCA Freight Shed	7666206950		☑	
1041 First Ave. S.	Garry Mfg. / Westinghouse Whse.	7666206955		☑	
1201 First Ave. S.	American Warehouse Co. / Pyramid Brewery-1201 Building	7666206966		☑	
1251 First Ave. S.	Motor Truck Branch-Int'l Harvester / Great Floors	7666206990		☑	
1518 First Ave. S.	McKinnon Furniture Bldg.	7666206440	☑		
1526 First Ave. S.	Emerald Market Supply Store	7666206445		☑	
1530 First Ave S.	Ramage Insurance Office Bldg.	7666206450		☑	
1534-1536 First Ave. S.	Queen Anne Window & Door	7666206455		☑	
1700 First Ave. S.	Premier Nightclub	7666206400		☑	
1701 First Ave. S.	Kellogg's Warehouse / Wine Outlet Shop	7666207085	☑		
1712-1714 First Ave. S.	Industrial Rebuild Inc.	7666206405	☑		
1721 First Ave S.	Hooverville Bar	7666207090		☑	
1741 First Ave S.	Star Bldg.	7666207095		☑	
1743 First Ave. S.	Buckner-Weatherby Machinery Co. / Guardian Security	7666207100	☑		
1749 First Ave. S.	Direct Buying Service	7666207105		☑	
1757 First Ave. S.	Andrews Machinery	7666207110		☑	
830 Fourth Ave. S.	Old Squire Shop Bldg.	7666204820		☑	
1000 Fourth Ave. S.	National Grocery Co. Whse. / Salvation Army Thrift Store	7666204745	☑		
1054-1064 Fourth Ave. S.	Columbia Steel Co. / Romac Industries	7666204795		☑	
804 Sixth Ave. S.	NePage McKenney Co./ Pacific Fish Co. / Wan Hua Foods	7666202695	☑		
1003-1005 Sixth Ave. S.	Armour & Co. Warehouse / PFI Warehouse Store	7666204805		☑	
1021-1041 Sixth Ave. S.	Frye Warehouses	7666204800		☑	

1022-1056 Sixth Ave. S.	Frye Warehouses / Hardwood Distributors	7666203360		☑	
500 Twelfth Ave. S.	Residential Duplex	8170100316	☑		
504 Twelth Ave S.	Canton Noodle House	8170100315	☑		
520 Tweflth Ave S.	Wan Lee Auto Service	8170100396		☑	
302 Fourteenth Ave S.	Operation Nightwatch Apts.	3320000150		☑	
815 Airport Way S.	Federal Immigration Services		☑		NR
831 Airport Way S.	Old Popich Sign Co. Bldg.	7669800085		☑	
1101 Airport Way S.	Washington Iron Works / Romaine Electric Co.	7666203380	☑		
55-65 S. Atlantic	Bemis Bldg.	7666207030	☑		
72 S. Atlantic	Fortune Transfer	7666207012		☑	
85 S. Atlantic	Pacific Commercial Bldg.	7666207070		☑	
312-314 Boren Ave. S.	Tru-Line Frame & Wheel	3320000075		☑	
805 S. Charles St.	DAS Vehicle Maintenance Shop	6834700175		☑	
79 S. Dearborn St.	Oregon & Washington Freight Shed	unknown		☑	
617 S. Dearborn St.	Pacific Fish Co. Whse. / World Kwang Tung Community Assoc.	8592900375		☑	
1300 S. Dearborn St.*	Herzog Glass	8170100570		☑	
1312 S. Dearborn St.*	Heiser Auto / Vacant	0524049017		☑	
1400 S. Dearborn St.*	General Paint Co. / Goodwill Industries Training Center	0524049003		☑	
1412 S. Dearborn St.*	Mar-Lac Dist. Co	7134300165		☑	
1416 S. Dearborn St.*	Favro Macoroni Co. / Mar-Lac Dist. Co.	7134300170		☑	
1426 S. Dearborn St.*	Frank D. Black Inc. / Mar-Lac Dist. Co.	0524049012		☑	
1201 S. Jackson St.	Black & Tan Club / Lucky An Dong (Chinese Herbs)	8170100115		☑	
1220 S. Jackson St.	Hoa's Hair & Nail and Saigon Tours Store Bldg.	8591900061		☑	
1222 S. Jackson St.	Ndbd & Le Hang Music Production	8591900060		☑	
1224 S. Jackson St.	Pho Thuy Deli	8591900060		☑	
1231 S. Jackson St.	Smile Denture Clinic	8170100145		☑	
1237 S. Jackson St.	Anthony Beauty School & Saigon Deli Retail Strip Bldg.	8170100150		☑	
1240 S. Jackson St.	Pho Viet Restaurant	8591900076		☑	
1254 S. Jackson St.	Pho Bac Restaurant	3320000111		☑	
1401 S. Jackson St.	Sure-Fit Auto Covers / Cambium Landscape	3320000350		☑	
1416 S. Jackson St.	Seattle Buddhist Church Day Nursery Bldg.	3320000165		☑	
1419 S. Jackson	Rainier Oven / Cambium Landscape	3320000360		☑	

1426 S. Jackson St.	Old Yankee Syrup Co. / Office bldg.	3320000265		☑	
1440 S. Jackson St.	Safeway Dairy / San Gennaro Foods	3320000220		☑	
1211 S. King St.	Benjamin Moore Paints	8170100325		☑	
1212 S. King St.	Nissei Veterans Committee Hall	8170100185	☑		
1234-36-38 S. King St.	Victorian Row Apts.	8170100165			NR/LR
1235 S. King St.	Two-story bldg.-Video Store	8170100345		☑	
1239 S. King St.	King's Oriental Foods	8170100350		☑	
1247 S. King St.	One-Story SFR	3320500005		☑	
1251 S. King St.	One-1/2-Story SFR	3320500010		☑	
1261 S. King St.	Single Family Residence	3320500025		☑	
1264 S. King St.	Seattle Automotive Dist.	3320000570		☑	
1265 S. King St.	R.S. Auto Rebuild	3320500030		☑	
1400 S. Lane St.*	Seattle Goodwill Industries	7134300005		☑	
1400 S. Lane St.*	Shed	7134300080		☑	
1215 S. Main St.	Charlie Dong Tax	8591900110		☑	
1427 S.Main St.	Seattle Buddhist Church	3320000165			LR
1427 S. Main St.	Shinran Shonin 700th Anniversary Memorial Hall / Seattle Buddhist Church School Bldg.	3320000165	☑		
1445 S. Main St.	Antioch Baptist Church	3320000205	☑		
800 Maynard Ave. S.	Crescent Manufacturing Co. / RDA Bldg.	8592900345	☑		
1750 Occidental Ave S.	United Warehouse Co.	7666206285		☑	
707 S. Plummer	Materials Lab Bldg.	7666202750		☑	
417-423 Rainier Ave. S.	Emerald City Health	3320000555		☑	
501 Rainier Ave S	Linc's Fishing Tackle	3320500045		☑	
622 Rainier Ave. S.	West Coast Printing	3320500210	☑		
708 Rainier Ave S.	Franklin Dairy / A-1 Chinese Buffet	424049002		☑	
800 Rainier Ave. S.	Budd & Co. Auto	7132300275	☑		
1216 S. Weller St.	Royal Glass Co.	8170100385		☑	
1328 S. Weller	Sun Sun Oriental Food Co.	3320500085		☑	
1414 S. Weller St.	Japanese Language School	3320500175-185-190			LR / NR
	Twelth Avenue South Bridge / Jose Rizal Bridge				NR

*Information per Dearborn Street Draft Supplemental EIS (DPD Project #3001242) August 2006

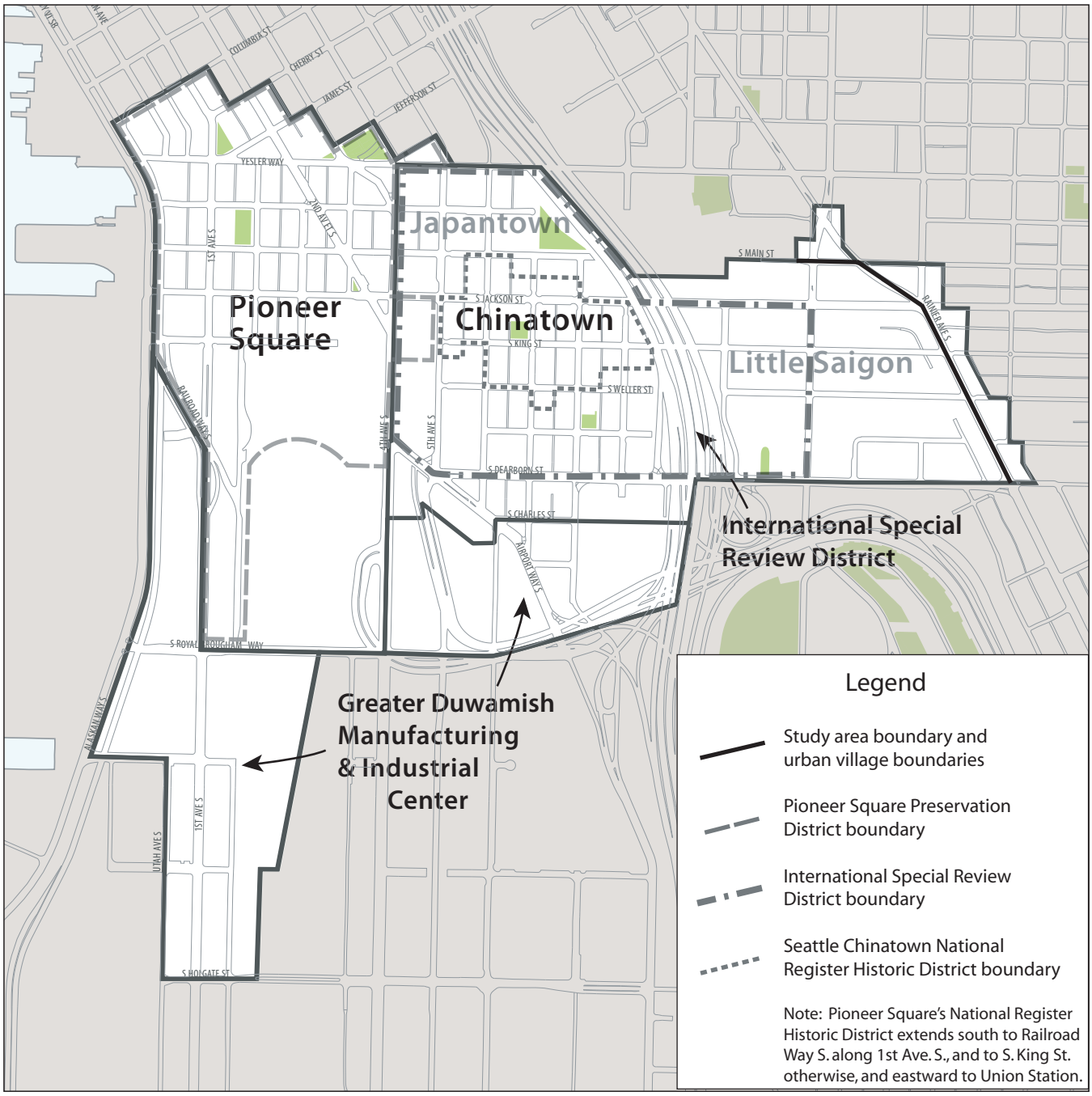
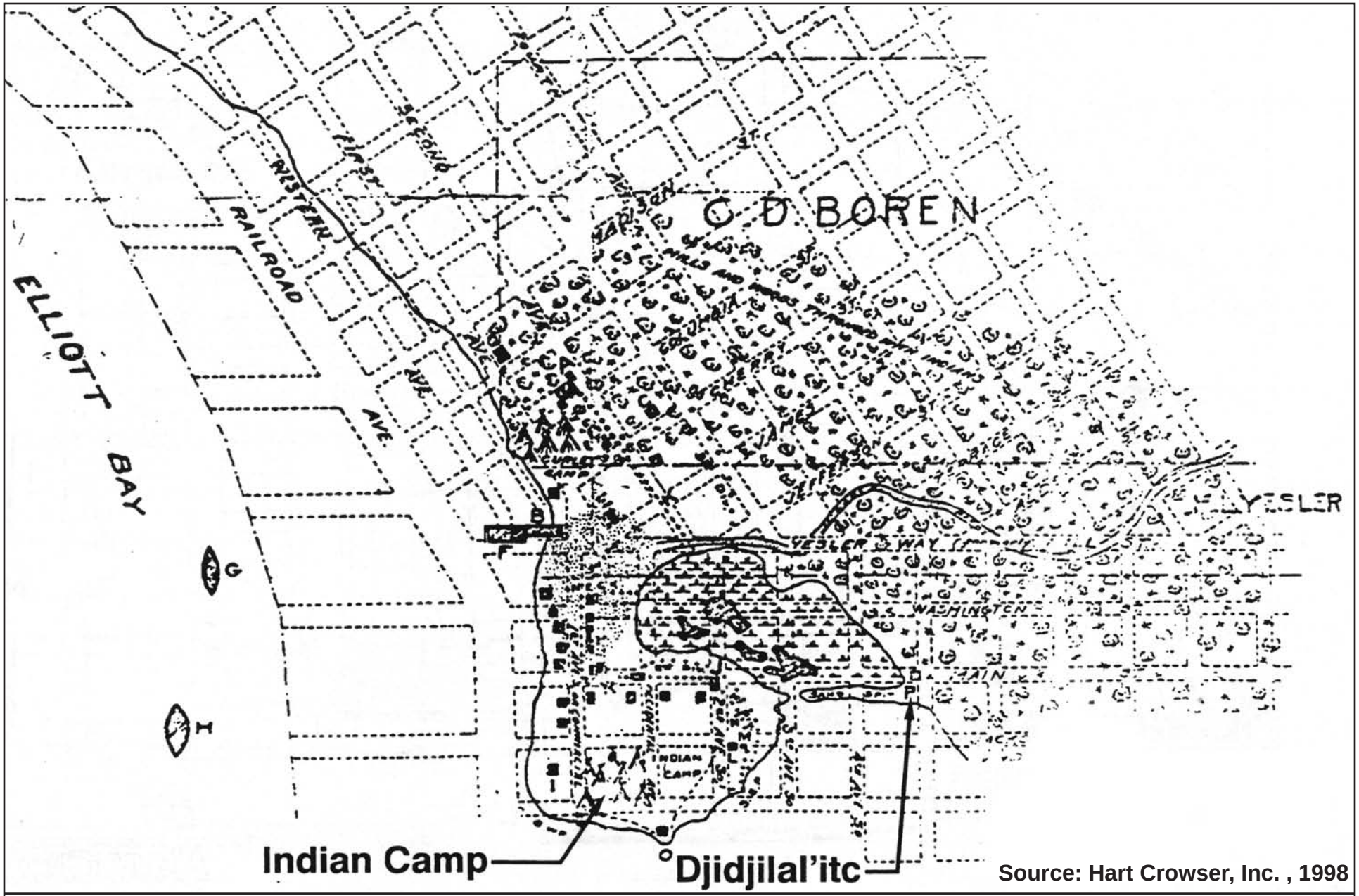


Figure H-1

Preservation District & National Register Historic District Boundaries

Livable South Downtown



Source: Hart Crowser, Inc. , 1998

Figure H-2

Shoreline in 1856 Overlaid with Street Pattern

1.7 Bibliography

-------"Seattle's Industrial Expansion in Pictures." Seattle, WA: Seattle Chamber of Commerce, 1929.

-------"Ship and Travel Through Seattle." Seattle, WA: Seattle Chamber of Commerce, 1923.

-------"Washington State Major League Baseball Stadium Project, Vol. 3: Specialized Technical Information," Seattle, WA: Washington State Major League Baseball Stadium Public Facilities District. August, 1996.

Bagley, Clarence. History of Seattle From the Earliest Settlement to the Present Time. Chicago: S.J. Clarke Publishing, 1916.

Berner, Richard. Seattle 1921-1940: From Boom to Bust, (Seattle in the 20th Century, vol.2). Seattle, WA: Charles Press, 1992.

Boyle, Susan, et al. "Port of Seattle Terminal 30/Pier 91 DEIS, Historic & Cultural Resources." Seattle, WA: BOLA Architecture + Planning, July, 2006.

DeBarros, Paul. Jackson Street After Hours: The Roots of Jazz in Seattle. Seattle, WA: Sasquatch Books, 1993.

Halin, Talbot F, "Factories as Architecture," Pencil Points: Vol. 21, no. 8 (August 1940), pp. 468-481.

Hart Crowser, "Football/Soccer Stadium and Exhibition Center Project EIS, Appendix K, Cultural and Archeological Resources Technical Report," Seattle, WA, January 1998.

Johnson, Larry. "Dearborn Street Project, Appendix A." Seattle, WA: The Johnson Partnership. April 2006.

Krafft, Katheryn. "Seattle Japanese Language School," City of Seattle Landmark Nomination Form. 2006.

Kriesman, Lawrence. "Seattle Chinatown Historic District," National Register of Historic Places Inventory-Nomination Form. 1986.

Kroll Maps, 1920.

Link, Karin. "Pioneer Square-Skid Road National Historic District," National Register of Historic Places Inventory-Nomination Form, 2005.

Macintosh, Heather. "Seattle & Walla Walla Railroad and Navigation Company." Seattle, WA: HistoryLink, October 1999. http://www. historylink.org

Ochsner, Jeffrey, ed. Shaping Seattle Architecture: A Historical Guide to the Architects. Seattle, WA: University of Washington Press, 1994.

Phelps, Myra. Public Works in Seattle: A Narrative History, The Engineering Department, 1875-1975. Seattle, WA: Kingsport Press, 1978.

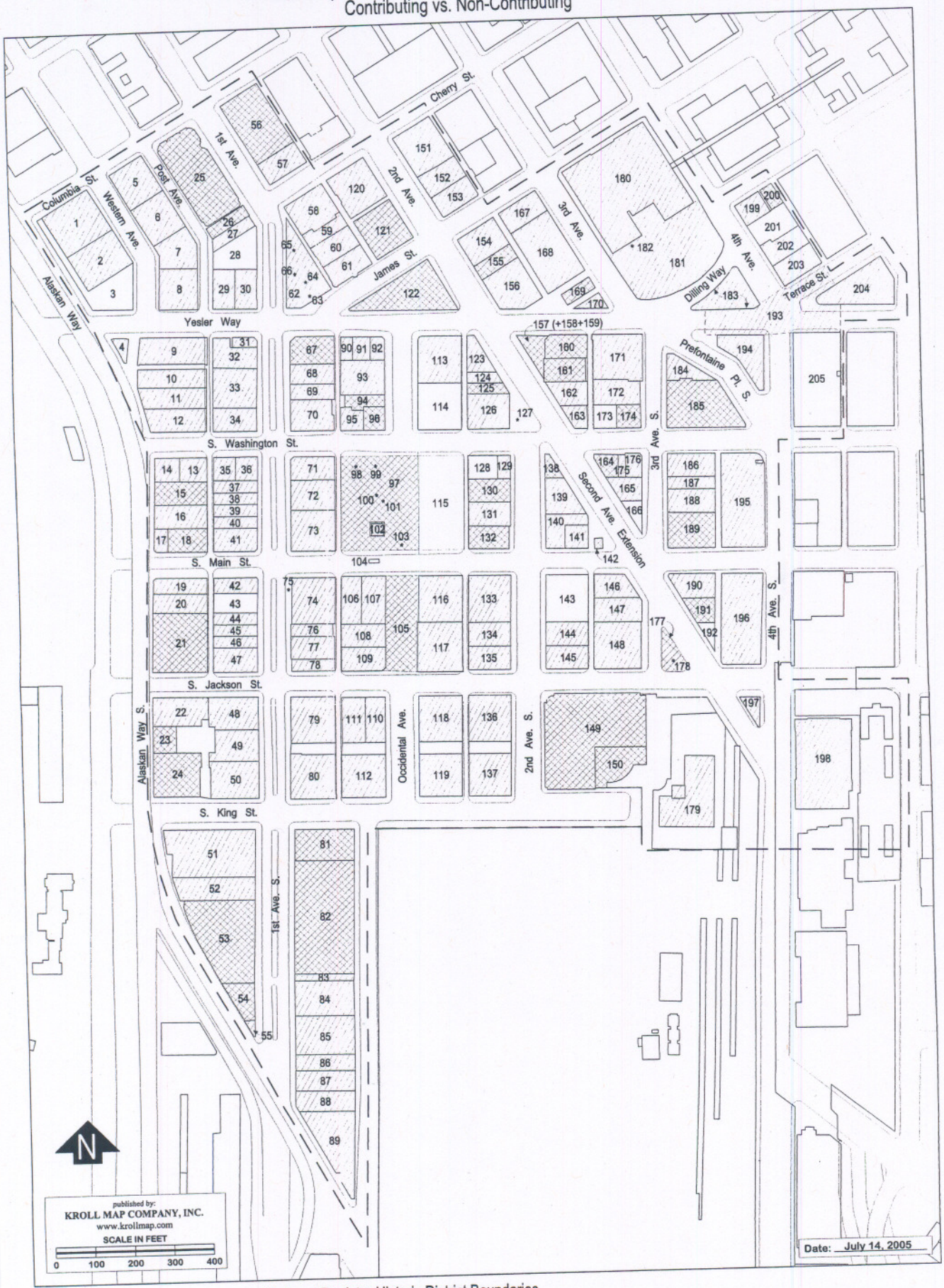
Sale, Roger. Seattle: Past to Present. Seattle, WA: University of Washington Press, 1976.

Shapiro and Associates, et al, "Football/Soccer Stadium and Exhibition Center Project EIS, Appendix L Historic Resources Technical Report." Seattle, WA, January 1998.

Sheridan, Mimi. "SR 99: Alaskan Way Viaduct & Seawall Replacement Project DEIS, Appendix L Historic Resources Technical Report." Seattle, WA, 2004.

Tobin, Caroline. "North Rainier Valley Historic Context Statement," Seattle, WA, Artifacts Consulting, May 2004.

Pioneer Square - Skid Road National Historic District
Contributing vs. Non-Contributing



— — — — — — National Register Historic District Boundaries

Contributing
Non-Contributing
Vacant

Historic District Resources (numerical by identification)

ID #	Address	Historic Name	Rank	Architect	Date
1	61 Columbia St	Polson Building	Historic, Contributing	Saunders & Lawton	1910
2	611 Western Avenue		Historic, Contributing	Saunders & Lawton?	1910
3	305 1st Avenue	Parking Lot	Vacant - NA	-	
4	1 Yesler Way	Bedford Hotel	Historic, Contributing	-	1911
5	83 Columbia St	Journal Building	Historic, Contributing	-	1898/ 1914
6	633 Post Ave. (Alley)	New Post Station, Seattle Steam Company	Historic, Contributing	Engineer: Stone & Webster	1902
7	619 Post Ave. (Alley)	Old Post Station, Seattle Steam Company	Historic, Contributing	-	1890/ 1903
8	611 Post Ave. (Alley)	Elgin Hotel/ Travellers' Hotel	Historic, Contributing	A.Wickersham	1913
9	77 Yesler Way	Yesler Hotel	Historic, Contributing	A.Wickersham	1914
10	110 Alaskan Way S.	Heffernan Engine Works	Historic, Contributing	-	1918
11	114 Alaskan Way S.	Prudential Building/ Fred Cole Building	Historic, Contributing	-	1902
12	69 S. Washington St	Lowman and Hanford Printing and Binding Company	Historic, Contributing	-	1890
13	81 S. Washington	St. Charles Hotel	Historic, Contributing	-	1889
14	77 S. Washington	Pacific Coast Company	Historic, Contributing	-	1904/ 1908
15	210 Alaskan Way	Lutheran Compass Center Addition	Non Historic, Non contributing	Stickney Murphy Romine	2004
16	212 Alaskan Way	O. K. Hotel	Historic, Contributing	Ishram Johnson	1917
17	76 S. Main St/ 218 Alaskan Way South	Boston Hotel/ Puget Sound Hotel	Historic, Contributing	-	1907
18	80 S. Main St	Victor Appel Building –Argens Lock	Non Historic, Non contributing	-	1951
19	75 S. Main St	Alaska Hotel/ Alaskan Commercial Hotel	Historic, Contributing	-	1892

ID #	Address	Historic Name	Rank	Architect	Date
20	304 Alaskan Way S.	Oregon and Washington Railroad and Navigation Company	Historic, Contributing	-	1890
21	316 Alaskan Way S.	Terminal Garage	Historic, Non contributing	-	1909
22	83 S. Jackson St	Schwabacher Warehouse Annex	Historic, Contributing	Bebb & Gould	1909
23	83 S. Jackson St	Merrill Place Fountain (Site)	Non Historic, Non contributing	NBBJ/Olson Walker	1984
24	83 S. Jackson St	Merrill Place Parking Garage	Non Historic, Non contributing	"	1984
25	701 1st Avenue	People's Bank and Parking Garage	Non Historic, Non contributing	-	1970
26	627 1st Avenue	Silver Hotel/ Pioneer Drug Company	Historic, Non contributing	-	1908; late 20th century
27	625 1st Avenue S.	K & R Building/ Pioneer Office Equipment	Historic, Contributing	-	Ca.1889? 1905
28		Diamond Parking Lot	NA - Vacant	-	NA
29	606 Post Ave. (Alley)	Fischer and MacDonald Wholesale Store	Historic, Contributing	E. Fisher/ E. DeNeuf	1892
30	605 1st Ave.	Mutual Life Building/ Yesler Building	Historic, Contributing	E. Fisher/ E. DeNeuf/ Robertson & Blackwell	1890, Alt. 1893; Addition Ca.1904
31	95 Yesler Way	Yesler Building/ Bank of Commerce Building	Historic, Contributing	E. Fisher/ E. DeNeuf	1891; Ca.1895
32	105 1st Ave. S.	Schwabacher Building	Historic, Contributing	E. Fisher/ E. DeNeuf	1890; ca. 1892
33	109 1st Ave. S.	Terry Denny Building/ Northern Hotel	Historic, Contributing	Saunders & Houghton	1891
34	119 1st Ave S.	Maynard Building/ Dexter Horton Building	Historic, Contributing	A. Wickersham	1892
35	89 S. Washington St	J & M Annex/ Walter Collins Building	Historic, Contributing	-	1892
36	201 1st Ave. S.	J & M Hotel/ J & M Card Room/ Seattle Bar Saloon	Historic, Contributing	Comstock & Troetsche	1889; Ca.1900

ID #	Address	Historic Name	Rank	Architect	Date
37	207 1st Ave. S.	Skagit Hotel/ Central Card Room	Historic, Contributing	Comstock & Troetsche	1889
38	209 1st Ave. S.	Hotaling Block/ Marathon Hotel	Historic, Contributing	Builder: Capt John Nixon	1889, 1899?
39	211 1st Ave. S.	Parker Bldg/ Lucky Hotel/ Killion Building	Historic, Contributing	-	1889
40	213 1st Ave. S.	Branagan-Smith Building /Rocker Hotel	Historic, Contributing	Builder: Matthew Branagan?	1889
41	219 1st Ave. S.	New England Hotel	Historic, Contributing	E. Fisher	1889
42	301 1st Ave. S.	Matilda Winehill Block	Historic, Contributing	Bucheler & Hummel	1890
43	305 1st Ave. S.	Surface Parking	NA - Vacant	-	NA
44	311 1st Ave. S.	Maud Building	Historic, Contributing	Saunders & Houghton	1890
45	313 1st Ave. S.	Crown Hotel	Historic, Contributing	Charles Bebb?	1900
46	317 1st Ave. S.	Squires Building	Historic, Contributing	Charles Bebb	1900
47	80 S. Jackson St	Smith Building	Historic, Contributing	Max Umbrecht	1900
48	401 1st Ave. S.	Schwabacher Hardware Company Building	Historic, Contributing	Bebb & Mendel	1905
49	411 1st Ave. S.	Seller Building	Historic, Contributing	A. W. Gould	1906
50	419 1st Ave. S.	Hambach Building	Historic, Contributing	-	1913
51	83 S. King St	Seattle Hardware Company Building	Historic Contributing	A.Wickersham	1904
52	501 1st Ave. S.	Seattle Hardware Company Warehouse Annex	Historic, Contributing	same	1923
53	535 1st Ave. S.	Parking garage & surface parking	Non Historic, Non contributing	-	1969
54	547 1st Ave. S.	West Transfer Company Building/ Duncan & Sons Bldg	Historic, Non contributing	-	1919
55	551 1st Ave. S.	Triangle Bar/ Flatiron Building	Historic, Contributing, NR	C. A. Breitung	1910

NR= on the National Register (separate or other listing)

ID #	Address	Historic Name	Rank	Architect	Date
56	706 1st Ave. S.	Parking Garage	Non Historic, Non contributing	-	1958
57	110 Cherry St/ 700 1st Ave.	Scheuerman Block	Historic, Contributing	E. Fisher	1890 & 1903
58	107 Cherry St	Lowman Building	Historic, Contributing	Heide & DeNeuf	1906
59	616 1st Ave. S.	Lowman and Hanford Building	Historic, Contributing	Emil DeNeuf	1892 ; 1902
60	612 1st Ave. S.	Howard Building	Historic, Contributing	DeNeuf (attrib.)	1890
61	606 1st Ave. S.	Pioneer Building	Historic, Contributing, NR	E. Fisher	1892
62	Pioneer Place	Pioneer Square, "Occidental Square"	Historic, Contributing, NR	-	1889-1910
63	Pioneer Place	Pergola (structure)/ Comfort station	Historic, Contributing, NR	Julian Everett	1909-1910
64	Pioneer Place	Chief Seattle Bust & fountain	Historic, Contributing, NR	J. Wehn (sculptor)	1909
65	Pioneer Place	Totem Pole (Replica of pre-1899 Tlingit pole)	Historic, Contributing, NR	C. Brown & father	1938
66	Pioneer Place	"Day and Night" (object)	Non Historic, Non contributing	E. Heap of Birds	20th C.
67	102 1st Ave S.	Olympic Building	Non Historic, Non contributing	-	1984-5
68	104 1st Ave. S.	Lippy Building	Historic, Contributing	E. Houghton	1902
69	112 1st Ave. S.	City Club Building/ Olympus Cafe	Historic, Contributing	Heins & Lafarge	1897 & 1906
70	108 1st Ave. S.	Terry Kittinger Building	Historic, Contributing	Steinmann	1891
71	202 1st Ave. S.	Buttnick Building	Historic, Contributing	-	1909
72	206 1st Ave. S.	Gottstein Building	Historic, Contributing	-	1903
73	216 1st Ave. S.	Squire Latimer Block	Historic, Contributing	Comstock & Troetsche	1891
74	310 1st Ave. S./ 107 1st Ave. S.	Marshall-Walker Block	Historic, Contributing	W.E. Boone	1891
75	SE Corner of 1st Ave. S. and Main St	Earl Layman /Young Credit Jewellers' Clock	Historic, Non-Contributing (Moved to present site in 1984)	-	1907

ID #	Address	Historic Name	Rank	Architect	Date
76	314 1st Ave. S.	Nord Hotel	Historic, Contributing	-	1890
77	316 1st Ave. S.	Seattle Quilt Building/ Walker Building	Historic, Contributing	Boone & Corner	1890
78	322 1st Ave. S.	Capitol Brewing and Malting Company	Historic, Contributing	A. Breitung	1900
79	101 S. Jackson St	Western Dry Goods/ Wax and Raine Building	Historic, Contributing	-	1904
80	100 King St	Westland Building/ Hambaca Building/ Tempco Quilters	Historic, Contributing	Saunders & Lawton	1904
81	101 King St/ 500 1st Ave S.	Mueller Wholesale Block/ Norfin Building	Historic, Non-Contributing	F. A. Sexton	1910
82	508-34 1st Ave. S.	Seattle Security Company Building/ Norfin Warehouse	Historic, Non-Contributing	Lohman & Place	1909
83	538 1st Ave. S.	Kaufman Warehouse	Historic, Contributing	W.P. White	1910
84	542 1st Ave. S.	George Hoffman's Carriage Factory/ Washington Shoe Company Building	Historic, Contributing	Builder: Megath & Duhamel	1903
85	548 1st Ave. S.	Carstens Bros. Cold Storage	Historic, Contributing	Builder: David Dow	1904
86	558 1st Ave. S.	E. N. Fobes Building	Historic, Contributing	A. W. Gould	1908/ 1910
87	562 1st Ave. S.	Bornstein & Sons Warehouse	Historic, Contributing	Josenhans & Allan?	1909
88	568 1st Ave. S.	Provident Building	Historic, Contributing	Saunders & Lawton	1910
89	590 1st Ave. S.	Seattle Plumbing Company Building	Historic, Contributing	-	1903
90	109 Yesler Way	Sanderson Block/ Merchant's Cafe	Historic, Contributing	W. E. Boone	1890
91	111 Yesler Way	Padden Block/ Bohemian Café/ Eagle Cafe	Historic, Contributing	E. Fisher	1890

ID #	Address	Historic Name	Rank	Architect	Date
92	119 Yesler Way	Korn Block	Historic, Contributing	E. Fisher	1889
93	107 Occidental Way S.	Walker Block/ Frye Market	Historic, Contributing	Boone & Willcox	1891
94	117 Occidental Way S.	Star Theater?	Historic, Non contributing	-	1915/ late 20th century
95	116 & 118 S. Washington St	Scandinavian Hotel and Clancy Building	Historic, Contributing	-	1890
96	124 S. Washington St	Hotel Interurban	Historic, Non contributing	-	1895/ late 20th century
97	Occidental Park (Occidental Way between S. Washington & S. Main Streets)	Occidental Park/ Occidental City Park (Site)	Non Historic, Non contributing	Ilze Jones, Jones and Jones	1972
98	same	Tsnonoqua (totem)	Non Historic, Non contributing	Duane Pasco	1973
99	same	Bear (totem)	Non Historic, Non contributing	same	1973
100	same	Sun & Raven (totem)	Non Historic, Non contributing	same	1971
101	same	Man Riding on the Tail of a Killer Whale (totem)	Non Historic, Non contributing	same	1974
102	same	Pergola (structure)	Non Historic, Non contributing	Ilze Jones, Jones & Jones	1972
103	Occidental Park	Sculpture: Seattle Fallen Firefighters Memorial	Non Historic, Non contributing	Hay Ying Yu	Ca. 1990
104	Main St/ Occidental Way	Trolley Structure	Non Historic, Non contrib.	-	same
105	Occidental Way between S. Main & S. Jackson St	Occidental Mall	Non Historic, Non contributing	Ilze Jones	1972
106	117 S. Main St	Superior Candy and Cracker Company?	Historic, Contributing	-	1902
107	119 S. Main St	Union Trust Building	Historic, Contributing	Skillings & Corner	1893

ID #	Address	Historic Name	Rank	Architect	Date
108	311 Occidental Ave S	Waltham Block	Historic, Contributing	-	Ca. 1890
109	122 S. Jackson St	Crescent Manufacturing Co./ Ingels Block	Historic, Contributing	-	1890; 1910s
110	123 S. Jackson St	Seattle Transfer Co./ Scientific Supplies	Historic, Contributing	-	1902
111	115 S. Jackson St	Fisher Building/ Rautman Plumbing & Heating Co./ Simonds and Brawley Buildings	Historic, Contributing	-	1890; 1930
112	419 Occidental Ave. S.	Manufacturers Building/ Manufacturers Exchange Building/ Stewart and Holmes	Historic, Contributing	Saunders & Lawton	1906
113	102 Occidental Ave S.	Seattle National Bank/Pacific Block	Historic, Contributing	J. Parkinson/ Parkinson & Evers	1892
114	NE corner Occidental Ave S and S. Washington Street	Surface Parking	NA - Vacant	-	NA
115	Between S Washington St & S. Main Sts & Occidental Way (Ave)	Surface Parking	NA - Vacant	-	NA
116	300 Occidental Ave. S.	State Building	Historic, Contributing	E. Fisher	1891
117	314 Occidental Ave. S.	Sportscaster and Company Building	Historic, Contributing	-	1900
118	400 Occidental Ave S.	Washington Shoe Mfng Co. Bldg/ Washington Iron Works/ J. M. Frink Building	Historic, Contributing	Boone & Willcox; Blackwell & Baker	1892; 1912; 1930s
119	416 Occidental Ave. S.	Graybar Electric Co./ Pacific Northwest Bell Telephone	Historic, Contributing	-	1930
120	619 2nd Avenue	Bailey Building/ Harrisburg Building	Historic, Contributing	Saunders & Houghton	1889-1892
121	601 2nd Avenue	Butler Block/ Butler Hotel	Historic, Non Contributing	Parkinson & Evers	1890
122	515 2nd Avenue	Sinking Ship Parking Garage	Non Historic, Non contributing	Mandeville & Berge	Ca. 1961

ID #	Address	Historic Name	Rank	Architect	Date
123	433 2nd Ave. Extension S.	H. K. Owens Building/Metropole Bldg	Historic, Contributing	E. Fisher/ E. DeNeuf	1893
124	417 2nd Ave. Extension S.		Historic, Contributing	-	Ca. 1891
125	411 2nd Ave. Extension S.	Circle Theater	Historic, Non contributing	-	1910
126	164 S. Washington St	Nugent Block and Considine Block	Historic, Contributing	-	1890
127	East of 164 S. Washington St	Sculpture (Steel, painted orange)	Non Historic, Non Contributing	Artist: Jan Evans	Late 20th C.
128	West of 173 S. Washington St	Vacant lot (demolished buildings)	NA - Vacant	-	NA
129	173 S. Washington St	McGowan Block (w. portion)	Historic, Contributing	-	Ca. 1895
130	211 2nd Ave. S.	LeRoy Hotel	Historic, Non-Contributing	-	1890; Ca. late 1990s
131	215 2nd Ave. S.	Lucknow Building/ Ruggles Building	Historic, Contributing	-	1900
132	NW corner-2nd Ave. S. and Main Street	Annie E Casie Waterfall Garden/ Casey Waterfall Park (site)	Non Historic, Non contributing	Masao Kinoshita	1977
133	305 2nd Ave. S.	Fire Station No. 10 (now No.2)	Historic, Contributing	-	1929
134	315 2nd Ave. S.	Duncan & Sons Building	Historic, Contributing	-	1900
135	319 2nd Ave S.	Wittler Block/ Shanks and Mills Block/ Elliott House/ Star Lodge	Historic, Contributing	Hetherington & Clements & Company	1889
136	171 S. Jackson St	Northcoast Building/Fuller Building/ Chapin Building	Historic, Contributing	Boone & Corner	1901
137	401 2nd Ave. S.	Goldsmith Building/ Crane Building	Historic, Contributing	Saunders & Lawton	1907
138	201 S. Washington St	Apex Building	Historic, Non-Contributing	-	Ca. 1890; 1900

ID #	Address	Historic Name	Rank	Architect	Date
139	312 2nd Ave. Extension	Hambach Warehouse/ Northwest Hotel Supply	Historic, Contributing	Josenhans & Allan; Lawton & Moldenhour	1905; 1928
140	220 2nd Avenue South	Furuya Building	Historic, Contributing	-	1900; Ca. 1903-1904
141	222 S. Main St	Corgiat Building/ Main Hotel	Historic, Contributing	R. L Robertson; D. Delaney (builder)	1900
142	301 2nd Ave Extension S.	Fiesta Building/ Fiesta Coffee Shop	Non Historic, Non contributing	-	1934
143	(No address available)	Surface parking (#5247800845)	NA - Vacant	-	NA
144	312 2nd Ave. S.	Moses Building/ Sartori Building	Historic, Contributing	-	1901
145	318 2nd Ave. S.	Fulton Hotel/ Fulton Inn/ Totem Distributing Co.	Historic, Contributing	-	1890;
146	213 S. Main St	Cannery Workers ILWU Local 37/ Cascade Laundry	Historic, Contributing	E. W. Houghton; Spurr & Silber, (builder)	1900; Ca. 1928
147	307 3rd Ave. S.	Mottman Building/ Norris Safe Building/ Mohawk Building	Historic, Contributing	-	1906
148	319 3rd Ave. S.	U. S. Rubber Building/ Pacific Drug Company/ Stadium Furniture/ Seattle Paint Company	Historic, Contributing	Boone & Corner	1902
149	201 S. Jackson St	King County Center	Non Historic, Non contributing	NBBJ	1999
150	201 S. Jackson St (southeast plaza)	King County Center southeast plaza	Non Historic, Non contributing	NBBJ & Hewitt; Jack Mackie, artist	1999
151	618 2nd Ave.	Alaska Building	Historic, Contributing	Eames & Young	1904
152	606 2nd Ave.	Corona Building/ Oriental Building	Historic, Contributing	Bebb & Mendel	1903
153	600 2nd Ave.	Hartford Building	Historic, Contributing	John Graham, Sr.	1929

ID #	Address	Historic Name	Rank	Architect	Date
154	520 2nd Ave.	Collins Building	Historic, Contributing	A. B. Chamberlin	1894
155	512 2nd Ave.	Florence Theater	Historic, Non contributing	-	1900; 1924; ca. 2000
156	502 2nd Ave.	Smith Tower	Historic, Contributing	Gaggin & Gaggin	1911-1914
157	Fortson Square	Fortson Square	Historic, Non contributing	Willwerth/ Conner - 2000	1901; ca. 1929; 2000
158	Fortson Square	(Sculpture by Elizabeth Conner)	Non Historic, Non contributing	E. Conner (artist)	Ca. 2000
159	Fortson Square	(Five lamps- replicas of historic gaslight fixtures)	Non Historic, Non Contributing	-	Ca. 2000
160	201 Yesler Way	Campbell Fuller Building/ Tyee Saloon	Historic, Non contributing	-	1891
161	408 2nd Ave. Extension S	Leighton Center/ Leroy Helms Center/ Harbor Light	Historic, Non contributing	-	1909; 1967; Ca. 1999
162	406- 410 2nd Ave.	Monterey Hotel/ Lexington Hotel (north wing)	Historic, Contributing	-	1909; Ca. 1929
163	400 2nd Ave.	Kon Yick Building/ Chin Gee Hee Building	Historic, Contributing	W. E. Boone? (1890 form)	Ca. 1890; 1900
164	211 S. Washington St	Duppenthaler Building	Non Historic, Non contributing	-	1936
165	318 2nd Ave. Extension S.	Ace Hotel	Historic, Contributing	-	1904; ca. 1930
166		Surface parking	NA - Vacant	-	NA
167	519 3rd Avenue	Drexel Hotel	Historic, Contributing	-	Ca. 1890
168	501 3rd Avenue	Morrison Hotel	Historic, Contributing	Schack & Huntington	1909

ID #	Address	Historic Name	Rank	Architect	Date
169	3rd Avenue & Yesler Way	Pioneer Square Metro Station (bus tunnel)	Non Historic, Non Contributing	TRA	1990
170	Prefontaine Place (Between Jefferson & Yesler & 3rd Ave.)	Prefontaine Place (site)	Historic, Contributing	Carl F. Gould	1926
171	223 Yesler Way	Frye Hotel	Historic, contributing	Bebb & Mendel	1908
172	115 3rd Ave. S.	Frye Garage	Historic, Contributing	J. H. Randall	1926
173	West of 123 3rd Ave	Surface Parking	NA - Vacant	-	
174	123 3rd Ave.	Walthew Building	Non Historic, Non contrib..	-	1971
175	219 S. Washington St	Graham Block (part of)	Historic, Contributing	-	Ca. 1892
176	221 S. Washington St	Graham Block (part of)	Historic, Contributing	-	1890
177	Union Station Square	Union Station Square (Site)	Historic, Non Contributing	K. Nakano (late 20th c.)	1929; 20th C.
178	Union Station Square	Sculptural elements	Non Historic, Non Contributing	Bill Will (artist)	20th C.
179	301 S. Jackson St	King Street Station	Historic, Contributing, NR	Reed & Stem	1906
180	500 3rd Ave.	King County Courthouse	Historic, Contributing	A. W.. Gould/ Bittman/ McCauley	1916, 1931
181	City Hall Park (SE of King County Courthouse)	City Hall Park/ Dilling Park (Site)	Historic, Contributing	-	1911, 1917, 20th C.
182	City Hall Park	Battle of Seattle Site (Boulder with plaques)	Historic, Contributing, NR	-	1916
183	City Hall Park	Tunnel walls	Historic, Contributing	Huntington/ Josenhans	1917
184	101 Prefontaine Place	Tashiro Building	Historic, Contributing	-	1908
185	115 Prefontaine Place	Kaplan Building	Historic, Non contributing	C. R. Aldrich	Ca. 1906-8
186	200 3rd Ave S.	Davenport Hotel/ Hotel Union	Historic, Contributing	Elliot & West	1905
187	206 3rd Ave. S.	Norton Building/ Northcoast Electric Bldg	Historic, Contributing	Saunders & Lawton	1905

ID #	Address	Historic Name	Rank	Architect	Date
188	210 3rd Avenue S.	Richmond Paper Company/ Westcoast Wholesale Drug	Historic, Contributing	Saunders & Lawton	1904
189	220 3rd Avenue S.	C.T. Takahashi and Company	Historic, Non contributing	-	1905; Late 20th C.
190	222 2nd Ave.Extension S.	Metropolitan Building	Historic, contributing	-	Ca. 1905; Ca. 1929
191	210 2nd Ave. Extension S.	Seattle Lighting Fixture Company Annex	Non Historic, Non Contributing	-	1946
192	South of 210 2nd Ave. Ext. S.	Surface Parking	NA - Vacant	-	NA
193	4th Ave S. and Yesler Way	Yesler Overpass	Historic, Contributing	-	Ca. 1908
194	110 Prefontaine Place S.	Prefontaine Building	Historic, Contributing	H. Pederson (builder)	1909
195	Between S. Washington and S. Main Sts, w of 4th Avenue South	{Opening above train tracks, associated with 2nd Ave. Extension Project} - site	Historic, Contributing		Ca. 1929
196	Between S. Main and S. Jackson Sts, w of 4th Avenue South	same	Historic, Contributing	-	Ca. 1929
197	On & south of Jackson Street and s. Main St, west of 4th Avenue South	{Triangular opening above train tracks, associated with 2nd Ave. Extension Project} - site	Historic, Contributing	-	Ca. 1929
198	401 S. Jackson St	Oregon and Washington Station/ Union Pacific Station/ Union Station	Historic, Contributing, NR	D. J. Patterson	1911
199	420 4th Avenue	420 4th Avenue	Historic, Contributing	-	1924
200	411 Jefferson St	Milburn Hotel	Historic, Non contributing	-	1902; 1965
201	north of 410 4th Ave	Surface Parking	NA - Vacant	-	

ID #	Address	Historic Name	Rank	Architect	Date
202	410 4th Avenue	Crouley Building/ Reynolds Hotel	Historic, Contributing	-	1909-1910
203	400 4th Avenue	MacRae Parking Garage	Historic, Contributing	-	1927
204	400 Yesler Way	City Hall/ Public Safety Building	Historic, Contributing, NR	Clayton D. Wilson	1909
205	Yesler and 4th Avenue	Surface Parking	NA - Vacant	-	NA