DRAFT ENVIRONMENTAL IMPACT STATEMENT

YESLER TERRACE REDEVELOPMENT

October 2010

prepared by the

Seattle Housing Authority and
City of Seattle, Depatment of Human Services

Seattle HOUSING AUTHORITY

Address 120 Sixth Avenue N
Seattle, WA 98109
Telephone 206-615-3300
TDD 1-800-833-6388
Website www.seattlehousing.org

October 19, 2010

Re: Yesler Terrace Redevelopment Draft Environmental Impact Statement

Dear EIS Recipient:

Attached is a copy of the Draft Environmental Impact Statement (DEIS) for the Yesler Terrace Redevelopment. The DEIS is being issued by the Seattle Housing Authority, and the City of Seattle Human Services Department on behalf of the U.S. Department of Housing & Urban Development. This letter provides information about the DEIS and the opportunity for public review and comment on the document.

The DEIS addresses the potential environmental impacts of the proposed redevelopment of Yesler Terrace to a mixed use residential community on a 28-acre site (excluding right-of-ways) on the southern slope of the First Hill neighborhood in Seattle, Washington. For purposes of environmental review, five redevelopment alternatives are evaluated with a wide range of densities and heights, and different uses. For example, the redevelopment alternatives include a range of approximately 1,500 to 5,000 residential units, and a range of no new office space to 1.2 million square feet of new office space. Also evaluated is a no action alternative that presumes continuation of existing conditions at Yesler Terrace. There is no preferred redevelopment plan at this time; a preferred plan will be developed as part of the environmental review and planning process.

The following elements of the environment were analyzed in the DEIS: earth; air quality; water; plants and animals; climate change and greenhouse gas emissions; environmental health; noise; land use; relationship to plans and policies; aesthetics, light and glare, and shadows; historic resources; cultural resources; transportation; utilities; public services; socioeconomics; and environmental justice. For each of these elements, the DEIS identifies probable significant environmental impacts, measures intended to mitigate these impacts, and any significant unavoidable adverse impacts that may be anticipated.

In general terms, some of the key environmental issues and options facing decision makers are:

- Land Use: determining the appropriate types of land use for the site, and where specific land uses should be located on the site;

- Aesthetics: determining the appropriate heights and locations of buildings, and the design measures that address height, bulk, and scale;

- Transportation: determining whether the existing street layout should be retained or whether certain internal streets should be eliminated and new streets dedicated. The goal of a new street layout would be to improve connections between Yesler Terrace and the surrounding community.

- Socioeconomic: residents and other tenants would be required to relocate. Depending on the phasing of construction, some residents and uses could potentially move from their existing locations into new locations on the site. However, others would be displaced from the site until construction is completed. The DEIS describes several mitigating measures to address displacement.

Environmental review of Yesler Terrace Redevelopment is being conducted under both the : 1) National Environmental Policy Act (NEPA) with the City of Seattle Human Services Department as the Responsible Entity, and 2) State Environmental Policy Act (SEPA) with the Seattle Housing Authority as the Lead Agency. SHA proposes that future redevelopment of the portion of the Yesler Terrace site west of Boren Avenue be designated by the City of Seattle as a Planned Action pursuant to SEPA. After completion of the Final EIS, it is contemplated that the City will adopt a Yesler Terrace Planned Action Ordinance (PAO). The PAO, if adopted, will reflect a decision that adequate environmental review has been completed for the identified redevelopment elements, and that further environmental review under SEPA will not be necessary if it is determined that future development is consistent with the PAO.

You are invited to participate in the Yesler Terrace environmental review process through submittal of written comments on the DEIS and your involvement in a public hearing. After the public comment period ends, the next stage of the environmental review process will be publishing a Final EIS. The Final EIS will respond to comments received on the DEIS.

The public comment period for the DEIS is October 30, 2010 through December 13, 2010. **All written comments must be received by 5 PM December 13, 2010**, and should be submitted to:

SEPA Responsible Official	**NEPA Certifying Officer:**
Stephanie Van Dyke	Dannette R. Smith
Development Director	Acting Director
Seattle Housing Authority	City of Seattle Human Services Dept.
120 Sixth Avenue N.	700 Fifth Avenue, Suite 5800
P.O. Box 19028	P.O. Box 34215
Seattle, WA 98109-1028	Seattle, WA 98124-4215
Fax: (206) 615-3539	Fax: (206) 621-5003

E-mail: YTEISComments@seattlehousing.org	E-mail: Kristen.Larson@seattle.gov

A public hearing will also be held to allow participants to offer oral comments on the DEIS. **The hearing will commence at 6 PM on November 30, 10210** and will be held at the Old Yesler Terrace Gym, 825 Yesler Way, Seattle, WA 98122.

Copies of the DEIS, or Notice of its Availability, were distributed to those identified in the distribution list of the DEIS (Chapter 5). The DEIS can also be reviewed at the:

Seattle Public Library - Central Library
Documents and Information Technologies divisions
1000 Fourth Avenue
Seattle, WA

Seattle Public Library - Douglas Truth Branch
2300 E. Yesler Way
Seattle, WA

Seattle Public Library - International District/Chinatown Branch
713 Eight Avenue S.
Seattle, WA

Seattle Public Library - Capitol Hill Branch
425 Harvard Avenue E.
Seattle, WA

The document may also be reviewed online at: www.seattlehousing.org/redevelopment/yesler-terrace. A limited number of printed copies may be purchased at the Seattle Housing Authority office at 120 Sixth Ave N., Seattle, WA 98109-1028. To obtain a copy of the DEIS in electronic format, please contact Ryan Moore of the Seattle Housing Authority at 206 615-3548 or rmoore@seattlehousing.org.

Thank you for your interest and participation in this environmental review.

Very truly yours,

Stephanie Van Dyke

Stephanie Van Dyke
Development Director

Enclosure

FACT SHEET

PROJECT TITLE	**Yesler Terrace Redevelopment**
JOINT SPONSORS	Seattle Housing Authority (SHA) and, City of Seattle Human Services Department on behalf of the U.S. Department of Housing and Urban Development (HUD)
PROPOSAL	Redevelopment of Yesler Terrace to create a mixed-income, mixed use community to better serve existing and future residents
LOCATION	The approximately 36.6-acre site is located in the City of Seattle's First Hill Neighborhood and is bounded by Interstate 5 on the west, Alder Street and Fir Street on the north, 12th Avenue and Boren Avenue on the east, and Main Street on the south.
PROPOSED ACTIONS	This Draft Environmental Impact Statement (Draft EIS or EIS) analyzes the following Proposed Actions: - Decision by SHA on which alternative to implement; - Possible City of Seattle Comprehensive Plan changes; - Zoning changes that would be necessary in order to accommodate the mixed use redevelopment, including a Land Use Code text amendment and a change to the Official Land Use Map (legislative rezone); - Planned Action Ordinance adoption by City of Seattle; - Preliminary and Final Plat approvals by City of Seattle; - Street Vacation and dedication approvals by City of Seattle; - Future local, state and federal permits that would be required for construction and development of the Yesler Terrace community; - Release of Funds by the U.S. Department of Housing and Urban Development (HUD); and, - Construction and operation of buildings and facilities within the Yesler Terrace community. It is anticipated that redevelopment of Yesler Terrace would take 15 to 20 years to complete.
ALTERNATIVES	For purposes of environmental review, five redevelopment alternatives (Alternatives 1, 1A, 2, 3

and 4) and a No Action Alternative are analyzed in this Draft EIS.

Alternatives 1, 1A, 2 and 3 represent a range of densities and intensities of uses that the site could accommodate under a new zoning designation, including Lower Density (Alternative 1), Lower Density with Less Office (Alternative 1A), Medium Density (Alternative 2), and Higher Density (Alternative 3).

Under Alternative 4, the existing City of Seattle Comprehensive Plan and Lowrise-3 zoning designations would govern future development of the site. The No Action Alternative represents a continuation of the site in its present configuration and condition. The existing low income public housing units would be replaced and renovated as necessary or on a programmed schedule.

The alternatives analyzed in this Draft EIS incorporate differing assumptions regarding the number of dwelling units, parking, building heights, street vacations, building demolition and the amount of development space devoted to office, neighborhood commercial uses, neighborhood services, and public open space. The range of Draft EIS alternatives creates an envelope of potential development for analysis of probable significant environmental impacts under the State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA).

RESPONSIBLE ENTITY (NEPA) City of Seattle Human Services Department

LEAD AGENCY (SEPA) Seattle Housing Authority

NEPA CERTIFYING OFFICER
Kristen Larson
Project Funding and Agreements Coordinator
City of Seattle Human Services
Community Development Block Grant Program
700 Fifth Avenue, Suite 5800
P.O. Box 34215
Seattle, WA 98124-4215

SEPA RESPONSIBLE OFFICIAL
Stephanie Van Dyke
Development Director
Seattle Housing Authority
120 Sixth Avenue N.
P.O. Box 19028

Seattle, WA 98109-1028

CONTACT PERSON FOR THIS DRAFT EIS

Anne Fiske-Zuniga
Sr. Development Program Manager, Yesler Terrace
Seattle Housing Authority
120 Sixth Avenue N
P.O. Box 19028
Seattle, WA 98109-1028

FINAL ACTION

Seattle Housing Authority - Decision by SHA on which alternative to implement.

City of Seattle Human Services Department - Request Release of Funds and Environmental Certification from HUD.

City of Seattle - It is anticipated that the Yesler Terrace EIS will be used by the City of Seattle in its review of the Proposed Actions and SHA's applications for permits and approvals for the Yesler Terrace Redevelopment.

PERMITS AND APPROVALS

Preliminary investigation indicates that the following permits and/or approvals could be required for the Proposed Actions. Additional permits/approvals may be identified during the review process associated with future implementing development projects.

Agencies with Jurisdiction

Federal

- HUD Release of Funds
- HUD Release of Property
- Section 106 Review
- Notice of Intent to remove Asbestos
- No Effect determination from the Services Endangered Species Act

State of Washington

- Dept. of Ecology Construction Stormwater General Permit
- Dept. of Ecology Coastal Zone Management Consistency Review
- Underground Storage Tank Removal

City of Seattle

Seattle City Council

- Planned Action Ordinance
- Possible Comprehensive Plan Amendment

- Land Use Code Text Amendment for New Zone
- Amendment to Official Land Use Map (Legislative Rezone)
- Street Vacation and Dedication Approvals
- Final Plat Approval
- Possible Development Agreement

Seattle Hearing Examiner
- Preliminary Plat Approval

Department of Planning and Development
- Permits/approvals associated with implementation of individual projects, including: Master Use Permits
- Grading Permits
- Shoring Permits
- Building Permits
- Electrical Permits
- Mechanical Permits
- Occupancy Permits
- Demolition Permits
- Comprehensive Drainage Control Plan, Inspection and Maintenance Schedule, and Construction Stormwater Control Plan Approvals
- Compliance with the Tenant Relocation Assistance Ordinance
- Design Review Board Approval
- Implementation of the Planned Action Ordinance for Individual Projects
- Sign Permit(s)
- Environmental Critical Areas Review

Other City Departments
- Street Use Permits
- Utility Relocations, Licenses and Permits
- Landmarks Preservation Board Review for alterations to the exterior of the steam plant
- Business Licenses

Seattle-King County Department of Health
- Plumbing Permits

Puget Sound Clean Air Agency
- Asbestos/Demolition Notification Permits
- Notice of Abatements

DRAFT EIS AUTHORS AND PRINCIPAL CONTRIBUTORS

The *Yesler Terrace Redevelopment Draft Environmental Impact Statement* has been prepared under the direction of the Seattle Housing Authority, and City of Seattle Department of Human Services. Research and analysis were provided by the following consulting firms:

Draft EIS Project Manager, Primary Author, Land Use, Relationship to Existing Plans and Policies, Environmental Justice, Socioeconomics, Public Services, Climate Change and Greenhouse Gas Emissions, Aesthetics.

EA | Blumen
720 Sixth Street S, Suite 100
Kirkland, WA 98033

Transportation
Heffron Transportation
6544 NE 61st Street
Seattle, WA 98115

Historic Resources
BOLA Architecture + Planning
159 Western Avenue W, Suite 486
Seattle, WA 98119

Cultural Resources
Cultural Resource Consultants, Inc.
710 Ericksen Avenue, Suite 100
Bainbridge Island, WA 98110

Visual Analysis (Shadows, Glare)
CollinsWoerman
710 Second Avenue, Suite 1400
Seattle, WA 98104-1710

Visual Analysis (Simulations)
Portico Group
1500 4th Avenue - 3rd Floor
Seattle, Washington 98101

Earth, Environmental Health, and Plants and Animals
Landau Associates, Inc.
130 2nd Avenue South
Edmonds, WA 98020

Air Quality, Noise, and Greenhouse Gas Calculations
ENVIRON
605 First Avenue, Suite 300
Seattle, WA 98104

Water Resources and Public Utilities
SvR Design Company
1205 Second Avenue, Suite 200
Seattle, WA 98101

Wind Analysis
RWDI
650 Woodlawn Road West
Guelph, Ontario, Canada N1K 1B8

LOCATION OF BACKGROUND INFORMATION

Background material and supporting documents are located at the offices of:

Kristen Larson
Project Funding and Agreements Coordinator
City of Seattle Human Services
Community Development Block Grant Program
700 Fifth Avenue, Suite 5800
Seattle, WA 98124-4215

Ryan Moore
Senior Housing Developer
Seattle Housing Authority
120 Sixth Avenue N
P.O. Box 19028
Seattle, WA 98109-1028

DATE OF DRAFT EIS ISSUANCE

October 19, 2010

DATE COMMENTS ON DRAFT EIS ARE DUE

December 13, 2010. Agencies and members of the public are encouraged to submit comments on the Draft EIS. Comments received by the deadline will be responded to in the Final EIS.

DATE AND LOCATION OF PUBLIC HEARING ON THE DRAFT EIS

In addition to providing comments in writing, comments can be provided orally at a public hearing to be held on November 30 at 6 PM at the

Old Yesler Terrace Gym, 835 Yesler Way, Seattle, WA.

AVAILABILITY OF THE DRAFT EIS

This Draft EIS, or Notice of its Availability, has been distributed to agencies, organizations and individuals noted on the Distribution List contained in Chapter 5 of this document. Copies of this Draft EIS are available for review at the Seattle Housing Authority and the City of Seattle Human Services Department (see above) and at the following Seattle Public libraries:

- Downtown Central Library (1000 Fourth Ave.)
- Douglas Truth Branch (2300 E Yesler Way)
- International District / Chinatown Branch (713 Eighth Avenue S)
- Capitol Hill Branch (425 Harvard Avenue E)

Additional copies may be purchased at the Seattle Housing Authority Central Office for the cost of reproduction.

The document may also be reviewed online at: www.seattlehousing.org/redevelopment/yesler-terrace

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Chapter 1 - SUMMARY

CHAPTER 1
SUMMARY

1.1 Introduction

This chapter provides a summary of the Draft Environmental Impact Statement (Draft EIS) for the Yesler Terrace Redevelopment Proposal. It briefly describes the Proposed Actions and alternatives and contains an overview of significant environmental impacts identified for the Proposed Actions. Please see **Chapter 2** of this Draft EIS for a more detailed description of the Proposed Actions and alternatives and **Chapter 3** for a detailed presentation of the affected environment, significant impacts of the Proposed Actions, mitigation measures, and significant unavoidable adverse impacts.

The Seattle Housing Authority (SHA) is evaluating the potential redevelopment of Yesler Terrace, a public housing community located on the southern slope of First Hill in Seattle. The 36.6-acre Yesler Terrace site (including internal rights-of-way) currently contains 561 public housing units, a community center and various other buildings. Redevelopment is proposed in order to create a mixed income, mixed use community that is intended to better serve existing and future residents. The project would include a mix of low income and market rate housing, office uses, hotels, neighborhood commercial uses (neighborhood retail and small office uses), and neighborhood services uses, as well as parks and open space, and vehicular, pedestrian and bike improvements. In all alternatives, the existing City-owned Yesler Community Center would remain. It is anticipated that redevelopment of Yesler Terrace would take approximately 15-20 years to complete.

1.2 Proposed Actions

The Proposed Actions for the Yesler Terrace Redevelopment Proposal include:

Decision by SHA on which alternative to implement;
Possible City of Seattle Comprehensive Plan changes;
Zoning changes that would be necessary in order to accommodate the mixed use redevelopment, including a Land Use Code text amendment and a change to the Official Land Use Map (legislative rezone);
Planned Action Ordinance adoption by City of Seattle;
Possible Development Agreement between the City of Seattle and SHA;
Preliminary and Final Plat approvals by City of Seattle;
Street Vacation and dedication approvals by City of Seattle;
Future local, state and federal permits that would be required for construction and development of the Yesler Terrace community;
Release of Funds by HUD; and,
Construction and operation of buildings and facilities within the Yesler Terrace community.

1.3 Alternatives

For purposes of environmental review, five redevelopment alternatives (Alternatives 1, 1A, 2, 3 and 4) and a No Action Alternative are analyzed in this Draft EIS. The alternatives function to provide representative levels of development that could be achieved on the site.

Assumed redevelopment of Yesler Terrace would include replacement of all existing low income housing units, as well as upgrades to some of the supporting infrastructure. The redevelopment alternatives would replace some utility systems and several streets. The redevelopment alternatives would include: parks, open space, and an improved street network and walking environment that would enhance connections to the surrounding neighborhood. Market rate housing would also be added to the site, together with office, hotel, neighborhood commercial and neighborhood services under Alternatives 1-3. Under Alternative 4, no new non-residential uses are assumed. A brief description of each of the alternatives is provided below. The site has been divided into sectors and the sector boundaries are depicted on **Figure 2-4** in **Chapter 2**.

Alternative 1 – Lower Density

Alternative 1 represents the lower range of potential mixed use redevelopment of the site, with an assumed 3.65 million square feet (SF) of housing-based/mixed use redevelopment built over the assumed 20-year horizon. Land uses under Alternative 1 would include approximately:

3,000 dwelling units (2,747 dwelling units West of Boren and 253 units East of Boren);
800,000 SF of office (portion of this could be hotel);
40,000 SF of neighborhood commercial (including 10,000 SF of neighborhood retail/office in the East of Boren Sector);
50,000 SF of neighborhood services (including the Yesler Community Center);
6.0 acres of public open space (including the existing Yesler Community Center parcel, and a 1.7-acre Commons Park west of the existing Yesler Community Center) and 7.3 acres of semi-private open space; and,
3,900 parking spaces within/under buildings.

The intensity of development under this alternative would be highest in the NW Sector and lowest in the East of Boren Sector. It is assumed that two existing on-site buildings (the approximately 8,500 SF Steam Plant and the approximately 22,000 SF City-owned Yesler Community Center) would be retained. No street vacations are proposed under this alternative. Additional right-of-way on some streets (10th Avenue/10th Avenue S. and S. Washington Street) would be dedicated per zoning requirements; additional right-of-way would also be dedicated along Yesler Way. It is assumed that limited transportation and utility infrastructure improvements would be required to support proposed uses. This alternative would require a Land Use Code text amendment and rezone to allow mixed use redevelopment. It may also require a City of Seattle Comprehensive Plan amendment.

Alternative 1A – Lower Density with Less Office

Alternative 1A represents a variation of Alternative 1 wherein most proposed land uses would be similar to Alternative 1, except for office and parking development; approximately 400,000 SF of office would be provided under this alternative, as compared to approximately 800,000 SF under Alternative 1. Also, unlike Alternative 1, hotel uses would not be included in Alternative

1A. This alternative assumes the lowest range of mixed use redevelopment with an assumed 3.25 million SF of housing-based mixed use redevelopment over the assumed 20 year horizon. Land uses under Alternative 1A would include approximately:

3,000 dwelling units (2,747 dwelling units West of Boren and 253 units East of Boren);
400,000 SF of office;
40,000 SF of neighborhood commercial (including 10,000 SF of neighborhood retail/office in the East of Boren Sector);
50,000 SF of neighborhood services (including the Yesler Community Center);
6.0 acres of usable public open space (including the existing Yesler Community Center parcel and a 1.7 acre Commons Park to the west of the Community Center), and 7.8 acres of semi-private open space; and,
3,300 parking spaces within/under buildings.

The intensity of development under this alternative would be highest in the NW Sector and lowest in the East of Boren Sector. It is assumed that two existing on-site buildings (the approximately 8,500 SF Steam Plant, and the approximately 22,000 SF City-owned Yesler Community Center) would be retained. No street vacations are proposed under this alternative. Additional right-of-way on some streets would be dedicated, similar to Alternative 1. It is assumed that limited transportation and utility infrastructure improvements would be required to support proposed uses. This alternative would require a Land Use Code text amendment and rezone to allow mixed use redevelopment. It may also require a City of Seattle Comprehensive Plan amendment.

Alternative 2 – Medium Density

Alternative 2 represents the middle range of potential mixed use redevelopment of the site, with an assumed 4.75 million SF of housing-based/mixed use redevelopment over the assumed 20-year horizon. Land uses under Alternative 2 would include approximately:

4,000 dwelling units (3,747 dwelling units West of Boren and 253 units East of Boren);
1,000,000 SF of office (portion of this could be hotel);
60,000 SF of neighborhood commercial (including 10,000 SF of neighborhood retail/office in the East of Boren Sector);
50,000 SF of neighborhood services (including the Yesler Community Center);
6.5 acres of public open space (including the 1.4 acre Yesler Community Center parcel and a 1.9-acre Commons Park west of the existing Yesler Community Center) and 9.4 acres of semi-private open space; and,
5,100 parking spaces within/under buildings.

The intensity of development would be highest in the NW Sector and lowest in the East of Boren Sector. It is assumed that the only existing building to be retained would be the City-owned Yesler Community Center. Street vacations and new street dedications are proposed under this alternative to provide: a more connected grid network internally and to/from the surrounding community, complete streets, green streets, transit (including streetcar) and green stormwater infrastructure. It is assumed that substantial transportation and utility infrastructure improvements would be required to support proposed uses. This alternative would require a Land Use Code text amendment and rezone to allow mixed use redevelopment. It may also require a City of Seattle Comprehensive Plan amendment.

Alternative 3 – Higher Density

Alternative 3 represents the higher range of potential mixed use redevelopment of the site, with an assumed 5.84 million SF of housing-based/mixed use redevelopment over the assumed 20-year planning horizon.

Land uses under Alternative 3 would include approximately:

5,000 dwelling units (4,697 units West of Boren and 303 units East of Boren);
1,200,000 SF of office (portion of which could be hotel);
88,000 SF of neighborhood commercial (including 18,000 SF of neighborhood retail/office in the East of Boren Sector);
50,000 SF of neighborhood services (including the Yesler Community Center);
6.9 acres of public open space, (including the 1.4 acre Yesler Community Center parcel and a 1.9-acre Commons Park west of the existing Yesler Community Center), and 9.2 acres of semi-private open space; and,
6,300 parking spaces within/under buildings.

The intensity of development would be highest in the NW Sector and lowest in the East of Boren Sector. It is assumed that the only existing building to be retained would be the City-owned Yesler Community Center. Street vacations and new street dedications are also proposed under this alternative to provide: a more connected grid network internally and to/from the surrounding community, complete streets, green streets, transit (including streetcar) and green stormwater infrastructure. It is assumed that substantial transportation and utility infrastructure improvements would be required to support proposed uses. This alternative would require a Land Use Code text amendment and rezone to allow mixed use redevelopment. It may also require a City of Seattle Comprehensive amendment.

Alternative 4 – Existing Zoning

Alternative 4 represents the lowest amount of residential development among the redevelopment alternatives, assuming a total of 1.5 million SF of residential development. The existing Lowrise-3 (L3) zoning designation would govern future redevelopment of West of Boren Sectors.[1] Redevelopment in the East of Boren Sector would occur under existing zoning (Midrise (MR) and Neighborhood Commercial 3 - 65 feet (NC3)), similar to Alternatives 1-3. It is assumed that three existing on-site buildings (the Jesse Epstein building, the Steam Plant, and the City-owned Yesler Community Center) would be retained. It is also assumed that all new construction would conform to the proposed new multi-family (L3) zoning code changes being considered by the City. Redevelopment under this alternative would include approximately:

1,523 dwelling units (1,219 units West of Boren and 304 units East of Boren);
20,000 SF of office uses would remain;
10,000 SF of neighborhood commercial in the East of Boren Sector
50,000 SF of neighborhood services uses would remain;

[1] Alternative 4 is referred to as Existing Zoning because development is proposed based on existing zoning designations. The West of Boren Sectors are currently zoned L3. The City of Seattle has been considering amendments to the Lowrise zone portion of the Land Use Code for over a year. However, adoption of changes to the Lowrise zones is not expected until after publication of this Draft EIS. For purposes of this Draft EIS, draft code revisions for the L3 zone dated May 18, 2009 were used to project proposed development for the West of Boren Sectors in Alternative 4.

5.2 acres of public open space (including the 1.4 acre Yesler Community Center parcel and a 1.7 acres Commons Park west of the existing Yesler Community Center), and 7.9 acres of semi-private open space; and,
1,840 parking spaces within/under buildings and surface parking stalls (approximately 50 percent of each type).

The intensity of development would be highest in the East of Boren Sector and lowest in the SW Sector. No street vacations are proposed under this alternative. Street frontage (sidewalk/landscaping) and limited utility improvements would be required to support proposed uses. Additional right-of-way on some streets (10th Avenue/10th Avenue S and S Washington Street) may be dedicated per zoning requirements.

No Action Alternative

This alternative represents a continuation of the site in its present condition, including the East of Boren Sector. As under Alternative 4, the existing City of Seattle Lowrise-3 zoning designation would govern potential replacement of existing buildings in the West of Boren Sectors and the MR and NC3 zoning designations would govern replacement of existing buildings in the East of Boren Sector. However, buildings would be replaced as necessary in the same location and configuration as the existing buildings, and therefore the site would not reach the zoning potential of those designations.

The 561 extremely low income public housing units would be repaired or replaced as necessary, or on a programmed schedule by SHA. No additional housing units would be provided for very low, or low income households, nor would market-rate housing be added. The existing on-site non-residential buildings and the neighborhood service uses within them would remain: the old community center and gym, the adjacent storage building and Head Start building, the Jesse Epstein building, the Steam Plant and the Yesler Community Center. The existing baseball field and the private and semi-private open space near the existing housing units would also remain.

Existing streets, utilities and other infrastructure would be repaired as necessary over time and would be built consistent with City of Seattle Code requirements. No stormwater improvements are assumed. Under the No Action Alternative, it is assumed that some of the water service lines onsite would be replaced and fire sprinkler services would be provided for existing buildings. Under the No Action Alternative, the private trunk sewer lines would need to be replaced at some point in the future.

1.4 Impacts

The following table highlights the impacts that would potentially result from the alternatives analyzed in this Draft EIS. This summary table is not intended to be a substitute for the complete discussion of each element that is contained in **Chapter 3**.

Table1-1
IMPACTS

	Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
3.1 Earth						
Construction						
Grading	Based on the preliminary grading concept, the following site grading quantities could be required for proposed redevelopment - Cut - 465,000 cubic yards - Fill - 57,000 cubic yards	Based on the preliminary grading concept, the following site grading quantities could be required for proposed redevelopment - Cut - 465,000 cubic yards - Fill - 57,000 cubic yards	Based on the preliminary grading concept, the following site grading quantities could be required for proposed redevelopment - Cut - 745,000 cubic yards - Fill - 108,000 cubic yards	Based on the preliminary grading concept, the following site grading quantities could be required for proposed redevelopment - Cut - 730,000 cubic yards - Fill - 88,000 cubic yards	Based on the preliminary grading concept, the following site grading quantities could be required for proposed redevelopment - Cut - 158,000 cubic yards - Fill - 84,000 cubic yards	Minimal site grading activities would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
Steep Slopes/Landslide Hazards	The steep slope/slide prone area along the southern portion of the site would remain and would not be redeveloped with new uses.	Same as Alternative 1.	The steep slope/slide prone area along the southern portion of the site would be graded and redeveloped with new building construction. Substantial slope and stabilization design and other construction measures would be implemented to address potential impacts associated with grading this area.	Same as Alternative 2.	Same as Alternative 1.	Remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule would not result in impacts to the steep slope/slide prone area along the southern portion of the site.
Temporary Excavations	Temporary excavations would be required for the installation of structures and infrastructure. Without mitigation, these excavations could have a potentially adverse effect on immediately adjacent existing and future structures, utilities and other improvements.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal temporary excavation would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
Construction Dewatering	Dewatering may be required during construction to control groundwater flow into certain excavations, particularly during spring and winter months, which could cause some ground settlement and potentially damage nearby structures. Site-specific analyses would be required during design to determine the appropriate measures to control the potential impacts of dewatering.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal site grading and dewatering activities would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
Foundations	Foundation support for most structures would likely be provided by conventional spread	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that no high-rise buildings would be built under this alternative.	Same as Alternative 1.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		footings and mat foundations, although drilled shaft foundations could be used for some high-rise buildings.					
	Seismic Hazards	The entire Puget Sound region, including the Yesler Terrace site, is located within a seismically active area. With incorporation of appropriate building design and other geotechnical measures, no significant impacts to building/site stability and safety would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	As existing buildings, utilities and roadways are remodeled and replaced as necessary, or on a programmed schedule, structures would be brought into compliance with current seismic building code requirements.
	Erosion Hazards	Site grading and construction associated with redevelopment could cause erosion of exposed soils which could potentially result in on and off-site transport of sediment. Proper use of temporary erosion and sedimentation control measures and BMPs would be implemented to reduce the potential for impacts.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal erosion hazards would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Operation						
		No significant earth-related impacts (i.e. landslide and erosion impacts) would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
	Cumulative Impacts						
		No significant cumulative impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.2 Air Quality							
	Construction						
	Dust	Site preparation and construction could generate dust from: grading; excavation; building and infrastructure demolition; and, construction of new buildings and infrastructure. Such activities would contribute to temporary localized increases in ambient concentrations of suspended particulate matter. Measures to provide reasonable controls of emissions of dust would be implemented, and construction activities would not be expected to significantly impact air quality.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	It is assumed that remodeling and replacement of existing buildings would take place as necessary, or on a programmed schedule. Existing streets, utilities and other infrastructure would be repaired/replaced, as necessary, over time. Construction activities would be required to comply with all relevant federal, state and local air quality rules, and no significant impacts would be anticipated.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
	Hazardous Materials Disposal	Demolition of existing buildings would require the removal and disposal of building materials that could contain asbestos and lead based paint. Demolition contractors would be required to comply with EPA and PSCAA regulations related to the safe removal and disposal of such materials and no significant air quality impacts would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
	Construction Equipment and Vehicle Emissions	Construction equipment and vehicles would emit air pollutants that would slightly and temporarily degrade local air quality, especially during earthwork activity. Standard construction measures would be implemented and no significant impacts would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal construction emissions would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Construction Odors	Some construction activities would temporarily cause odors, particularly during paving operations using tar and asphalt. Measures to provide reasonable controls of emissions of construction odors would be implemented and, construction activities would not be expected to significantly impact air quality.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal construction odors would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Operation						
	Traffic	Similar to or less than Alternative 3.	Similar to or less than Alternative 3.	Similar to or less than Alternative 3.	The primary emissions generating activity associated with redevelopment would be increased traffic traveling to and from the site. Increased traffic would not be expected to result in any significant air quality impacts.	Similar to or less than Alternative 3.	Off-site traffic conditions would remain similar to existing conditions, and no operational-related air quality impacts would be expected.
	Site Suitability	Same as Alternative 3.	Same as Alternative 3.	Same as Alternative 3.	Modeling indicates that concentrations of most selected toxic air pollutants (TAPSs) probably currently exceed the acceptable source impact level health-risk guidelines. Existing levels of most TAPS considered and especially diesel particulate matter (DPM) exceed the risk	Same as Alternative 3.	Same as Alternative 3.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
					guideline many times over, because these guidelines are quite low. Modeling of future conditions suggests concentrations of traffic-related TAPs would be lower, but would still exceed most of the risk guideline levels considered. These findings suggest there is a potential increased health risk due to long-term exposure to TAPs from transportation sources near the project site – and on any similarly exposed areas near major roadways.		
3.3 Water Resources							
	Construction						
	Onsite Water Resources	Redevelopment activities would not occur in SW Sector where the seep and two potential wetlands are located; therefore, no significant impacts would be anticipated.	Same as Alternative 1	A seep and two potential wetlands are located in the southern portion of the SW Sector. If it is determined that wetlands are located onsite, the project would comply with applicable requirements (i.e. the City of Seattle critical areas ordinance) and Section 404 of the Clean Water Act if the wetlands are determined by the Corps of Engineers not to be isolated).	Same as Alternative 2	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	No impacts to the seep and two potential wetlands in the SW Sector would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule.
	Temporary Stormwater Quality and Flow Controls	During construction, potential short-term impacts to water resources could occur due to the release of sediment from grading activities and pollutants from construction equipment. With implementation of required temporary erosion, sediment control, spill prevention, flow control measures, and best management practices, no significant impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal site grading activities and therefore temporary stormwater control measures would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary. With implementation of required temporary erosion, sediment control, spill prevention, flow control measures, and best management practices, no significant impacts would be anticipated.
	Operation						
	Permanent Stormwater Control System	Following development, impervious surface area onsite would increase relative to existing conditions. A permanent stormwater control system would be installed per applicable	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Buildings, utilities and roadways would be repaired or replaced as necessary, or on a programmed schedule. Based on assumed levels of sidewalk replacement, most areas would trigger a

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		regulations.					requirement for new flow control facilities. Impacts would be as described under Alternative 1 but at a lower level of intensity and over a longer period of time.
	Right-of-Way Improvements	Where full street improvements occur as part of redevelopment, separate stormwater drainage and sanitary sewer conveyance systems would be provided, as required by the City of Seattle.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No significant right-of-way improvements would be anticipated. Roadways would be repaired or replaced in-kind as necessary.
	Cumulative Impacts						
		Increased demand on combined sewer systems from other development in the site's vicinity could require improvements, extensions or connections to the existing infrastructure (including flow control measures) to accommodate growth.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
		The proposed First Hill Streetcar alignment could affect the horizontal layout, location and connections to facilities.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Existing buildings, utilities and roadways would be replaced in-kind as necessary and would not be affected by the new First Hill Streetcar alignment.
3.4 Plants and Animals							
	Construction						
	Plants - Built and Vegetated Area	Overall, the amount of built area would increase to 73 percent (as compared to 58 percent under existing conditions and the amount of vegetated area would decrease to 27 percent (as compared to 42 percent under existing conditions.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Overall, the amount of built area would increase to 74 percent (as compared to 58 percent under existing conditions and the amount of vegetated area would decrease to 26 percent (as compared to 42 percent under existing conditions.	The amount of built area (58 percent) and vegetated area (42 percent) would remain as under existing conditions.
	Plants - Exceptional Trees	Of the 22 existing "exceptional trees" as defined by the City, approximately 15 would be retained and 7 would be removed.	Same as Alternative 1	Of the 22 existing "exceptional trees" as defined by the City, approximately 12 would be retained and 10 would be removed.	Of the 22 existing "exceptional trees" as defined by the City, approximately 10 would be retained and 12 would be removed.	Of the 22 existing "exceptional trees" as defined by the City, approximately 12 would be retained and 10 would be removed.	As part of remodeling and replacing existing buildings, utilities and roadways as necessary; no exceptional trees would be anticipated to be removed.
	Plants - Tree Canopy	The amount of tree canopy would be reduced to 5.1 percent due to tree removal to accommodate redevelopment and removal of a significant number of unhealthy or hazardous trees.	Same as Alternative 1	The amount of tree canopy would be reduced to 4.8 percent due to tree removal to accommodate redevelopment and removal of a significant number of unhealthy or hazardous trees.	The amount of tree canopy would be reduced to 4.3 percent due to tree removal to accommodate redevelopment and removal of a significant number of unhealthy or hazardous trees.	The amount of tree canopy would be reduced to 5.7 percent due to tree removal to accommodate redevelopment and removal of a significant number of unhealthy or hazardous trees.	The amount of tree canopy would remain at 22.2 percent initially, but a significant number of unhealthy or hazardous trees would likely be removed over time.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
	Wildlife	Existing wildlife species that currently use the site are adapted to urban environments, could be disturbed/displaced due to construction activities (i.e. from habitat removal and noise). Impacts would not be anticipated to be significant.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Buildings, utilities and roadways would be repaired or replaced as necessary, or on a programmed schedule displacing the existing urban wildlife. Impacts would be as described under Alternative 1 but at a lower level of intensity and over a longer period of time.
	Wildlife- Migratory Birds	Potential nesting sites in existing buildings would be removed to accommodate redevelopment. Nests would be removed after birds have fledged; therefore, no significant impacts would be anticipated.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	As buildings are remodeled or replaced necessary, or on a programmed schedule, existing nesting sites in buildings would be removed. Nests would be removed after birds have fledged; therefore, no significant impacts would be anticipated.
	Operation						
	Wildlife	The reduction in vegetated area would result in a small reduction in habitat and fewer animals at the site; however, due to the small reduction and the adaptive ability of the onsite urban wildlife; impacts would not be considered significant.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	As buildings, utilities and roadways are repaired or replaced as necessary, or on a programmed schedule, these structures would be replaced in kind; therefore, no change in the amount of existing habitat area would be anticipated.
	Cumulative Impacts						
		Impacts to plants and animals associated with proposed offsite development in the site vicinity would result in the removal or trees, wildlife and habitat, but due to the highly urbanized nature of these sites, no significant impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
		The First Hill Streetcar right-of-way would run through the Yesler Terrace site and could require the removal of 2 onsite exceptional trees. Removal of these trees would be a cumulative impact with the Yesler Terrace Redevelopment. These potential impacts would not be significant, because the site is already highly urbanized and animals in the site vicinity are adapted to the urban environment.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
3.5 Energy - Climate Change and Greenhouse Gas Emissions							
	Construction, Operation and Cumulative Impacts						
	Climate Change	No disproportionate impacts from global climate change to the Yesler Terrace Redevelopment would be anticipated.	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1
	Greenhouse Gas Emissions (construction-related, transportation and operations emissions)	New greenhouse gas emissions would be generated under Alternative 1 but levels would not be considered to be significant.	Same as Alternative 1	Greenhouse gas emissions would be greater than under Alternative 1 but increases would not be considered to be significant.	Greenhouse gas emissions would be highest under Alternative 3, but increases would not be considered to be significant.	Same as Alternative 1	As existing facilities are remodeled or replaced as necessary or on a programmed schedule, new facilities would be designed and constructed to be more energy efficient; therefore, greenhouse gas emissions could be less than under existing conditions.
	Energy	Energy use would increase from existing conditions but increases would not be considered to be significant.	Same as Alternative 1	Energy use would be greater than under Alternative 1 but increases would not be considered to be significant.	Energy use would be highest under Alternative 3, but increases would not be considered to be significant.	Same as Alternative 1	As existing facilities are remodeled or replaced as necessary, or on a programmed schedule, new facilities would be designed and constructed to be more energy efficient; therefore, energy use could be less than under existing conditions.
3.6 Environmental Health							
	Construction						
	Disturbance/Release of Pollutants and Hazardous Materials	The potential exists for certain environmental health-related impacts to occur during construction including: - Generating air pollutants as a result of dust from demolition, earthwork and/or emissions from construction vehicles; - Accidental spills of construction-related chemicals; and/or, - Exposure of asbestos-containing materials or lead-based paints. With implementation of required health and safety measures, no significant impacts would be expected.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Buildings, utilities and roadways would be repaired or replaced as as necessary, or on a programmed schedule and would entail construction activities similar to Redevelopment Alternatives 1-4. Impacts would be as described under Alternative 1 but at a lower level of intensity and over a longer period of time.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
	Lead Concentrations in Soils	Redevelopment activities would occur in areas where lead concentrations in the soil may be above the MTCA Method A soil cleanup levels for unrestricted land uses. Development and compliance with a site-specific health and safety procedures (in compliance with federal, state and local regulations) would minimize the potential health risks for residents and workers on the site.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Buildings, utilities and roadways would be repaired or replaced as necessary, or on a programmed schedule and would entail construction activities similar to Redevelopment Alternatives 1-4. Impacts would be as described under Alternative 1 but at a lower level of intensity and over a longer period of time.
	Dewatering	Dewatering may be needed for construction of underground structures and utilities, depending on the depth of excavation. Monitoring and treatment of the dewatering discharges would be conducted, as necessary, to limit impacts to receiving waters.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Buildings, utilities and roadways would be repaired or replaced as necessary, or on a programmed schedule and would entail construction activities similar to Redevelopment Alternatives 1-4. Impacts would be as described under Alternative 1 but at a lower level of intensity and over a longer period of time.
	Steam Plant Demolition	The Steam Plant facility would not be demolished under this Alternative.	Same as Alternative 1.	Under this Alternative, the Steam Plant would be demolished. Residual material within the smokestack would need to be tested and characterized before demolition activities occur in order to select the appropriate offsite disposal. With implementation of required health and safety measures, no significant impacts would be expected.	Same as Alternative 2.	Same as Alternative 1.	Same as Alternative 1.
	Operation						
		No significant impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
	Cumulative Impacts						
		No significant cumulative impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.7 Noise							
	Construction	Noise from demolition and construction activities has the potential to impact nearby onsite and offsite receivers, particularly sensitive uses such as residences and the Harborview Medical Center. The temporary	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Same as Alternative 1.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		nature of construction coupled with restriction to daytime hours minimizes the potential for significant impacts from construction activities and equipment.					
	Operation						
	Traffic & Road Alternations	Outside of the immediate project area, traffic volumes on area roadways are not projected to increase significantly (i.e., more than double). In addition, no substantial road alterations are expected to be required. Overall, neither project-related traffic nor project-required road alterations would be expected to result in any significant noise impacts.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Little or no changes in off-site noise levels would be expected.
	HVAC & Mechanical Equipment	HVAC and mechanical equipment associated with new buildings on the project site could emit noise audible at off-site locations. However, noise from all such equipment would be required to comply with the applicable Seattle noise limits and would have minimal noise impacts on surrounding uses.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Noise from existing building equipment would be similar to existing conditions, and no significant impacts would be expected.
	Site Suitability	Portions of the site would be deemed unacceptable for residential uses under HUD noise criteria without implementation of noise mitigation (including extraordinary noise attenuation measures in an area within the SW Sector), due to the presence of I-5 and other major roadways.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.8 Land Use							
	Construction						
		Site preparation and building/infrastructure development over the buildout period could result in temporary impacts to onsite and offsite adjacent existing land uses including: dust from clearing, grading and demolition; emissions from construction	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Buildings, utilities and roadways would be repaired or replaced as necessary, or on a programmed schedule and would entail construction activities similar to Redevelopment Alternatives 1-4. Impacts would be as described under Alternative 1 but at a lower level of intensity and over a

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		vehicles and equipment; soil erosion from removal of vegetation; increased noise levels; light and glare; and increased construction-related traffic. Overall, due to the temporary and periodic nature of construction, no significant impacts would be anticipated.					longer period of time.
	Operation						
	Displacement of Existing Uses - Residential	All existing residential structures would be demolished over time and the residents would be temporarily or permanently displaced and offered relocation assistance. Residents in good standing with SHA would be offered the opportunity to return to the redeveloped community.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	As buildings are remodeled or replaced as necessary, or on a programmed schedule, residents could be temporarily or permanently relocated and offered relocation assistance. Impacts would be as described under Alternative 1 but would be less intense and occur over a longer period of time.
	Displacement of Existing Uses - Non-Residential	The Seattle Parks Department Yesler Community Center and playground use would remain. The existing Steam Plant building and its associated storage and maintenance facilities uses would remain. All other existing non-residential tenants leasing space on the Yesler Terrace site would be temporarily or permanently displaced. Permanent displacement could occur due to potential changes in SHA's rental policies/rate or other economic factors. Some tenants could move directly into redevelopment neighborhood services/ commercial or office space without being temporarily displaced.	Same as Alternative 1.	The Seattle Parks Department Yesler Community Center and playground use would remain. All other existing non-residential tenants leasing space on the Yesler Terrace site would be temporarily or permanently displaced. Permanent displacement could occur due to potential changes in SHA's rental policies/rate or other economic factors. Some tenants could move directly into redevelopment neighborhood services/commercial or office space without being temporarily displaced.	Same as Alternative 2.	The Seattle Parks Department Yesler Community Center and playground use would remain. The existing Steam Plant building and its associated storage and maintenance facilities uses would remain. The existing Jesse Epstein building and its associated office uses would remain. All other existing non-residential tenants leasing space on the Yesler Terrace site would be temporarily or permanently displaced. Permanent displacement could occur due to potential changes in SHA's rental policies/rate or other economic factors. Some tenants could move directly into redevelopment neighborhood services/ commercial or office space without being temporarily displaced.	As buildings are remodeled or replaced as necessary, or on a programmed schedule, non-residential tenants could be temporarily or permanently relocated. Impacts would be as described under Alternative 1 but would be less intense and occur over a longer period of time.
	Conversion of Land Uses	Redevelopment of the site would result in the conversion of the site from a low-rise, multi-family residential complex into a dense	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Redevelopment of the site would result in the conversion of the site from a low-rise, multi-family residential complex into a dense	As buildings, roadways and utilities are replaced or repaired as necessary, or on a programmed schedule, they

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		urban mixed use neighborhood with mid and high rise buildings.				urban mixed use neighborhood with low, mid and high rise buildings.	would be replaced in-kind in the same location; therefore, no conversion of land uses would be anticipated.
	Changes in Density	The average residential density across the site would be 180 dwelling units per acre. The average office/hotel floor-area ratio (FAR) would be 7.5 on individual parcels.	The average residential density across the site would be 180 dwelling units per acre. The average office/hotel FAR would be 4.3 on individual parcels.	The average residential density across the site would be 227 dwelling units per acre. The average office/hotel FAR would be 7.6 on individual parcels.	The average residential density across the site would be 292 dwelling units per acre. The average office/hotel FAR would be 6.7 on individual parcels.	The average residential density across the site would be 74 dwelling units per acre. The average office/hotel FAR would be 2.0 on individual parcels.	The average residential density across the site would remain at 24 dwelling units per acre. The average FAR would remain at 2.0 on individual parcels.
	Changes in Activity Levels	Activity levels on the site would substantially increase as a result of the 5,228 residents and 2,837 employees as well as the dense nature of the redevelopment. The general nature of the new site activity would be consistent with an urban mixed-use neighborhood.	Activity levels on the site would substantially increase as a result of the 5,228 residents and 1,507 employees as well as the dense nature of the redevelopment. The general nature of the new site activity would be consistent with an urban mixed-use neighborhood.	Activity levels on the site would substantially increase as a result of the 6,815 residents and 3,540 employees as well as the dense nature of the redevelopment. The general nature of the new site activity would be consistent with an urban mixed-use neighborhood.	Activity levels on the site would substantially increase as a result of the 8,315 residents and 4,256 employees as well as the dense nature of the redevelopment. The general nature of the new site activity would be consistent with an urban mixed-use neighborhood.	Activity levels on the site would substantially increase as a result of the 2,795 residents and 160 employees as well as the dense nature of the redevelopment but would be less than assumed under Alternatives 1-3. The general nature of the new site activity would be consistent with an urban mixed-use neighborhood.	Activity levels on the site would remain as under existing conditions with 1,231 residents and 142 employees as well as the less dense nature of the redevelopment.
	Relationship to Onsite Uses	Proposed residential, office/hotel, neighborhood commercial and neighborhood services uses would be compatible with the existing Yesler Community Center and Steam Plant uses assumed to remain.	Same as Alternative 1.	Proposed residential, office/hotel, neighborhood commercial and neighborhood services uses would be compatible with the existing Yesler Community use assumed to remain.	Same as Alternative 2.	Proposed residential, office/hotel, neighborhood commercial and neighborhood services uses would be compatible with the existing Yesler Community Center, Steam Plant and Jesse Epstein building uses assumed to remain.	Existing onsite uses would remain as under existing conditions.
	Relationship to Surrounding Uses - Land Use	Proposed residential, office/hotel, neighborhood commercial and neighborhood services uses would be compatible with the existing offsite uses.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	The relationship of existing onsite and adjacent offsite uses would remain as under existing conditions.
	Relationship to Surrounding Uses - Height, Bulk and Scale	Considerable height differences in proposed onsite and adjacent offsite uses in some locations could be perceived as a significant impact without implementation of appropriate mitigation measures.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	The relationship of the height, bulk and scale of existing onsite and adjacent offsite building would remain as under existing conditions.
	Cumulative Impacts						
		The mix of uses assumed for the Yesler Terrace site under Alternatives 1- 4 would be	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	If the site is not redeveloped, over time the level of development on the site could be

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		intended to provide a wide range of uses to support site residents and employees; this could lessen the pressure for new offsite development. Some new commercial development in the area could be indirectly generated, including in areas such as Little Saigon. The increase in intensity of development on the site under Alternatives 1-3 could result in requested zoning changes in the areas adjacent to the site. Redevelopment of Yesler Terrace could potentially result in changes to adjacent and nearby areas in the form of displacement of businesses, low income individuals, and/or the services that support them due to increased property values and/or rents. Little Saigon would experience incremental growth and development over time. This growth would occur with or without redevelopment of Yesler Terrace. Future development in the area would contribute to cumulative employment/population growth and intensification of land uses in this portion of the City.					out of scale with development in the surrounding area and the site would remain an underutilized area in close proximity to the urban core. Little Saigon would experience incremental growth and development over time. This growth would occur with or without redevelopment of Yesler Terrace. Other development in the area would contribute to cumulative employment/population growth and intensification of land uses in this portion of the City.
3.10 Aesthetics/Light and Glare/Shadows							
	Construction						
	Aesthetic Character	Construction activities would be ongoing on portions of the site for extended periods of time and could temporarily affect the aesthetic character of the site and surrounding area. Measures to control air, noise, light intrusion and other construction related disturbances could lessen aesthetic impacts.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal impacts to visual character would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
	Light and Glare	New temporary sources of light and glare associated with infrastructure and building construction, construction equipment and lighting of the job site, would be introduced to the site during construction activities over the long-term buildout of the site. Construction lighting and glare could potentially be noticeable in certain areas proximate to the site. While noticeable, such lighting is not expected to cause significant impacts.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal temporary sources of light and glare would be anticipated as part of remodeling and replacing existing building, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Operation						
	Visual Character	The visual character of the site would change to a higher density, mixed use development with high-rise and mid-rise buildings. The overall quality of building design would likely be higher compared to existing site conditions. It is assumed that building design, construction and materials would be coordinated through adoption and implementation of consistent design standards over the long-term buildout period. This would result in positive impacts relative to the visual character of the site.	Similar to Alternative 1.	Similar to Alternative 1, except that density and some building heights would be greater.	Similar to Alternative 1, except that density and some building heights would be greater than Alternatives 1 and 2.	The visual character of the site would change to a development with increased residential density in slightly taller 4-story buildings. The visual character of the site would primarily reflect denser residential uses, with similar levels of neighborhood services and office development as occur under existing conditions.	The visual character of the site would generally remain as under existing conditions.
	City Protected Public Viewpoints	No significant impacts to City protected views would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Existing views to and from the site would remain.
	Height Bulk & Scale	See **Land Use** above under Relationship to Surrounding Uses - Height, Bulk and Scale.	See **Land Use** above under Relationship to Surrounding Uses - Height, Bulk and Scale.	See **Land Use** above under Relationship to Surrounding Uses - Height, Bulk and Scale.	See **Land Use** above under Relationship to Surrounding Uses - Height, Bulk and Scale.	See **Land Use** above under Relationship to Surrounding Uses - Height, Bulk and Scale.	See **Land Use** above under Relationship to Surrounding Uses - Height, Bulk and Scale.
	Light and Glare	New stationary and mobile sources of light and glare would be added to the site from increased residential density and new land uses including neighborhood commercial and office/hotel development. Relative to existing conditions, overall light and glare levels on the site would be greater, but would be typical of urban	Similar to Alternative 1, except that no hotel uses and less office development would be added to the site.	Similar to Alternative 1.	Similar to Alternative 1.	Additional residential uses would be added to the site, but no new office, neighborhood commercial or neighborhood services space would be added. The new residential uses would result in new light sources on the site and additional vehicles accessing onsite parking areas. Overall, due to the similarity of uses which would occur onsite under	Light and glare levels similar to those occurring under existing conditions are expected to continue on the site; no significant impacts would be anticipated.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		development and no significant impacts would be anticipated.				Alternative 4, the character of light and glare would be slightly greater than but generally similar to existing conditions.	
	Reflected Solar Glare Impacts to I-5 and Boren Avenue	Glare impacts to 1-5 and Boren Avenue would be similar to or less than Alternative 3.	Glare impacts to 1-5 and Boren Avenue would be similar to or less than Alternative 3.	Glare impacts to 1-5 and Boren Avenue would be similar to or less than Alternative 3.	No glare impacts would occur on I-5 or Boren Avenue within motorists' cone-of-vision (i.e. impacts that could impair a driver's vision) under the capacity model building orientations. Glare could be within the cone-of-influence at 4:00 PM on December 21st under the worst case building orientations. With appropriate mitigation measures, no significant impacts would be anticipated.	Glare impacts to I-5 and Boren Avenue would not be anticipated because only low-rise buildings would be constructed on the site.	No glare impacts to I-5 or Boren Avenue would be expected.
3.11 Historic Resources							
	Construction						
		During construction, the potential exists for structural instability/undermining and temporary dirt and unintended damage to the nearby historic properties within the APE. With implementation of construction monitoring and dust control measures, significant impacts would not be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	As buildings are remodeled or replaced as necessary, or on a programmed schedule, non-residential tenants could be temporarily or permanently relocated. Impacts would be as described under Alternative 1 but would be less intense and occur over a longer period of time.
		Redevelopment would require demolition of the remaining residential buildings of the original (1941-1942) Yesler Terrace, the Jesse Epstein Building as well as its former Community Building. Yesler Terrace was listed in the Washington Heritage Register (WHR) in 1981 and is under review for eligibility for listing in the NRHP.	Same as Alternative 1.	Redevelopment would require demolition of the remaining residential buildings of the original (1941-1942) Yesler Terrace, the Jesse Epstein Building, the Steam Plant as well as its former community center and auditorium/gym. Yesler Terrace was listed in the WHR in 1981. The Steam Plant building was designated as a City Landmark in October 2010. The Controls and Incentives Agreement for the recently designated Steam Plant landmark may require retention of the Steam Plant building and stack. If not retained, demolition of the Steam Plant would be a	Same as Alternative 2.	Redevelopment would require demolition of the remaining residential buildings of the original (1941-1942) Yesler Terrace, as well as its former Community Building. Yesler Terrace was listed in the Washington Heritage Register (WHR) in 1981 and is under review for eligibility for listing in the NRHP.	Replacement of existing buildings as necessary, or on a programmed schedule, would require the demolition of certain units of the remaining residential buildings of the original (1941-1942) Yesler Terrace. Yesler Terrace was listed in the WHR in 1981.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
				significant adverse impact.			
	Operation						
		No operational impacts to historic resources from redevelopment of the Yesler Terrace site under would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No operational impacts to historic resources from the Yesler Terrace site remaining under existing uses would be anticipated.
	Cumulative Impacts						
		Redevelopment could have an unintended impact on small-scale offsite historic buildings as a result of increases in property values in the area that could create pressure for redevelopment. Vulnerable historic resources include those that are not already recognized by listing in a historic register, but may be eligible for local designation and the protection that it affords. Smaller-scale, one- and two-story buildings in would be particularly vulnerable to demolition for redevelopment. The First Hill Streetcar Project could result in potential impacts to on-site historic resources (the Yesler Terrace Steam Plant) or to off-site listed or potentially eligible resource could occur including structural instability, undermining or temporary dirt/unintended damage.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	The No Action alternative would not be anticipated to result in pressure on small-scale offsite historic buildings to be redeveloped. The First Hill Streetcar Project could result in potential impacts to on-site historic resources (the Yesler Terrace Steam Plant) or to off-site listed or potentially eligible resource could occur including structural instability, undermining or temporary dirt/unintended damage.
3.12 Cultural Resources							
	Construction, Operation and Cumulative Impacts						
	Impacts to Archaeological Resources	No impacts would be anticipated. The site has a low probability for containing archaeological resources.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.13 Transportation							
	Construction						
		Construction-related traffic would occur in stages until redevelopment at the site is complete, and would likely be most noticeable during demolition and major earthwork stages. Construction employees would also generate traffic and parking demand. A Construction Management Plan would be	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Minimal construction-related traffic would be expected as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		prepared, and no significant impacts would be anticipated.					
	Operation						
	Trip Generation Impacts	Alternative 1 would generate a net increase of 8,890 total daily trips for the site: – AM Peak Hr. Trips: 720 – PM Peak Hr. Trips: 750	Alternative 1A would generate a net increase of 7,470 total daily trips for the site: – AM Peak Hr. Trips: 590 – PM Peak Hr. Trips: 610	Alternative 2 would generate a net increase of 12,150 total daily trips for the site: – AM Peak Hr. Trips: 960 – PM Peak Hr. Trips: 1,020	Alternative 3 would generate a net increase of 15,390 total daily trips for the site: – AM Peak Hr. Trips: 1,200 – PM Peak Hr. Trips: 1,280	Alternative 4 would generate a net increase of 2,420 total daily trips for the site: – AM Peak Hr. Trips: 170 – PM Peak Hr. Trips: 190	Under the No Action Alternative a total of 1,600 daily trips are generated: – AM Peak Hr. Trips: 130 – PM Peak Hr. Trips: 150
	Transit Trips (including trips on bus routes, Sound Transit's Link light rail system, and the future First Hill Street car line)	An estimated 8,490 total daily transit trips would occur for the site: – AM Peak Hr. Trips: 100 – PM Peak Hr. Trips: 130	An estimated 5,910 total daily transit trips would occur for the site: – AM Peak Hr. Trips: 570 – PM Peak Hr. Trips: 560	An estimated 10,750 total daily transit trips would occur for the site: – AM Peak Hr. Trips: 1,000 – PM Peak Hr. Trips: 1,025	An estimated 13,000 total daily transit trips would occur for the site: – AM Peak Hr. Trips: 1,175 – PM Peak Hr. Trips: 1,230 Additional ridership on bus Route 27 would increase the ridership load to a level that may be unacceptable (i.e. drivers may bypass stops when there is no more room on the bus).	An estimated 2,050 total daily transit trips would occur for the site: – AM Peak Hr. Trips: 165 – PM Peak Hr. Trips: 200 .	Under the No Action Alterative a total of 1,100 daily transit trips are estimated to occur onsite – AM Peak Hr. Trips: 100 – PM Peak Hr. Trips: 130
	Intersection Levels of Service (LOS) Impacts	The additional project traffic would increase vehicle delay at 6 intersections that would operate at LOS F without the site redevelopment and would degrade the following intersections to LOS F: – 9th Avenue/Alder Street – 8th Avenue/Yesler Way With implementation of appropriate mitigation measures, no significant adverse impacts are anticipated.	The additional project traffic would increase vehicle delay at 6 intersections that would operate at LOS F without the site redevelopment and would degrade the following intersection to LOS F: – 9th Avenue/Alder Street With implementation of appropriate mitigation measures, no significant adverse impacts are anticipated.	The additional project traffic would increase vehicle delay at 6 intersections that would operate at LOS F without the site redevelopment and would degrade the following intersections to LOS F: – 9th Avenue/Alder Street – 8th Avenue/Yesler Way – Broadway/E James Street With implementation of appropriate mitigation measures, no significant adverse impacts would be anticipated, except for at the intersection of Broadway/E James Street. The project's impact to this intersection would result in a significant, unavoidable adverse impact.	The additional project traffic would increase vehicle delay at 6 intersections that would operate at LOS F without the site redevelopment and would degrade the following intersections to LOS F: – 9th Avenue/Alder Street – 8th Avenue/Yesler Way – Broadway/E James Street – 9th Avenue/Jefferson Street Significant impacts would be as described for Alternative 2.	The additional project traffic would increase vehicle delay at 6 intersections that would operate at LOS F without the site redevelopment. With implementation of appropriate mitigation measures, no significant adverse impacts are anticipated.	Many of the study area intersections would operate at LOS F in the future due to growth in traffic volumes. However, no significant impacts to LOS operations would be anticipated as a result of site generated traffic, which would remain similar to existing conditions.
	Site Access and Internal Circulation	The street network and circulation concept would rely on using the existing roadway network in its existing location; no street vacations would occur. Additional street dedications	Same as Alternative 1.	The circulation infrastructure across the site would be comprehensively reconfigured to provide a more connected street grid network internally and to/from the surrounding	Same as Alternative 2.	Same as Alternative 1.	The existing street network and site access would remain in place.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		would occur to increase the width of 10th Avenue/10th Avenue S, S Washington Street and E Yesler Way to accommodate complete streets, low-impact development and green street improvements. Private access roads and drives would augment right-of-ways.		community. In order to achieve the reconfiguration, certain street vacations and new street dedications would be necessary.			
	Non-Motorized Facilities	Pedestrian facilities and connections would be improved throughout the site. The existing street system would be retained, some streets would be widened, and most sidewalks would be rebuilt as part of frontage improvements. New internal pedestrian connections would be created to link development to key community nodes. A new pedestrian connection south to S Main Street would be created to accommodate a future hillclimb from Jackson Street and would improve pedestrian access to the International District/Little Saigon.	Same as Alternative 1.	Pedestrian facilities and connections would be improved throughout the site, and the circulation infrastructure across the site would be comprehensively reconfigured to provide a more connected street grid network internally and to/from the surrounding community. As with Alternative 1, a new pedestrian connection south to S Main Street would be created to accommodate a future hillclimb from Jackson Street and would improve pedestrian access to the International District/Little Saigon.	Same as Alternative 2.	Similar to Alternative 1, except that no new pedestrian connection to S Main Street would be created to improve pedestrian access to the International District/Little Saigon.	The site's existing pedestrian facilities and connections would remain and would not be improved. No new pedestrian connection to S Main Street would be created to improve pedestrian access to the International District/Little Saigon.
	Traffic Safety	The project would increase traffic volumes through the 6th Avenue/James Street intersection, which exceeds City of Seattle criteria for a high-collision location (with an average of 15 collisions per year). However, Yesler Terrace project traffic entering this intersection is not expected to result in a significant impact to safety conditions.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Traffic volumes similar to existing conditions would be anticipated to occur, and would not be expected to result in traffic safety problems.
3.14 Public Utilities							
	Construction						
		During construction, existing water mains and services would continue to service the site, or temporary bypass service would be implemented until the new water distribution system was complete and operational.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Some water service pipes from meters to buildings would be replaced.

	Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
Operation						
Water Demand	Water demand would increase to an estimated: – 1,216,000 gallons per day (gpd) under average daily demand (ADD); – 2,433,000 gpd under maximum daily demand (MDD); and, – 4195 gallons per minute (gmp) under peak hourly demand (PHD).	Water demand would increase to an estimated: – 1,081,000 gpd ADD; – 2,175,000 gpd MDD; and, – 3,600 gpm PHD.	Water demand would increase to an estimated: – 1,362,000 gpd ADD; – 2,725,000 gpd MDD; and, – 4,208 gpm PHD.	Water demand would increase to an estimated: – 1,642,000 gpd ADD; – 3,283,000 gpd MDD; and, – 4,877 gpm PHD. .	Water demand would increase to an estimated: – 327,000 gpd ADD; – 653,000 gpd MDD; and, – 1,325 gpm PHD.	Water demand is assumed to be the same as under existing conditions: – 83,000 gpd ADD; – 221,000 gpd MDD; and, – 709 gmp PHD.
Water System Improvements	All existing water mains on and in the vicinity of the site would be adequate to meet the estimated peak hourly demand and fire hydrant flow.	Same as Alternative 1.	It is assumed that street improvement would include water main improvements in the NW and NE Sectors for 9th Avenue, Fir Street, and 10th Avenue. The existing water main bisecting the East of Boren Sector is assumed to be removed and a new water main installed on E Fir Street. In the SW and SE Sectors, a new 8-inch water main would be installed.	Same as Alternative 2.	All existing water mains on and in the vicinity of the site would be adequate to meet the estimated peak hourly demand and fire hydrant flow.	It is assumed that some water service pipes from meters to buildings would be replaced and fire sprinkler service would be provided for existing buildings.
Sanitary Sewer Flows	Sewer flows would increase to an estimated: – 1,310,000 gallons per day (gpd) under average daily flow (ADF) – 6.09 cubic feet per (cfs) second under peak hourly flow (PHF).	Sewer flows would increase to an estimated: – 1,020,000 gpd ADF – 4.75 cfs PHF	Sewer flows would increase to an estimated: – 1,700,000 gpd ADF – 7.88 cfs PHF	Sewer flows would increase to an estimated: – 2,040,000 gpd ADF – 9.45 cfs PHF	Sewer flows would increase to an estimated: – 490,000 gpd ADF – 2.26 cfs PHF	Sanitary flows are assumed to be the same as under existing conditions: – 250,000 gpd ADF – 1.15 cfs PHF
Sewer System Improvements	Existing combined sewer mains would be reused where existing mains have sufficient capacity. A new combined sewer main would be located in 8th Avenue that connects to the existing combined sewer main at Yesler Way, and a new combined sewer main would be located in S Main Street to provide sewer service to the SW and SE Sectors.	Same as Alternative 1.	Sewer mains would be replaced or new lines installed for new roadways that would be constructed. Stormwater would be separated from sewer flows onsite and then connected at the downstream end of the site to the existing combined sewer mains. Additional sewer flow would be conveyed to the West Conveyance Basin. Sewer flows from the NE Sector would be conveyed south across Yesler Way to a new sewer main located in 10th Avenue S to S Main Street.	Same as Alternative 2.	Combined sewer mains would be reused or replaced as described for Alternative 1.	It is assumed that the majority of the existing side sewers and private trunk lines would require extensive repairs or replacement to remain functional.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
	Electrical	The baseline peak electric load would increase relative to existing conditions and would be less than estimated for Alternative 2. All overhead electrical lines would be replaced with new overhead lines.	Similar to Alternative 1, except that the baseline peak electric load would be less than Alternative 1.	It is estimated that a baseline peak electric load of 5.1 megawatts (MW) with annual electricity consumption of 38,000 MWh would be generated. The on-site electrical distribution system would likely be replaced with an underground system.	Similar to Alternative 2, except that the baseline peak electric load would be greater.	The baseline peak electric load would increase relative to existing conditions and would be less than estimated for Alternative 2. Approximately 30 percent of the overhead electrical lines would be replaced.	Electric loads similar to existing conditions would be expected to continue.
	Cumulative Impacts	It is assumed that any necessary improvements, extensions or connections to existing utilities associated with other redevelopment in the site vicinity would be made in compliance with applicable City of Seattle regulations, and no significant cumulative impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.15.1 Public Services - Parks and Recreation							
	Construction	Construction activity could result in temporary and periodic increases in dust and noise levels which could affect the use of onsite and adjacent offsite SHA and City-owned parks and open space facilities. These impacts would be periodic and temporary in nature and would not be anticipated to be significant.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No new parks, open space or recreational facilities would be assumed to be provided under the No Action Alternative; therefore, no impacts would be anticipated.
	Operation	The existing onsite Yesler Playfield would be displaced to accommodate redevelopment. Existing playfield users would need to relocate to other offsite City-owned facilities.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	The existing onsite Yesler Playfield would remain.
		The four existing onsite P-Patches would be displaced to accommodate redevelopment. Existing P-Patch users would need to apply for space in new onsite or existing offsite P-Patches.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	The existing onsite P-Patches would remain.
		The seven existing onsite small play areas would be displaced as development occurs. New play areas would be developed as existing facilities are displaced.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	The existing onsite small play areas and aging play equipment would remain.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		Approximately 14.7 acres of parks and open space would be provided onsite including: - 11.9 acres of SHA parks, open space and recreational facilities: 4.6 acres of public open space, 7.3 acres of semi-private open space, and private open space in the form of balconies and courtyards. - The existing 1.4-acre Yesler Community Center and play area - The existing 1.4-acre steep slope and inaccessible area in the SW Sector that would remain.	Approximately 15.2 acres of parks and open space would be provided onsite including: - 12.4 acres of SHA parks, open space and recreational facilities: 4.6 acres of public open space, 7.8 acres of semi-private open space, and private open space in the form of balconies and courtyards. - The existing 1.4-acre Yesler Community Center and play area - The existing 1.4-acre steep slope and inaccessible area in the SW Sector that would remain.	Approximately 15.9 acres of parks and open space would be provided onsite including: - 14.5 acres of SHA parks, open space and recreational facilities: 5.1 acres of public open space, 9.4 acres of semi-private open space, and private open space in the form of balconies and courtyards. - The existing 1.4-acre Yesler Community Center and play area	Approximately 16.1 acres of parks and open space would be provided onsite including: - 14.7 acres of SHA parks, open space and recreational facilities: 5.5 acres of public open space, 9.2 acres of semi-private open space, and private open space in the form of balconies and courtyards. - The existing 1.4-acre Yesler Community Center and play area	Approximately 14.5 acres of parks and open space would be provided onsite including: - 11.7 acres of SHA parks, open space and recreational facilities: 3.8 acres of public open space, 7.9 acres of semi-private open space, and private open space in the form of balconies and courtyards. - The existing 1.4-acre Yesler Community Center and play area - The existing 1.4-acre steep slope and inaccessible area in the SW Sector that would remain.	The amount of parks and open space area would remain as under existing conditions.
	Cumulative Impacts						
		Development of the First Hill Streetcar would be adjacent to onsite uses and could cause air quality and noise impacts to adjacent onsite parks and open space resources; these impacts would be temporary and periodic in nature and would not be anticipated to be significant. Once the First Hill Streetcar project is operational in 2012, the alignment would run through the Yesler Terrace Redevelopment site bringing new visitors to the area from other parts of the City. An increase in the use of onsite and nearby offsite parks and open space areas could be experienced. The displacement of the existing Yesler Playfield would also reduce the number of sports fields in the area available for league rental and informal use contributing to the City-wide existing high demand for field time during evening and weekend hours. As only one league is currently renting the field for use, the impact of the displacement of the field to the existing sportsfield shortage	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No cumulative impacts would be anticipated.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		would not be significant.					
3.15.2 Public Services – Schools							
	Construction						
		No new schools are anticipated to be constructed to accommodate new student enrollment; therefore, no construction impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
	Operation						
		Approximately 599 new students (300 elementary, 125 middle school and 174 high school students) would be generated under this alternative. The number of new students generated from the Yesler Terrace Redevelopment would likely exceed the forecast available capacity at the three attendance area schools assigned to the site.	Same as Alternative 1	Impacts would be similar to Alternative 1 except approximately 830 new students (415 elementary, 174 middle school and 241 high school students) would be generated under this alternative.	Impacts would be similar to Alternative 1 except approximately 1014 new students (507 elementary, 213 middle school and 294 high school students) would be generated under this alternative.	Impacts would be similar to Alternative 1 except approximately 210 new students (105 elementary, 44 middle school and 61 high school students) would be generated under this alternative.	Enrollment would remain as under Existing Conditions and would continue to be accommodated at the three attendance area schools assigned to the site.
	Cumulative Impacts						
		No cumulative impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.15.3 Public Services - Fire and Emergency Medical Services							
	Construction						
		Calls for Fire/EMS Services could increase due to incidents related to on-site construction activities (i.e., construction-related accidents or injuries) and for inspection of specific construction projects onsite. Existing Fire Department staffing and equipment are expected to be sufficient to handle any increased service needs during site construction, and no significant impacts are anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal calls for Fire/EMS services would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
	Operation						
		Increases in the on-site population and employment with the Yesler Terrace redevelopment would be incremental and would be accompanied by increases in demands for all types of services provided by the Fire Department, including fire protection, BLS and EMS. The Fire Department indicates that they have sufficient capacity and resources to absorb potential increased calls related to fire suppression, rescue and salvage services and EMS.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Existing rates of calls for fire/EMS services would be expected to continue. The current site layout, which contributes to policing difficulties due to dead-end streets and sidewalks and steep slopes, would not be improved.
	Cumulative Impacts						
		No cumulative impacts from nearby offsite projects would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.15.4 Public Services – Police							
	Construction						
		During construction, there could be an increase in demand for police services due to construction site theft and vandalism. Existing Police Department staffing and equipment are expected to be sufficient to handle increased service needed for onsite construction activities.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal increased need for police services would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Operation						
		Increases in the on-site population and employment would be incremental and would be accompanied by increases in demand for police service; however, the exact number of incremental new calls cannot be quantified. Additional safety problems and need for police services are not anticipated due to SHA's continued funding for dedicated police staff, and SPD's implementation of the Neighborhood Policing Plan, which has and will add additional officers to the force. As well, the design and layout of the site, increased residential density,	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	The continuation of existing rates of calls for police services would be expected. The current site layout, which contributes to policing difficulties due to dead-end streets and sidewalks and steep slopes, would not be improved.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		increased activity levels, and improved site lighting would be anticipated to contribute to safety improvements. No significant impacts are anticipated.					
	Cumulative Impacts						
		No cumulative impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.15.5 Public Services - Solid Waste							
	Construction						
		Solid waste would be generated by both demolition and construction activities. To the extent feasible, construction-generated solid-waste would be recycled or composted.	Same As Alternative 1.	Same As Alternative 1.	Same As Alternative 1.	Same As Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	As existing facilities are remodeled or replaced, construction-related solid waste would be generated but in lower amounts and over a longer period of time than the redevelopment alternatives. To the extent feasible, construction-generated solid-waste would be recycled or composted.
	Operation						
		Solid waste generated under Alternative 1 would be greater than under existing conditions and is estimated to be approximately 2,519 tons per year. Solid waste management services may be provided by SHA Solid Waste Division or other providers depending upon logistical and economic conditions	Similar to Alternative 1 except up to 2.213 tons of solid waste could be generated.	Similar to Alternative 1 except up to 3,256 tons of solid waste could be generated.	Similar to Alternative 1 except up to 3,976 tons of solid waste could be generated.	Similar to Alternative 1 except up to 1,022 tons of solid waste could be generated.	The amount of solid waste generated under the No Action Alternative would be assumed to be the same as is produced under existing conditions. Solid waste management services would be assumed to continue to be provided by SHA's Solid Waste Division.
	Cumulative Impacts						
		No cumulative impacts from nearby offsite projects would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
3.15.6 Public Services – Community Services							
	Construction						
	Community Service Providers	During construction, it is possible that some community service organizations and programs located on the site could move directly into redeveloped space without having to move offsite, it is also possible that some organizations and programs would need to relocate offsite during construction. Some organizations could choose to	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	It is assumed that the existing community service providers which lease space from SHA would remain onsite, provided that SHA and service providers who are currently contracted for services enter into a new contract after current agreements expire. Existing SHA programs/services which serve Yesler Terrace residents could

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		permanently relocate offsite due to the inconveniences associated with a temporary move. It is assumed that other similar rental properties are available in Seattle which could accommodate the onsite community service providers.					be expected to continue.
	Residents' Access to Services	Redevelopment could temporarily disrupt residents' access to community services which are based on the site, due to the need for some residents to temporarily relocate offsite during construction. SHA relocation staff would identify the service needs of each household and link residents with comparable services in areas to which they relocate, or transportation fare vouchers would be provided for travelling to appointments. No significant impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal disruption to residents' access to community services would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Community Access to Services	Some community service programs/organizations, such as the Yesler Community Center, based onsite that are available to the wider community (i.e. beyond Yesler Terrace residents) would continue to be available and accessible throughout the redevelopment construction process. Other programs/ services could be either temporarily or permanently relocated from the site. Depending on where in the community these programs relocated, they could be more or less accessible to the community.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal disruption to community access to community service programs/organizations based onsite would be anticipated as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule. It is assumed that the existing community service providers which lease space from SHA would remain onsite, provided that SHA and service providers who are currently contracted for services enter into a new contract after current agreements expire. No significant impacts would be anticipated.
	Operation						
		Approximately 28,000 SF of neighborhood services space would be provided onsite and the Yesler Community Center would be retained. Neighborhood services uses could include (but are not limited to) police, education, library, social	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	The existing onsite neighborhood services space would remain.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		services, non-profits, government funded health agencies, and SHA offices open to the public. It is possible that additional and/or different social service providers or organizations to those based onsite currently, would locate on the site. All current SHA programs which are provided at Yesler Terrace would likely be continued within the redeveloped site.					
3.16 Socioeconomics							
	Construction						
		Construction activities would result in new temporary, periodic construction employment opportunities during the approx. 20-year site buildout.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	The existing housing units onsite would be renovated or replaced as necessary, or on a programmed schedule and minimal construction impacts would be expected.
		Residents would be required to temporarily relocate to accommodate demolition and construction activities. All residents would be offered relocation assistance in compliance with the federal Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970. All existing low-income housing would be replaced onsite, and all residents who maintain eligibility for low income housing would have the opportunity to return to the redeveloped site.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Repair and replacement of existing residential buildings would take less time than the redevelopment alternatives, and would likely result in a shorter duration of residential displacements, if any. No significant impacts would be anticipated.
		The relocation of residents during construction could temporarily impact community cohesion; however, a phased construction process could help to minimize these impacts. Permanent impacts could result because some residents could choose to permanently leave the site.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Less of an impact to community cohesion would likely result because residential displacement would occur for a shorter duration, if at all. No significant impacts would be anticipated.
	Indirect Impacts	During periods of high construction activity, surrounding businesses could temporarily	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Minimal indirect impacts would be anticipated as a result of remodeling and replacing

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		experience indirect impacts to revenues from construction traffic, rerouting of traffic, utilities service disruptions, and limited access. These impacts would be regulated by City code. Some business could also experience an increase in business due to increased numbers of construction workers in the area.					existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Operation						
	Community Cohesion and Public Well Being	Changes to the existing site demographics and economic diversification of the onsite community would occur. Public well being would be enhanced via improved building design, pedestrian access, vehicular access and aesthetic character. Redevelopment would provide updated neighborhood services space and neighborhood commercial uses could provide residents with amenities within walking distance of their homes, as well as with space for social networking opportunities. Office/hotel and neighborhood commercial uses could also provide residents with access to employment opportunities.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Changes to the existing site demographics and economic diversification would occur from the addition of market rate housing to the site (no additional types of low income housing would be developed). Public well being would be enhanced similarly to Alternative 1 except that no neighborhood commercial or office/hotel space would be developed. No employment opportunities would be provided, and less space would be available for social networking.	Repair or replacement of existing buildings would take less time than the redevelopment alternatives, and shorter, if any, residential displacements would occur, resulting in less of an impact on community cohesion. Public well being would not be enhanced by reconfiguring the site design, or adding mixed use development to the site.
	Housing	Total residential units onsite would increase from 561 to 3,000 units, including: – 561 extremely low income units – 239 very low income units – 660 low income units – 1,540 market rate units	Same as Alternative 1.	Total residential units onsite would increase from 561 to 4,000 units, including: – 561 extremely low income units – 335 very low income units – 950 low income units – 2,154 market rate units	Total residential units onsite would increase from 561 to 5,000 units, including: – 561 extremely low income units – 335 very low income units – 1,231 low income units – 2,873 market rate units	Total residential units onsite would increase from 561 to 1,523 units, including: – 561 extremely low income units – 962 market rate units	No additional residential units would be added to the site.
	Population	The permanent, on-site residential population could increase to approximately 5,228 residents. Population characteristics (age, gender, ethnicity and income) would likely shift to be more reflective of the site vicinity and the City, due to the diversity of the housing stock which would be developed .	Same as Alternative 1.	The permanent, on-site residential population could increase to approximately 6,815 residents. Population characteristics would shift generally as described for Alternative 1.	The permanent on-site residential population could increase to approximately 8,315 residents. Population characteristics would shift generally as described for Alternative 1.	The permanent on-site residential population could increase to approximately 2,795. Population characteristics would shift generally as described for Alternative 1.	There would be a continuation of existing population levels, together with a continuation of the site's existing demographic characteristics.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
	Employment	Redevelopment would increase employment on the site by providing space for up to 2,837 jobs related to office, hotel, neighborhood commercial and neighborhood services uses. Most existing jobs based onsite could be temporarily or permanently displaced, except for the Yesler Community Center, which would be retained. Also, 20 ground level extremely low income housing units would be configured to meet the requirements for in-home daycare businesses, allowing this existing business use to continue on the redeveloped site.	Redevelopment would increase employment on the site by providing space for up to 1,507 jobs related to office, neighborhood commercial and neighborhood services uses. The continuation of existing employment opportunities would be as described for Alternative 1.	Redevelopment would increase employment opportunities on the site by providing space for up to 3,540 jobs related to office, hotel, neighborhood commercial and neighborhood services uses. The continuation of existing employment opportunities would be as described for Alternative 1.	Redevelopment would increase employment opportunities on the site by providing space for up to 4,256 jobs related to office, hotel, neighborhood commercial and neighborhood services space. The continuation of existing employment opportunities would be as described for Alternative 1.	Minimal additional employment opportunities would be crate on the site, because the L3 zoning would not permit new commercial or office development. Space for approximately 160 jobs would be provided. The Jesse Epstein building, the Steam Plant and the Yesler Community Center would be retained, and existing jobs based in these buildings would be assumed to be maintained to the same or similar capacity as currently exist onsite. Also, 20 of the extremely low income housing units would be configured to meet the requirements for in-home daycare businesses, allowing this existing business use to continue on the redeveloped site.	The existing minimal employment based on the site could be expected to continue (i.e. approximately 142 jobs, including 10 in the Yesler Community Center).
	Indirect Impacts	Redevelopment would result in increased density and an economically diversified population. This could result in increased spending for goods and services in nearby areas.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Similar to Alternative 1.	Minimal indirect impacts would be expected as a result of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Cumulative Impacts						
		Redevelopment of the site along with planned and potential development in the site area would add to the cumulative population, employment and housing growth in the City of Seattle and the First Hill neighborhood in particular. Increased spending for goods and services could occur in nearby neighborhoods. Redevelopment of the site could contribute to broad changes in adjacent and nearby areas in the form of the displacement of businesses and/or low income individuals. While possible, such impacts would also be dependent on other conditions, such as favorable market/	Same as Alternative 1	Same as Alternative 1 .	Same as Alternative 1	Same as Alternative 1	Minimal cumulative impacts would be anticipated as a result of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		economic conditions, local plans and zoning, political support and other broad development trends that are already in progress.					
3.17 Environmental Justice							
	Construction						
		Construction noise would be subject to applicable City of Seattle noise limits, and noise mitigation measures could be implemented to reduce the extent to which on and offsite receivers are affected by construction noise. No disproportionate adverse impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal construction noise would be expected as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
		Construction activities could affect air quality due to emissions from construction-related sources and equipment and dust from construction activities including grading, sloping and filling. Some construction phases would also cause odors, particularly during paving operations using tar and asphalt. Overall, with implementation of the controls required for the various aspects of construction activities and consistent use of best management practices, construction would not be expected to significantly affect air quality. No disproportionate adverse impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1, except that construction activity would occur at a lower level of intensity than Alternative 1.	Minimal air quality impacts would be expected as part of remodeling and replacing existing buildings, utilities and roadways as necessary, or on a programmed schedule; no significant impacts would be anticipated.
	Hazardous Materials Abatement	Residents would be relocated from buildings prior to any hazardous materials abatement and would not be exposed to contaminants during remediation activities. No disproportionate adverse impacts would be anticipated.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.
	Operation						
	Site-Related Health Hazards	Redevelopment of the site would eliminate site-related health hazards which are associated with Yesler Terrace's aging buildings and infrastructure.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Repair and replacement of individual buildings could eliminate some site-related health hazards associated with aging buildings and

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		Specifically, demolition and redevelopment would eliminate mold problems caused by water intrusion through building foundations and poor ventilation. Also, a major rodent infestation associated with old steam pipes would be corrected by removal of this infrastructure which is no longer in use. Sewer and water infrastructure problems would be improved and sidewalks and planters would be improved to meet or exceed current City of Seattle standards. Existing site-related health hazards related to lead-based paint, asbestos and lead contaminated soils would be eliminated.					infrastructure. Existing elevated existing lead concentrations in shallow soils around the site would remain, unless entire buildings were replaced. In such cases it is assumed that additional characterization, removal and proper disposal of soil with lead concentrations exceeding regulatory cleanup levels would occur.
	Air	No significant air impacts are expected as a result of redevelopment due to increased traffic on area roadways. However, certain toxic air pollutants associated with roadways in the vicinity of the Yesler Terrace site would exceed health-based standards to the degree that there is a potentially elevated health risk in long-term residency near busy roads. These conditions would not be expected to result in a disproportionately high and adverse impact to low income or minority populations, due to the anticipated equitable distribution throughout the site of low income and market rate housing.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Existing adverse air quality conditions could be considered to disproportionately affect the site's low income population due to the fact that no market rate housing would be added to the site.
	Noise	No significant noise impacts are expected as a result of redevelopment. However, portions of the site would be deemed unacceptable for residential uses under HUD noise criteria, without implementation of noise mitigation (including extraordinary noise attenuation measures in an area within the SW Sector) due to the site's	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1	Existing adverse noise conditions could be considered to disproportionately affect the site's low income population due to the fact that no market rate housing would be added to the site.

		Alternative 1 - Lower Density	Alternative 1A - Lower Density with Less Office	Alternative 2 - Medium Density	Alternative 3 - Higher Density	Alternative 4 - Existing Zoning	No Action Alternative
		proximity to I-5 and other major roadways. No disproportionate or adverse impacts would be anticipated unless a larger portion of low-income units were placed in those areas of the site with worse noise conditions.					
3.18 Wind Analysis							
	Impacts to Harborview Medical Center Heliport Operations	Impacts would be similar to or less than Alternative 3.	Impacts would be similar to or less than Alternative 3.	Impacts would be similar to or less than Alternative 3.	Under Alternative 3, a minimal change in winds would occur in the vicinity of the helipad. No significant impacts to heliport operations are anticipated with implementation of appropriate mitigation measures.	Under Alternative 4, no high-rise buildings would be developed, and no impacts to helicopter performance would be expected.	Wind patterns under the No Action Alternative are assumed to be the same as under existing conditions, and no impacts to helicopter performance would be expected.

1.5 Mitigation Measures and Significant Unavoidable Adverse Impacts

The following list highlights the mitigation measures and significant unavoidable adverse impacts that would potentially result from the alternatives analyzed in this Draft EIS. This list is not intended to be a substitute for the complete discussion of mitigation measures within each element that is contained in Chapter 3.

Proposed mitigation measures are those actions to which the Seattle Housing Authority has committed and/or those actions that are required by code, laws, or local, state and federal regulations.

Possible mitigation measures are additional actions that could be undertaken to mitigate environmental impacts.

Earth

The following required/proposed and other possible mitigation measures would address potential earth related impacts resulting from construction activities associated with the Yesler Terrace Redevelopment.

Required/Proposed Mitigation Measures

Appropriate foundation support systems would be determined during the design and permitting of specific infrastructure and building projects.

Site-specific seismic analyses would be conducted during design and permitting, in accordance with City of Seattle Municipal Code requirements.

The design of infrastructure and buildings would incorporate seismic provisions of the current version of the International Building Code.

Site-specific analyses of development planned adjacent to or within the steep slope/slide-prone areas in the southern portion of the site would be conducted during the design and permitting. These analyses would identify appropriate methods of slope stabilization and other measures to prevent potential landslide impacts (see **Appendix D** for details).

The existing drainage tunnels below the slide area in the southern portion of the site would be protected during construction or improved with appropriately designed new infrastructure. Drainage provisions would include measures to collect and route both groundwater and surface water runoff away from slide-prone areas for discharge to appropriate downslope locations.

During construction, a temporary erosion and sedimentation control plan (TESCP) and Best Management Practices would be implemented to control erosion. These measures would be consistent with City of Seattle regulations, and could include the following:

- Limit areas of exposure;
- Schedule earthwork during drier times of the year;
- Retain existing vegetation where possible;
- Seed or plant appropriate vegetation on exposed areas as soon as earthwork is completed;
- Route surface water through temporary drainage channels around and away from disturbed soils or exposed slopes;
- Intercept and drain water from any surface seeps, if encountered;
- Use silt fences, temporary sedimentation ponds, or other suitable sedimentation control devices to collect and retain possible eroded material;
- Cover exposed soil stockpiles and exposed slopes with plastic sheeting, as appropriate;
- Use straw mulch and erosion control matting to stabilize graded areas and reduce erosion and runoff impacts to slopes, where appropriate; and,
- Temporarily cease work under certain, limited circumstances, if weather conditions warrant.
- Rock pads or truck washing stations to limit excess soil materials from entering the right-of-way.

Temporary shoring systems would be installed to address the potential for impacts associated with construction excavations. The design and construction of excavation shoring systems would include an evaluation of nearby adjacent structures and utilities (e.g., the I-5 retaining wall located along the west side of the site, adjacent building foundations, existing drainage tunnels, etc.), and incorporate measures to limit impacts to these structures/utilities.

Site-specific investigations and analyses would be conducted during the design and permitting process in order to identify appropriate measures to address the potential need for and impacts of excavation dewatering. These measures could include site-specific design and control of dewatering systems, minimizing the extent and duration of dewatering, and monitoring for settlement.

As necessary, groundwater discharged during construction could be monitored to assess the water quality and need for treatment, to comply with applicable state and local requirements (see Section 3.6, **Environmental Health**, for details).

Fill from grading activities would be designed to prevent settlement impacts to adjacent structures. As appropriate, monitoring could be conducted during construction to verify that no significant settlement occurs.

Excavated soil not reused onsite as structural fill (if determined to be suitable for that purpose), would be transported offsite and disposed of at an appropriate disposal location in accordance with all applicable local, state and federal regulations.

Foundation construction impacts could be mitigated by proper design and construction of temporary excavation shoring and dewatering systems. Ground elevation surveys could be conducted in conjunction with pre- and post-construction inspections and photographic surveys of structures or facilities located near foundation construction activities.

A permanent stormwater control system would be installed and maintained, in accordance with City of Seattle regulations (see Section 3.3, **Water Resources**, and **Appendix F** for further information).

Other Possible Mitigation Measures

The following measures could be employed to address potential impacts during drilled shaft installation of deep foundation support of structures:

- Casings could be installed to control caving of soils during drilled shaft installation for deep foundation support of structures
- Vibration monitoring and ground elevation surveys could be conducted near construction activities;
- Spoils generated during drilled shaft installation could be disposed of in accordance with applicable local, state, and federal requirements.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Air Quality

The following required/proposed and other possible mitigation measures would address potential air quality impacts resulting from construction activities associated with the Yesler Terrace Redevelopment. No significant operational air quality impacts were identified and therefore, no operational mitigation measures are proposed.

Required/Proposed Mitigation Measures

Construction contractors would be required to comply with all relevant federal, state and local air quality rules.

Other Possible Mitigation Measures

In addition, implementation of best management practices would reduce emissions related to the construction phase of the project. Possible management practices for reducing the potential for air quality impacts during construction include measures for reducing both exhaust emissions and fugitive dust. The Washington Associated General Contractors brochure *Guide to Handling Fugitive Dust from Construction Projects* and the PSCAA suggest a number of methods for controlling dust and reducing the potential exposure of people to emissions from diesel equipment. A list of some of the possible control measures that could be implemented to reduce potential air quality impacts from construction activities follows:

Use only equipment and trucks that are maintained in optimal operational condition.

Require all off-road equipment to have emission reduction equipment (e.g., require participation in Puget Sound Region Diesel Solutions, a program designed to reduce air pollution from diesel, by project sponsors and contractors).

Use car-pooling or other trip-reduction strategies for construction workers.

Implement restrictions on construction truck and other vehicle idling (e.g., limit idling to a maximum of 5 minutes).

Spray exposed soil with water or other suppressant to reduce emissions of PM and deposition of particulate matter.

Pave or use gravel on staging areas and roads that would be exposed for long periods.

Cover all trucks transporting materials, wetting materials in trucks, or providing adequate freeboard (space from the top of the material to the top of the truck bed), to reduce PM emissions and deposition during transport.

Provide wheel washers to remove particulate matter that would otherwise be carried off site by vehicles to decrease deposition of particulate matter on area roadways.

Cover dirt, gravel, and debris piles as needed to reduce dust and wind blown debris.

Stage construction to minimize overall transportation system congestion and delays to reduce regional emissions of pollutants during construction.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Water Resources

The following required/proposed and other possible mitigation measures would address potential impacts to water resources associated with the Yesler Terrace Redevelopment.

Required/Proposed Mitigation Measures

Construction

Temporary erosion and sedimentation control measures and BMPs would be utilized during construction in accordance with the City of Seattle Drainage Code (see **Appendix F** for a list of specific BMPs that could be used).

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and implemented as required by the City's Drainage Code.

Construction entrances, wheel washes, street cleaning, and other BMPs would be used to prevent tracking of soils beyond the project limits.

BMPs for concrete work would include the following:

- Cement trucks wash water would not be disposed of onsite, but would be returned to the off-site batch plant for recycling as process water; and,
- New concrete work would be covered and protected from rainfall until cured.

The generation of dissolved zinc and copper would be minimized through prohibitions on the use of unsealed external copper and galvanized metal, except where required by Code and/or necessary for public safety and/or where no feasible alternative exists. Zinc and copper source controls would extend to rooftops, which would be constructed of inert materials so that roof runoff would bypass water quality treatment facilities.

Measures to control any impacts of excavation dewatering on groundwater could include: site-specific design and careful control of dewatering systems, minimizing the extent and duration of dewatering, and reinfiltration of extracted groundwater (see **Appendix D** for details).

If it is determined that wetlands are located onsite and impacts to these wetlands is necessary for redevelopment, the project would comply with applicable requirements (i.e. in the City of Seattle critical areas ordinance; see Section 3.4, **Plants and Animals**, for details).

Operation

A hydraulic analysis of the stormwater drainage and wastewater systems would be completed during the design phase of the Yesler Terrace Redevelopment to determine necessary improvements to the City's and site's drainage and wastewater infrastructure. Improvements could include: additional GSI and stormwater flow control facilities onsite, and/or upsizing of downstream combined sewer pipes.

The design and construction of the permanent stormwater control system, including conveyance and GSI flow control facilities, would be in accordance with the City's Drainage Code.

The Yesler Terrace Redevelopment would mitigate for the increases in impervious surface area and at the minimum provide flow control for stormwater runoff. The flow control facilities would reduce the peak stormwater discharge from the site relative to existing conditions and could help reduce CSOs, which can occur during heavy rainfall events.

A Stormwater Operation and Maintenance Plan would be prepared for both public and private stormwater systems.

Other Possible Mitigation Measures

Specialized products, such as Chitosan or Electrocoagulation (sediment coagulation agents), and other water quality treatment systems could be used during construction if warranted and approved by the City.

Significant Unavoidable Adverse Impacts

No significant unavoidable impacts would be expected.

Plants and Animals

The following required/proposed and other possible mitigation measures would address potential impacts to plants and animals associated with the Yesler Terrace Redevelopment.

Required/Proposed Mitigation Measures

If it is determined that wetlands are located onsite, and fill of these wetlands is required, the project would comply with applicable wetland, buffer and other requirements in the City of Seattle critical areas ordinance. Mitigation for habitat loss for Category IV wetlands could include:

- Constructing a wetland of equal function to the lost wetland function;
- Planting an area of native vegetation equal to or greater in size than the area of the developed wetland, and removal of invasive species in the area to be planted;
- Constructing a bioengineered/infiltration facility, such as a bioretention cell or bioretention plant, that replicates the hydrologic and/or water quality benefit of the developed wetland; or,
- Constructing a green roof or roof garden that replicates the hydrologic and/or water quality benefit of the developed wetland

If the potential wetlands onsite are determined to be "waters of the U.S.," pursuant to the CWA, the project would comply with the Army Corps of Engineers' regulations for any impacts to these wetlands.

Construction methods and sequencing would be implemented to preserve exceptional trees proposed to be retained onsite, including:

- Install chain-link fencing around exceptional trees before mobilization to prevent damage from construction activities;
- Locate root systems visually or by other means (such as using underground radar equipment) to determine where construction activities should not occur;
- Remove or replace impervious areas near exceptional trees with permeable surfaces to provide more water to root systems; and,
- Preserve trees that have a preservation value lower than moderate and are adjacent to an exceptional tree because removing the tree would harm the trees intended for preservation during construction activities.

For exceptional trees that cannot be preserved or transplanted within the site, mitigation would be provided by installing one or more new trees for every exceptional tree removed, as approved by the City.

Nest removal for any migratory bird species protected under MBTA would occur outside of nesting season after birds have fledged.

As possible, native plants would be installed and invasive plants removed in accordance with Executive Order 13112. Native plants would be included in the landscape plan, as possible, to provide habitat for native animals.

Other Possible Mitigation Measures

To the extent feasible, construction methods and sequencing could be implemented to preserve valuable trees proposed to be retained onsite.

A thorough landscape maintenance program could be established during and after construction to ensure that the proposed vegetation remains healthy and free of invasive/undesirable plants.

Additional trees could be installed to support the City's 30-year goal of 20 percent canopy coverage for all sites zoned multi-family or 15 percent canopy coverage for all sites zoned commercial/mixed use.

Arboriculture practices could be implemented for the remaining trees to ensure a long and healthy tree life.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Climate Change, Greenhouse Gas Emissions and Energy

The following possible mitigation measures would address potential impacts to climate change, energy use and greenhouse gas emissions from the Yesler Terrace Redevelopment:

Possible Mitigation Measures

Natural Drainage and Green Roofs – Green roofs can provide additional open space, opportunities for urban agriculture and decreased energy demands by reducing the cooling load for the building. Green Stormwater Infrastructure (GSI) would be developed for flow control and water quality treatment to the maximum extent feasible.

Tree Protection – The City of Seattle has aggressive urban forest goals in order to help restore tree cover which has been lost due to development. Trees can provide stormwater management, habitat value, noise buffering, air purification, carbon sequestration, and mitigation of the urban heat island effect. Trees also have a positive effect on property values and neighborhood quality. Protection of existing trees, as feasible, and careful attention to new tree planting could help meet the Seattle Comprehensive Urban Forest Management Plan Goals for multi-family residential and commercial development by achieving 15-20 percent overall tree canopy within 30 years.

Urban Agriculture – New P-patch Community Gardens and rooftop gardens could be provided within the site for residents to grow food. Balconies, decks, and right-of-way planting strips could also be utilized for individual residents' agriculture needs. A farmer's market could be established for residents to sell locally grown food, and small micro-retail spaces and food vendor carts could also be allowed where value-added food products could be sold.

Native Plants – Native plants are adapted to the local climate and do not depend upon irrigation after plant establishment for ultimate survival. Landscaping with native plants, beyond that required by code, could be planted to reduce water demand and integrate with the local ecosystem.

District Infrastructure Systems for Energy, Water and Waste – District Infrastructure Systems aggregate enough service demands to make local neighborhood utility solutions feasible. District infrastructure systems could be used as one approach to provide necessary infrastructure services, if determined to be feasible. District solutions may reduce greenhouse gases by utilizing renewable sources of energy and increasing the use of local resources, materials and supplies. District parking solutions and car sharing are designed to reduce vehicle trips. Water reuse and anaerobic digesters may reduce sewer flows. Rainwater capture may reduce stormwater flows. Water reuse and rainwater capture could also reduce potable water demands. District systems for Yesler Terrace could potentially include energy, potable water, wastewater, and solid waste.

Waste Management and Deconstruction – When existing buildings need to be demolished, there are often opportunities to reduce the amount of waste being sent to the landfill with sustainable waste management strategies. In the Seattle area, standard practice for building construction and demolition results in fairly high recycling rates of over 50 to 60 percent. However, these rates can be increased by implementing aggressive demolition recycling. Such efforts can require considerable additional effort on the part of the contractor. Some of the options under consideration that could mitigate waste generated by the Yesler Terrace project include on-site source separated recycling, potential reuse of demolition materials on-site, deconstruction of existing buildings, and salvage and reuse of building components.

Due to the presence of asbestos and lead-based paint in the majority of the existing onsite buildings, it is unlikely that solid waste resulting from most building demolition would be recyclable. Building materials would be tested as part of demolition activities in order to determine the levels of contamination present. The test results would be used to determine whether building materials could be recycled, would be sent to a landfill or to a specialized facility that handles hazardous waste (see Section 3.6, **Environmental Health**, for details).

Building Design – Building design at Yesler Terrace could integrate a wide variety of green building features. Green building encompasses energy and water conservation, waste reduction, and good indoor environmental quality. Tools and standards that are used to measure green building performance could be used at Yesler Terrace. Some options include: Built Green, LEED, and the Evergreen Sustainable Development Criteria. Custom green building guidelines could also be developed to guide building design and construction. Some of the specific building design strategies that might be considered include solar panels for electricity generation or domestic solar hot water, energy star rated appliances, water conserving fixtures beyond code, low toxic materials, finishes, and flooring, energy and water sub-metering for individual units, high efficiency fixtures such as dual flush toilets, toilet flushing and irrigation supplied by recaptured wastewater or rainwater, dual plumbing systems for all new buildings to accommodate water reuse, and wind generated alternative energy.

Significant Unavoidable Adverse Impacts

The direct and indirect impacts of the greenhouse gas emissions and energy use of any of the Yesler Terrace Redevelopment alternatives are not considered to be significant adverse impacts.

Environmental Health

The following required/proposed mitigation measures would address potential impacts to humans or the environment from existing hazardous materials/conditions as a result of the Yesler Terrace Redevelopment.

Required/Proposed Mitigation Measures

Additional characterization, removal, and proper disposal of soil with lead concentrations greater than the MTCA cleanup level would be conducted.

A site-specific health and safety plan would be prepared that includes the safety requirements of WAC 296-843, Hazardous Waste Operations, and WAC 296-155, Safety Standards for Construction Work, to minimize the potential for workers to be exposed to hazardous materials during construction and to address appropriate handling and disposal of any soil with contaminant concentrations greater than the MTCA cleanup levels.

Conventional dust control measures would be implemented to minimize the exposure of workers and the immediate surrounding populations to construction-generated dust (see Section 3.2, **Air Quality**, for details).

Spill prevention and response planning would be conducted prior to the start of construction to prevent and, if needed, respond to hydraulic oil or fuel spills.

Proper characterization of contaminated soil and/or asphaltic concrete pavement, as part of site clearing, grading, or general excavating, would be conducted in order to select an appropriate offsite disposal site.

Dewatering may be needed for construction of underground structures (e.g., parking garages) and utilities, depending on the depth of the facility. Monitoring, and potentially treatment, of dewatering discharges would be performed, as necessary, to limit impacts to receiving waters in the event the dewatering water contains contaminated or turbid groundwater.

A King County Waste Discharge permit would be required to discharge any dewatering water to the combined sewer. Monitoring of dewatering discharges would be necessary to determine whether physical and chemical parameters are within King County discharge limits. If parameters are outside acceptable limits, treatment would be necessary prior to discharging to combined sewer.

During construction activities, possible contaminants in soil could become entrained in stormwater. Stormwater treatment and monitoring would be conducted during demolition

and/or construction activities (see Section 3.3, **Water Resources**, for details on water quality treatment).

Building demolition would be conducted after a hazardous building materials survey has been completed to identify the presence of such materials (e.g., ACBM or lead-based paint) and remove or stabilize them prior to demolition.

If underground steam pipes (associated with the former Steam Plant) are uncovered during site grading or excavation activities, they would need to be evaluated for the potential presence of hazardous materials (i.e., asbestos-containing pipe wrap).

The SHA Brownfields site would need to remain in the Department of Ecology's Voluntary Cleanup Program until a "No Further Action" letter is issued.

At the Steam Plant, residual material within the smokestack and the stack itself may contain potentially hazardous materials. Testing of the residual material and the smokestack would be performed prior to any demolition activities. Proper characterization of any hazardous materials identified within the smokestack would be conducted in order to select an appropriate offsite disposal site (this mitigation measure only applies to Alternatives 2 and 3).

If unanticipated contamination is discovered, the project would need to comply with applicable cleanup provisions, based on MTCA regulations.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Noise

The following required/proposed and other possible mitigation measures would address potential noise impacts to sensitive on and offsite receivers as a result of the Yesler Terrace Redevelopment.

Required/Proposed Mitigation Measures

Construction activities would be subject to applicable City of Seattle noise limits.

HVAC equipment, particularly equipment proposed to be located outside or on the tops of buildings, would need to be selected, located and designed to ensure compliance with City of Seattle's daytime and nighttime noise limits at nearby receiving locations.

Other Possible Mitigation Measures

Construction

Some relatively simple and inexpensive practices can reduce the extent to which people are affected by construction noise and ensure that construction noise levels stay within the applicable daytime sound level limits. Examples include the following:

Use properly sized and maintained mufflers, engine intake silencers, engine enclosures, and turning off idle equipment.

Make construction contracts specify that mufflers be in good working order and that engine enclosures be used on equipment when the engine is the dominant source of noise.

Locate stationary equipment as far away from sensitive receiving locations as possible. Where this is not feasible, or where noise impacts are still significant, place portable noise barriers around the equipment, with the opening directed away sensitive receiving locations.

To the extent feasible, substitute hydraulic or electric models for impact tools such as jack hammers, rock drills and pavement breakers to reduce construction and demolition noise. Electric pumps could be specified if pumps are required.

Explore the feasibility of using broad-band or ambient sensing vehicle back-up alarms, which are typically less noticeable than traditional pure-tone alarms.

Locate construction staging areas expected to be in use for more than a few weeks as far as possible from sensitive receivers, particularly residences.

Use quiet equipment and temporary noise barriers to shield sensitive uses, and orient work areas to minimize noise transmission to sensitive off-site locations.

Operation

Sound levels at numerous locations on the project site currently exceed HUD guidelines for residential locations and would continue to do so in the future with any of the proposed alternatives. Therefore, some or all of the following mitigation measures should be considered:

Place outdoor use areas (where quiet conditions are required for optimal use) both away from the perimeter of the site and in locations that are "shielded" by buildings (i.e. where buildings are located between the exterior use area and major roadways).

If feasible, locate office buildings on the western edge of the SW Sector adjacent to I-5, instead of residences.

Minimize site grading that increases on-site ground-level elevations that would give lower portions of buildings near I-5 a more direct line-of-sight to the freeway (thereby increasing noise levels).

Use construction materials and techniques in all buildings on the east, south, and west site perimeter that will reduce interior sound levels in residences to 45 dBA L_{dn} or less.

Use dynamic venting systems (or air conditioning units) for those residences that are in "normally unacceptable" or "unacceptable" locations to eliminate the need to open windows for ventilation. This would also be useful for office buildings in order to provide interior spaces conducive to typical office operations (i.e., reading, writing, conversations, etc.).

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated from the proposal. However, the site suitability analysis indicates that portions of the site, even under existing conditions and the No Action Alternative, would be deemed unacceptable under HUD noise criteria without implementation of noise mitigation, including extraordinary noise attenuation measures in an area within the SW Sector, due to the presence of I-5 and other major roadways.

Land Use

Ultimately, the design guidelines, development standards and the Planned Action Ordinance for this proposal would guide redevelopment of the Yesler Terrace site over the long-term. These plans, regulations and standards, along with individual project review by the City, would serve as mitigation to preclude any potential significant land use impacts from future redevelopment and ensure compatibility among site uses and uses in the site vicinity.

The following possible mitigation measures would further address potential land use compatibility issues, particularly related to compatibility with adjacent uses and among uses within the site itself.

Required/Proposed Mitigation Measures

SHA's decision on which development plan to implement will likely include SHA-imposed design standards to help mitigate land use, and height, bulk and scale impacts.

As part of the Project Actions, design guidelines will be prepared by SHA and the City, and future development would be reviewed for conformance with those design guidelines.

The new zone designation for the site will establish zoning standards to mitigate land use, and height, bulk, and scale impacts.

As the existing residential units currently operating in-home day care businesses are displaced, under all alternatives it is assumed that a portion of the ground level, extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses.

Other Possible Mitigation Measures

Features that could be incorporated into the plans under Alternatives 1-3 that would address the relationship of proposed uses on the site to surrounding uses include provision of:

- Land uses that are compatible with and complement uses within the site and in the surrounding area in terms of land use type and height/bulk/scale, such as developing single-use high-rise office or hotel buildings only in the areas of the site adjacent to existing offsite high-rise office/medical use buildings.
- A mix of uses that creates opportunity for the establishment of a live-work-play environment for existing and new tenants.
- Public parks and open space area that can serve as a resource to Yesler Terrace residents and employees.
- Provision of landscaping and street trees around the site perimeter in order to provide a buffer between onsite redevelopment and existing offsite adjacent uses.

Implementation of specific mitigation measures to ensure that new land uses are compatible with onsite existing retained uses and offsite uses such as street level setbacks, upper level setbacks and landscape design guidelines. See Section 3.10, **Aesthetics/Light and Glare/Shadows**, for a complete list of specific mitigation measures, as well as Appendix Q, **Urban Design Approach**, for guidance for specific design guidelines. See Section 2.8.4, **Building Heights**, for criteria for spacing of high-rise buildings.

Additional mitigation measures related to air quality, noise, views, transportation and public services would be provided to lessen the potential for impacts from redevelopment of the site (see Section 3.2, **Air Quality**, Section 3.6, **Noise**, Section 3.10, **Aesthetics/Light and Glare/Shadows**, Section 3.12, **Transportation** and Section 3.13**, Public Services** for details).

Significant Unavoidable Adverse Impacts

Significant adverse land use impacts would not be anticipated under Alternatives 1-4 as the proposed land uses are compatible with existing offsite uses.

No significant unavoidable adverse height, bulk or scale related impacts would be anticipated with implementation of appropriate mitigation measures, including those listed above.

Redevelopment is assumed to occur consistent with the above mitigation measures, adopted standards, guidelines, and regulations for Yesler Terrace, including a Planned Action Ordinance.

Relationship to Plans and Policies

Mitigation Measures

No mitigation measures are identified specifically for the Relationship to Plans, Policies and Regulations section. Mitigation measures for other elements of the environment address the Relationship to Plans and Policies.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are anticipated.

Aesthetics/Light and Glare/Shadows

Required/Proposed Mitigation Measures

Aesthetics

The following measures would be implemented to lessen potential aesthetic impacts.

> The Land Use Code text amendment, and/or Planned Action Ordinance, is expected to include zoning standards that specify heights and setbacks, and also design guidelines. As permit applications are submitted, the City will review the proposed development for conformance with those standards and guidelines.
>
> Street landscaping would be provided that meets or exceeds City of Seattle regulations, and would serve as a partial buffer to offsite development.

Other Possible Mitigation Measures

Height, Bulk and Scale

The following measures, or ones similar to them, could be implemented to lessen potential height, bulk and scale impacts to offsite development surrounding the site.

> Yesler Terrace building heights could be limited where Yesler Terrace development would be across the street from offsite areas where zoning regulations limit offsite building heights to 75 feet or less. For example, Yesler Terrace building heights could be limited to 150 feet within 80 to 120 feet of such offsite locations. The actual setback distance and heights could be determined on a case by case basis since some site locations may not pose unreasonable impacts to lower height buildings. This approach would create a stepping of building heights adjacent to the lower height and density zoning and subsequently limit shadow impacts and increase the availability of light to the adjacent sites.
>
> Upper level building setbacks could be required for buildings above 65 to 85 feet in order to open the sky view from the street and create a less imposing physical building scale near the lower, offsite height and density zoning.
>
> Building façade lengths could be limited and minimum building spacing required above building heights of 65 feet to 85 feet to reduce the wall effect from tall buildings which could create excessive shadow and view impacts to adjacent buildings.
>
> Maximum floor plate sizes could be established for residential high-rise buildings, similar to limits currently in place for residential towers in Downtown zones.
>
> Ground level building setbacks could be used for high-rise buildings to create a wider separation between lower and higher density zoning.

Minimum ground and upper level building setbacks could be required for buildings adjacent to the property lines of offsite parcels with considerably lower maximum building heights in order to provide separation between areas with lower density development.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse height, bulk or scale related impacts would be anticipated with implementation of appropriate mitigation measures, including those listed above.

Aesthetics - Light and Glare

The following measures would help to reduce overall light and glare impacts for the project in the immediate vicinity of the Yesler Terrace site.

Required/Proposed Mitigation Measures

Street trees and the use of building materials with relatively low-reflectivity at street level would minimize reflective glare-related impacts to pedestrians and nearby residents immediately adjacent to the site.

Pedestrian-scale lighting would be provided consistent with code, function and safety requirements.

Exterior lighting would include fixtures to direct the light downward and/or upward and away from on and off-site land uses.

Other Possible Mitigation Measures

Construction

Construction-related lighting could be shielded and directed away from adjacent land uses.

Operation

As the glare analysis indicates, neither the worst case building orientations nor the capacity modeled building orientations and locations would result in significant glare impacts (i.e. glare within the drivers cone-of-influence) to I-5 at any times of day or year except on December 21st, at 4 PM[2] under the worst case building orientations. In this instance, the high-rise building located at the south end of the SW Sector causes the glare impact. In order to avoid this glare impact, the worst case building orientation could be avoided for the building causing the glare. It is assumed that changing the building orientation, alone or in combination with other measures, would mitigate this impact. No significant glare impacts to Boren Avenue are anticipated to occur under

[2] The four dates analyzed for the glare analysis were selected because they are representatives of times of the year. It should be noted, however, that solar glare-related impacts may also occur at other times of the day and days of the year.

either the worst case or capacity modeled building orientations for the times of day and year evaluated.

While building façade materials have not yet been determined, reflectivity of glazing would likely be dictated by the nature of glass that is employed and the requirements set forth by the City's Energy Code and LEED energy requirements, if LEED certification is sought. Excessively-reflective surfaces (i.e. mirrored glass, or polished metals) that go beyond what is required to meet energy-related code provisions could be avoided for buildings with the potential to result in glare impacts.

Additional measures to mitigate glare could include recessing glazing to produce areas of glare shadow which would reduce the amount of glare being reflected from the building, angling glazing in the building façade with an orientation that will eliminate glare in a driver's cone-of-influence and will cast glare in directions with less of an impact to traffic, and limiting the percentage of glazing on certain building facades to reduce glare impacts to surrounding buildings and roadways. Additional glare studies could be required for individual permit application to verify glare impacts and mitigation.

Aesthetics - Shadows

No significant impacts have been identified and no mitigation is proposed.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Historic Resources

The following possible mitigation measures would address potential impacts to historic resources resulting from the Yesler Terrace Redevelopment:

Possible Mitigation Measures

Demolition of Yesler Terrace Steam Plant (a designated City of Seattle Landmark) – Changes to the exterior (designated feature) of the Steam Plant, including demolition of the building, cannot be undertaken without the review and approval of the Landmarks Preservation Board. There have been few occasions when the Board has approved demolition of a local landmark. However, should the Board approve demolition of the Steam Plant, mitigation would not be required. Given that such a step would result in the loss of a historic resource, it should be mitigated by HABS documentation

Demolition of original (1941-1942) Yesler Terrace – Documentation of the property should be undertaken to mitigate its loss and should be easily accessible to the public. There are several options for providing a historic record, including development of a historic record in accordance with DAHP standards; development and posting of an expanded entry about Yesler Terrace on HistoryLink.org, the online encyclopedia of Washington State history; development of an oral history program by the Museum of History and Industry involving current and former long-term Yesler Terrace residents and managers, as well as early participants in SHA's history; and development and onsite installation of interpretive exhibits or interpretive artwork about the original Yesler

Terrace, its social and cultural history, and buildings. Such exhibits or artwork should be located on the exterior, in easily accessible and visible locations on the new project site. Consideration should be give to an exhibit within or outside the Steam Plant. Any exhibit text should be provided in a variety of languages given the cultural diversity of Yesler Terrace. Retention and rehabilitation of the original Yesler Terrace Steam Plant, which does have architectural integrity, could also mitigate the loss of the overall property.

Potential Structural Instability/Undermining – Care should be taken in order to avoid structural damage to nearby buildings that could occur due to construction-related vibrations and/or earthwork. All excavation, earthwork, pile driving, etc. should be designed and monitored in order to minimize and/or immediately address any such impacts to nearby or adjacent historic properties. Monitoring should include crack monitors placed on nearby structures, periodic observation, and photography to document the structural integrity of the historic buildings and determine whether there was resulting damage of interior or exterior finishes, or exterior masonry and/or framing. If such damage occurs as a result of the project, damage should be mitigated through repairs to the affected buildings.

Temporary Dirt/Unintended Damage – Care should be taken in order to avoid or limit the introduction of atmospheric elements that could alter and/or potentially damage historic building fabric or architectural features of nearby historic resources. All construction activity should be monitored in order to prevent and address any such impacts to adjacent or nearby historic properties. Consider limiting access near historic properties of construction vehicles carrying excavation materials. Dust control measures would be implemented (see **Section 3.2, Air Quality** of the DEIS for details).

Development pressure on low-scale properties – Mitigation in the form of preservation planning should be undertaken, by development and submittal of landmark nomination reports for those buildings offsite within the APE that are potentially eligible for listing as Seattle Landmarks but not currently designated.

Adjacency Analysis - SEPA calls for design analysis and review of new construction adjacent to or across the street from a designated local landmark, by the City Historic Preservation Officer.

If Section 106 consultation results in a finding that the federal undertaking would have an adverse effect upon an NRHP-listed or -eligible property or district, Section 106 requires measures to avoid, minimize, or mitigate such effects. A binding commitment to such measures is memorialized in a Memorandum of Agreement (MOA) between the parties and incorporated into the federal agency's Record of Decision.

Significant Unavoidable Adverse Impacts

With implementation of the proposed mitigation measures, no significant unavoidable adverse impacts would be anticipated.

Cultural Resources

Although no archaeological sites or ethnographic places have been identified within the APE of the Yesler Terrace site and the site is considered to have a low potential to contain such

resources, unanticipated resources could be encountered during construction. If at any time during construction archaeological resources were observed, the following mitigation measures would be implemented to address potential impacts to cultural resources resulting from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

Project site work would be temporarily suspended at the location of the archaeological resource, the project manager would immediately be notified and a professional archeologist would document and assess the discovery. The DAHP and all concerned tribes would be contacted for any issues involving Native American sites.

If project activities expose human remains, either in the form of burials or isolated bones or teeth, or other mortuary items, work in that area would be stopped immediately. Local law enforcement, DAHP, and affected tribes would be immediately contacted. No additional excavation would be undertaken until a process has been agreed upon by these parties, and no exposed human remains would be left unattended.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Transportation

This section presents potential measures to mitigate the transportation-related impacts of the project. Many of these measures would be incorporated into the site design. The following list presents measures to mitigate short-term construction impacts as well as long-term impacts to all modes of travel. It also details potential Transportation Management Plan elements to reduce travel by single-occupant vehicle.

Required/Proposed Mitigation Measures

Mitigation of Construction Impacts

Construction impacts would occur in stages until all development at Yesler Terrace is complete. Prior to commencing construction of the West of Boren Sectors, SHA and/or its prime contractor(s) would prepare a Construction Management Plan. This plan would document the following:

Truck haul routes to and from the site.

Peak hour restrictions for construction truck traffic and how those restrictions would be communicated and enforced.

Truck staging areas (e.g., locations where empty or full dump trucks would wait or stage prior to loading or unloading.)

Construction employee parking areas.

Road or lane closures that may be needed during utility construction or relocation, roadway construction, or building construction. If any arterial street is affected by a partial or full closure, the contractor should also prepare a Maintenance of Traffic Plan detailing temporary traffic control, channelization, and signage measures.

Mechanism for notifying community if road or lane closures would be required.

Sidewalk and/or bus stop closures and relocations.

Other elements or details may be required in the Construction Management Plan to satisfy street use permit requirements of the City of Seattle. SHA and the contractor would incorporate other City requirements into an overall plan, if applicable.

Off Site Roadway Improvements

The traffic operations analysis determined that the Yesler Terrace redevelopment would increase vehicle delay at 6 intersections that would operate at LOS F without the Yesler Terrace redevelopment, and cause up to 4 other intersections to degrade to LOS F (the specific number of intersections in this latter category depends upon the Alternative). Potential mitigation measures at 9 of the 10 locations have been evaluated and are summarized in **Table 3.13-14**. No mitigation is possible for the intersection of Broadway/E James Street where changes to the signal timing and phasing are already proposed to accommodate the First Hill Streetcar. The impact that Alternative 2 and 3 would have to this intersection is noted as an unavoidable adverse impact.

Table 3.13-14
(Excerpted from Section 3.13)
POTENTIAL INTERSECTION MITIGATION

Int. #	Intersection Name	Description of Improvement	Mitigation Needed for Alternative?				
			Alt 1	Alt 1a	Alt 2	Alt 3	Alt 4
6	12th Avenue/ E Cherry Street	Restripe E Cherry Street to provide conventional left turn phasing (instead of separate phases for eastbound and westbound traffic).	✓	✓	✓	✓	✓
19	Rainier Avenue S/ S Dearborn Street	Add a southbound right turn pocket on Rainier Avenue S.			✓	✓	
21	7th Avenue/ Cherry Street	Change cycle length to full cycle to match intersection at 6th Avenue/Cherry Street.	✓	✓	✓	✓	✓
22	9th Avenue/ Cherry Street	Convert to an all-way, stop-controlled intersection.	✓	✓	✓	✓	✓
26	9th Avenue/ Jefferson Street	Provide a second northbound lane at the all-way stop-controlled intersection.			✓	✓	
28	9th Avenue/ Alder Street	Convert to an all-way, stop-controlled intersection.	✓	✓	✓	✓	
31	8th Avenue/ Yesler Way (Alts 1 & 4) or 9th Avenue/Yesler Way (Alts 2 & 3) [a]	Install a traffic signal with left-turn pockets on all approaches. The left-turn pockets would allow the traffic signal phase for left turning vehicles to be separated from pedestrian crossing movements.	✓	✓	✓	✓	
33	6th Avenue/ James Street	Retime intersection.	✓	✓	✓	✓	✓
34	6th Avenue/ Yesler Way	Signalize.	✓	✓	✓	✓	✓

Source: Heffron Transportation, Inc., September 2010.

[a] Intersection would not exist with this alternative. Alternatives 2 and 3 would vacate 8th Avenue and replace it with a parallel street, 9th Avenue.

Transit

Increased ridership from the project could increase loads on Route 27 to unacceptable levels. This route currently operates on 20 to 30-minute headways during the PM peak hour. Yesler Way is designated as part of the City's UVTN, for which the goal is service at least every 15 minutes. Increased service on the Route 27 would alleviate the loading. Another idea that has been considered, although is not part of any future plan, is to divert the Route 3/4 from James Street to Yesler Way to avoid congestion at the I-5 interchange. That route has very frequent service which could accommodate the additional riders from Yesler Terrace.

The Seattle Housing Authority will work with King County Metro and SDOT to evaluate service needs as development at Yesler Terrace progresses. A key milestone would be 2016 when King County Metro may redeploy various service on First Hill and Capitol Hill in response to the University Link project opening. In addition, Seattle Housing Authority could be a partner with

other agencies pursuing funding opportunities, particularly new federal grants in which low-income housing and sustainable development increase a project's chance of funding.

Non-Motorized Facilities

Extensive pedestrian and bicycle improvements would be made throughout the Yesler Terrace site, including street frontage improvements as well as connecting paths throughout the site. New connections would also be made to areas beyond Yesler Terrace, including south towards S Jackson Street. This connection would improve pedestrian access to the International District and key transit routes along S Jackson Street or at the International District and King Street transit stations. Many of the reconstructed streets would provide new or enhanced facilities for bicycles.

Other pedestrian and bicycle amenities would be provided on the site including pocket parks, resting areas, bike racks, secured long-term bicycle storage (in garages), and showers and locker facilities in office buildings.

SHA will coordinate with the First Hill Streetcar project to improve the crosswalks at the Boren Avenue/Yesler Way intersection. The crosswalk across the south leg of the intersection is located along the school walk route between Yesler Terrace and Bailey-Gatzert Elementary School. The First Hill Community Plan recommended improving this crossing location (City of Seattle 1998).

Freight

Truck access would be provided for all buildings. Where possible, service drives would be created to the side or back of buildings to provide access to loading docks. Truck access and loading requirements within the site would be determined for individual building applications; however, most buildings could be designed to accommodate just small to medium-sized trucks since large trucks are not often used for deliveries near the downtown core area of Seattle. The exception would be for a potential grocery store.

On-street loading zones could also be provided. These should be limited to one per block face and located near service drives and away from pedestrian entrances. If an occasional large truck is needed for a delivery (e.g., during a business or resident move), then temporary on-street loading could be provided with a street-use permit.

Transportation and Parking Management Plans

Transportation Management Plans (TMPs) would be implemented for various elements of the Yesler Terrace Redevelopment. Parcels where office uses are to be built would likely be sold to developers. These parcels could be required to have individual TMPs that are directed at reducing employee commute trips. SHA would retain ownership and management of its low income residential units. SHA could distribute information to its tenants (in several languages, as needed) regarding transportation options.

<u>TMP Goal</u>

Seattle's Comprehensive Plan for the First Hill/Capitol Hill Urban Center established a trip goal that all peak period trips using non-SOV modes reach 75 percent by the year 2010 and 80

percent by 2020. This means that trips by single-occupant vehicle (SOV) should be no more than 25 percent of the peak period trips in 2010, or 20 percent in 2020. These goals are consistent with the analysis performed for the Yesler Terrace EIS. Overall, the trip generation estimates that are the basis for the traffic impact analysis assume that about 25 percent of the office trips would be made by single-occupant-vehicles (SOVs) and about 10 percent of the residential and retail trips would be made by SOVs.

The Comprehensive Plan goals could be adopted as the short and long-range goals in TMPs for office development at Yesler Terrace. For each office building within Yesler Terrace, it is recommended that within 5 years of occupancy, no more than 25 percent of the employee commute trips should be by SOV; within 10 years of occupancy, no more than 20 percent of the employee commute trips should be by SOV.

TMP Elements – Office Building

The office-related TMPs could be required consistent with the City of Seattle's Director's Rule (DPD Director's Rule 19-2008). The Yesler Terrace redevelopment would have many site amenities and design treatments that would promote the use of alternative transportation modes. These features would be inherent in the site design, and prescribed through the Project Actions. Therefore, the TMP for each building only needs to address on-going management elements and site-specific design treatments. **Table 3.13-15** lists the elements from the Director's Rule (along with the specific element number) that should be included in each office building's TMP. Some of the elements may not be needed at all locations as noted.

TMP for Residential Uses

SHA would provide centralized management for its low income units at Yesler Terrace. This would create the opportunity to provide information about alternative modes of transportation. This could include information (in multiple languages) about transit routes, stop locations, and schedules, car-sharing programs, and walking/bicycle routes.

Table 3.13-15
(Excerpted from Section 3.13)
TRANSPORTATION MANAGEMENT PLAN (TMP) ELEMENTS FOR OFFICE BUILDINGS

TMP Elements from Seattle Director's Rule 19-2009		Check all that apply	Notes
Building and Frontage Features			
1	Install commuter information center in appropriate location	As needed	May not be needed at all locations if centrally located.
3	Provide on-site shower and locker facility	√	
7	Provide bicycle storage and amenities	√	
Management & Promotion			
8	Appoint Building Transportation Coordinator	√	
9	Produce and distribute a commuter information packet	√	
10	Require tenant participation in the TMP	√	
11	Submit regular reports about TMP elements as required by the City	√	
12	Conduct biennial survey of TMP effectiveness	√	
Parking Management			
15	Charge for parking at market rate for the site's vicinity	√	
17	Prohibit price reductions for all-day parking (e.g., "Early Bird" specials)	√	
18	Unbundle parking from building leases	√	
19	Provide designated parking spaces for car share programs	As needed	May not be needed at all sites if centrally located.
20	Create flex-use parking passes that provide fewer days of parking than a monthly pass	√	
Transit, Carpool & Vanpool Programs			
22	Provide free parking for vanpools registered with a public agency	√	
23	Provide information about ride-match opportunities	√	
24	Provide reserved spaces for registered vanpools in convenient area that has adequate clearance and maneuvering space	√	
Bicycle/Walking Programs			
27	Offer incentive for commuters who bicycle or walk to work	√	

Source: DPD Director's Rule 19-2008, December 31, 2008.
Note: The numbers in the right hand column match the element numbers from the Director's Rule.

Other Possible Mitigation Measures

Parking

Off-street Parking Supply

Off-street parking supply within the site area would be determined for individual buildings. The parking supply rate used for each residential building may differ based on the income target, average unit size, and whether the units would be rented or owned. Neighborhood services and retail parking supplies should be determined based on specified use needs and may vary by building.

Several parking management strategies and programs could be implemented to reduce the overall parking supply on the Yesler Terrace site, including:

Share office parking on weeknights and weekends. Parking at key office garages could be made available for evening and weekend use by residential visitors or for residents who commute during the day. This would reduce the parking supply required.

Unbundle parking from office leases. Office tenants could be required to pay for parking as a separate fee from their office space lease. This promotes use of alternative transportation modes by itemizing the cost of parking.

Charge for parking. All office employees and visitors could be required to pay for parking at the market rate in the area. Discounts for all-day parking (e.g., Early Bird specials) should be discouraged.

Offer a flex-pass for parking that limits the number of days an employee can park. Most parking passes are sold on a monthly basis and allow unlimited parking during that month. A flex-pass would be a lower-cost option that would limit the number of days it can be used each month. This type of pass is a good option for employees who may take transit or ride a bike to work some days a week, but need a car on certain days for work or personal business.

Do not reserve individual spaces for office parking. Leases could be structured so that parking spaces at office buildings are not reserved for individual users. This allows all office parking to be shared by employees, and reduces the overall supply requirement.

Provide for car-sharing programs. Car-sharing programs (e.g., Zipcar) allow residents and/or site employees to share a pool of vehicles, which reduces parking demand.

On-Street Parking Supply

Most of the on-street parking within the existing Yesler Terrace site is part of residential parking zone (RPZ) 7. With the redevelopment, most of the RPZ should be retained; however, the large increase in residents may substantially increase demand for RPZ permits. This could be particularly true if there is a cost for off-street parking associated with a new unit. The City's RPZ policies related to permit eligibility are applied evenly to all RPZ zones throughout the City. Therefore, changing the eligibility requirements may require that a subzone be created for just

Yesler Terrace, and new ordinance language adopted limiting the eligibility of RPZ permits in this subzone. Potential eligibility limits, which would have to be vetted by City legal staff, could include:

Issuing RPZ permits based on a hardship or need, which could include an income limit or a vehicle ownership requirement for work or school.

Issuing RPZ permits on a lottery basis (which is done in some other cities).

Limiting or prohibiting guest permits, and requiring visitors to park off-street.

Some of the on-street parking should be converted to short-term parking for use by customers of adjacent retail businesses or neighborhood services. Because of its location near the downtown core, it is likely that short-term on-street parking would be enforced as paid parking with payment available at pay stations.

Significant Unavoidable Adverse Impacts

Redevelopment of Yesler Terrace would increase vehicular traffic and transit use in the site vicinity. The project would add traffic and increase delay to one intersection where future changes are proposed as part of the First Hill Streetcar project: Broadway/E James Street. Traffic generated by Alternatives 2 and 3 would degrade operations at this intersection to LOS F during the PM peak hour. Mitigation is not feasible at this intersection due to constrained rights-of-way, track requirements, and signal operations needed for the Streetcar.

Utilities

The following required/proposed and other possible mitigation measures would address potential impacts to public utilities resulting from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

Water

The design and construction of all water distribution facilities would comply with the City of Seattle regulations for extensions and improvements to the City's water system.

Water mains would be located within the site's existing dedicated roadway network for Alternatives 1, 1A and 4, and in the new public roadway network or easements for Alternatives 2 and 3, consistent with the City of Seattle public utilities regulations and design standards.

Sanitary Sewer

A hydraulic analysis of stormwater drainage and wastewater systems would be completed during the design phase of the Yesler Terrace Redevelopment to determine necessary improvements to the City's and site's drainage and wastewater infrastructure. Improvements could include additional upsizing of the combined sewer pipe downstream of the Yesler Terrace Redevelopment in Main Street and 7th Avenue S, as well as GSI and stormwater flow control at the site (see Section 3.3, **Water Resources**, for details).

The design and construction of public sanitary sewer systems would comply with the City of Seattle standard plans and specifications for extensions and improvements to the City's sewer system.

Sewer mains would be located within the site's existing dedicated roadway network for Alternatives 1, 1A and 4, and in the new public roadway network or easements for Alternatives 2 and 3, consistent with the City of Seattle public utilities regulations and design standards.

Other Possible Mitigation Measures

The Yesler Terrace Redevelopment could include provisions to encourage water conservation and/or reuse during building construction and long-term operation of the redevelopment.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Public Services - Parks and Recreation

Future increases in employment and population at the site over the assumed 20-year buildout period under Alternatives 1-4 would be incremental and would be accompanied by increases in demands on park and recreational resources onsite and in the site vicinity. These impacts would be addressed by the following required/proposed and other possible mitigation measures:

Required/Proposed Mitigation Measures

Onsite parks, open space and recreational facilities would be provided with redevelopment. These resources would include a substantial amount of new usable public and semi-private open space to accommodate the increased population and serve the surrounding community. If these facilities are not owned or maintained by the City, they would not be included in the City's official calculations of parks and open space gaps but would, in practice, serve to offset existing open space deficiencies in the area.

A portion of the tax revenues generated from development of the site – potentially including construction sales tax, retail sales tax, business and occupation tax, property tax, utilities tax, leasehold excise tax, and other fees from City licenses and permits during site redevelopment – would accrue to the City of Seattle and could help offset demands for public services, including parks and recreation. The City's CIP has identified a need for another new park in the First Hill Urban Village, where Yesler Terrace is located, but a site has not yet been selected. SHA, as a First Hill community stakeholder, would continue to advocate for additional parks and open space resources in the neighborhood.

It is anticipated that increases in employees and resident population onsite over the buildout period, along with general growth in this area of the City, would be planned for through the City's ongoing capital facilities planning process.

Under all alternatives it is assumed that a portion of the ground level, extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses to accommodate existing relocated daycare uses.

New P-Patch community gardens could be provided onsite in the Commons Park area, each sector park and on rooftop gardens, provided at some buildings. Provision of these new P-Patch facilities could offset displacement of the existing P-Patch gardens located in the SW Sector.

Other Possible Mitigation Measures

SHA could enter into an agreement with the Seattle Public School District to develop an active ballfield or improve the existing ballfield on the Bailey-Gatzert Elementary School grounds to offset the elimination of the existing onsite playfield due to redevelopment.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Public Services - Schools

Future increases in housing units and students associated with these units over the assumed 20-year buildout period under Alternatives 1 through 4 would be incremental and would be accompanied by increases in demands on the Seattle Public Schools District. As noted in **Section 3.15.2**, the three existing attendance area schools and the Central District may not have the capacity to accommodate the additional students from the Yesler Terrace Redevelopment (Garfield High School is already over capacity). These impacts would be addressed by the following required/proposed and other possible mitigation measures:

Required/Proposed Mitigation Measures

A portion of the tax revenues generated from development of the site – potentially including construction sales tax, retail sales tax, business and occupation tax, property tax, utilities tax, leasehold excise tax, and other fees licenses and permits – would accrue to the City of Seattle and the School District and could help offset demand for services from the District.

Other Possible Mitigation Measures

It is anticipated that increases in student population over the buildout period would be addressed through the Seattle School District capital facilities capacity planning process (policy H13.00) to insure that no significant impacts would occur as a result of redevelopment at Yesler Terrace. As stated in **Section 3.15.2.1,** the Seattle School District could take any or a combination of the following actions to match capacity and enrollment as buildout occurs on the Yesler Terrace site:

- Adding, relocating or removing programs;
- Adjusting school boundaries;
- Adjusting geographic zones for option schools;

- Adding or removing portables;
- Adding to or renovating buildings; and/or,
- Opening, reconstituting or closing buildings.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Public Services - Fire and Emergency Medical Services

The following required/proposed mitigation measures would address potential impacts to Fire and EMS Services from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

Increases in population and employment over the 20-year buildout of the Yesler Terrace project would be incremental and would be accompanied by increases in demand for fire/EMS services under all of the EIS redevelopment alternatives. A portion of the tax revenues generated from redevelopment of the site – including construction sales tax, retail sales tax, business and operation tax, property tax, utility tax and other fees, licenses and permits - would accrue to the City of Seattle and could help offset demand for public services.

All new buildings would be constructed in compliance with the 2006 Fire Code, which is comprised of the 2006 International Fire Code with Seattle amendments, as adopted by City of Seattle Ordinance 122491.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Public Services - Police Services

The following required/proposed and other possible mitigation measures would address potential impacts to police services resulting from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

Increases in population and employment over the 20-year buildout of the Yesler Terrace project would be incremental and would be accompanied by increases in demand for police services under all of the EIS redevelopment alternatives. A portion of the tax revenues generated from redevelopment of the site – including construction sales tax, retail sales tax, business and operation tax, property tax, utility tax and other fees, licenses and permits - would accrue to the City of Seattle and could help offset demand for police services.

The portions of the site that are under construction during phased redevelopment of the site could be fenced and lit, and monitored by surveillance cameras to help prevent construction site theft and vandalism.

Permanent site design features could be included to help reduce criminal activity and calls for service, including: orienting buildings towards sidewalks, streets and/or public open spaces; providing convenient public connections between buildings onsite and to the surrounding area; and, providing adequate lighting and visibility onsite.

SHA would continue funding for one dedicated police staff at the site, who serves as a Community Police Team officer to work with Yesler Terrace management and residents on crime and crime-related concerns.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Public Services - Solid Waste

The following possible mitigation measures would address potential solid waste impacts resulting from the Yesler Terrace Redevelopment:

Possible Mitigation Measures

In conjunction with the overall stewardship and sustainability principle of the redevelopment, the following mitigation measures could be employed by SHA in order to reduce the amount of solid waste generated by the Yesler Terrace redevelopment, thereby reducing impacts on collection by SHA Solid Waste Division and on disposal at the SRDS and ultimately the Columbia Ridge Landfill and Recycling Center in Gilliam County, Oregon:

Accommodate onsite composting using various types of equipment, including earth bins and anaerobic digestion;
Provide or encourage household composting units;
Provide offsite composting after site collection; and/or,
Expand urban agriculture on the site to utilize organic waste.

SHA could hire additional drivers, add vehicles to their fleet, extend workdays and/or add additional workdays in order to handle the additional solid waste from the Yesler Terrace Redevelopment, even with implementation of some or all of the above mitigation measures.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Public Services - Community Services

The following required/proposed mitigation measures would address potential impacts resulting to community services from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

The displacement of existing community service providers onsite would require SHA to comply with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of

1970 (URA). The URA applies to projects with federal funding, such as Yesler Terrace, that involve the displacement of organizations/businesses. Specifically, requirements of the URA include:

Relocation advisory services;
A minimum 90 days written notice to vacate prior to requiring possession; and,
Reimbursement for moving and reestablishment expenses.

During the construction process, in accordance with the tenant relocation plan, Yesler Terrace residents would be linked with service providers in areas to which they relocate in order to ensure continuity of services during the redevelopment of the site (see Section 3.16, **Socioeconomics**, for additional information on the tenant relocation plan).

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

Socioeconomics

Increases in employment, population and housing would occur gradually within the site over the 20-year buildout period. No significant adverse impacts to community cohesion, public well being, population, employment and housing would be expected to result from any of the redevelopment alternatives and as a result, no other mitigation measures are identified for these elements.

Required Proposed Mitigation Measures

Regulatory Compliance - Residential Displacement

SHA would comply with the following regulations:

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA), which provides benefits for persons or organizations involuntarily displaced as a result of federally funded projects.[3]

Tenant Relocation Plan – Temporary Relocation

The following measures are intended to address temporary relocation of residents during the construction process. All residents who remain in good standing with SHA and who maintain their eligibility for low income housing would have the option of returning to the redeveloped Yesler site as new units become available.

Relocation Involvement

SHA would provide for extensive involvement of residents in relocation planning and would disseminate and communicate information about the timing of and resident choices related to relocation. These involvement and communication efforts would likely include the following:

[3] 49 CFR Part 24.

- Community-wide relocation planning meetings to inform the community about relocation and solicit feedback on an effective approach;
- Relocation surveys to assist with the development of relocation options and procedures that conform to the priorities and preferences of residents;
- A language-based telephone hotline (interpreted into the seven primary languages spoken at Yesler Terrace) to provide information and allow for resident feedback (anonymous, if desired) on meetings and upcoming surveys or other activities;
- Website that includes regular updates on the progress of the project and answers to frequently asked questions;
- Articles in the newspaper that is distributed to SHA residents by Neighborhood House (The Voice) to share information on relocation benefits, options, Section 8 rules, and development progress; and regular relocation orientation meetings to explain relocation benefits and housing options (Meetings would be interpreted into the primary languages spoken in the Yesler Terrace community).

Relocation Options

As required by the URA, residents would be offered a range of relocation assistance options. The URA applies to projects with federal funding, such as Yesler Terrace, that involve the displacement of people from their homes. Specifically, requirements of the URA include:

- Provide a minimum 90 days written notice prior to relocation;
- Provide reimbursement for moving expenses; and,
- Provide payments for the added cost of renting comparable replacement housing.

Some SHA tenants would be able to temporarily relocate to on-site units that would not be removed until later phases of demolition, and since construction would be phased, some residents would be able to move directly from their existing unit to a redeveloped unit, without having to leave the site.

SHA would provide the following relocation options to residents depending upon the availability of various resources, such a rental assistance vouchers, etc.:

Relocation to another SHA-owned public housing development or to other SHA-owned property, where space is available. Residents who plan to return to the newly redeveloped Yesler Terrace community would have priority to be relocated to existing SHA housing.

Tenant-based (Section 8) Housing Vouchers could be provided. These vouchers are for renting housing within privately-owned apartments or homes. At this time it is not known if or how many Vouchers may be available for Yesler Terrace residents.

SHA would pay the difference (if any) between what tenants paid at Yesler Terrace for their unit and utilities versus any increase in a comparable unit, for up to 42 months or in a lump sum amount if the resident so chooses.

Relocation Assistance

In conjunction with placing residents in comparable assisted housing situations, SHA would also provide a package of relocations benefits for Yesler Terrace residents to prepare and assist residents with the actual task of moving. Regardless of the type of relocation which residents receive, an SHA relocation team would assist residents with their moves, reimburse the resident for the cost of the move, and/or provide a fixed moving expense and relocation allowance. Eligible tenants (i.e. elderly or disabled) could request assistance with packing and unpacking. SHA would provide the following specific assistance:

- Link residents with service providers in areas to which they relocate in order to ensure continuity of services;
- Provide transportation or transportation assistance (bus tokens, taxi scripts etc.) and accompany residents to visit potential units;
- Assist residents with applications for relocation benefits and/or rental applications;
- Coordinate with moving companies;
- Assist with the transfer of utility accounts;
- Pay for the cost of utility disconnections and reconnections; and,
- Pay for storage of personal property, if necessary.

The proposed moving assistance provisions described above would meet the cost allowance and payment requirements of the URA.

SHA would notify residents 18 months in advance of planned demolition and relocation activity. This early notification exceeds federal requirements by six months. SHA staff would also provide one-on-one counseling to residents who would be relocated in order to help them identify and understand options for relocation assistance, including the overall package of benefits that they would receive. Residents would have at minimum of 6 to 8 weeks from the initial counseling session to determine which benefit package they prefer. However, this timeframe will not prevent residents from choosing a different benefit option if they so choose prior to receiving benefits.

Permanent Tenant Relocation

Residents may choose to permanently move from Yesler Terrace. Residents who do not wish to return to the redeveloped community may elect to receive a lump sum payment in compensation for their displacement, in order to make their own housing arrangements.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be expected.

Environmental Justice

Required/Proposed Mitigation Measures

Construction

All construction activities would be required to comply with City of Seattle Municipal Code regulations as related to air quality and noise.

The areas of the site undergoing construction would be secured and non-accessible after hours to prevent the creation of an attractive nuisance which could result in safety/public health impacts to the residential population on-site.

Abatement, remediation, and disposal of any hazardous materials on site would occur in accord with local, state, and federal regulations prior to start of construction or demolition activities on site.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated as a result of the redevelopment alternatives (Alternatives 1-4), providing that low income housing is not concentrated in those areas of the site subject to the worst noise conditions. The No Action Alternative could result in a significant unavoidable adverse impact in that there would continue to be a disproportionate adverse impact to the site population with respect to the existing adverse air and noise conditions.

Wind

Mitigation Measures

The building layout and associated height of structures at the site would be below the wider southern glide path.

Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are anticipated, with implementation of appropriate mitigation measures.

Chapter 2 - DESCRIPTION of PROPOSAL and ALTERNATIVES

CHAPTER 2
DESCRIPTION OF PROPOSAL AND ALTERNATIVES

This chapter of the Draft Environmental Impact Statement (Draft EIS) describes the Yesler Terrace Redevelopment Proposal and Alternatives. A summary of historic site activities, as well as pertinent planning activities and public involvement efforts to date related to the Proposal are also discussed. Please see **Chapter 1** of this document for a summary of the findings of this Draft EIS and **Chapter 3** for a detailed presentation of the affected environment and probable significant environmental impacts of the Proposal and Alternatives.

2.1 INTRODUCTION

The Seattle Housing Authority (SHA) is proposing redevelopment of Yesler Terrace, a public housing community located on the southern slope of First Hill in Seattle (see **Figure 2-1**, Vicinity Map). The 36.6-acre[1] Yesler Terrace Redevelopment site currently contains 561 public housing units, a community center and various other buildings (see **Figure 2-2**, Site Map and **Figure 2-3**, Existing Site Conditions). Redevelopment is proposed in order to create a mixed-income, mixed use community that is intended to better serve existing and future residents. The Proposal and Alternatives include a mix of affordable and market-rate housing, commercial and community services uses, as well as parks and open space, and vehicular, pedestrian and bike improvements. It is anticipated that redevelopment of Yesler Terrace would take approximately 15-20 years to complete.

2.2 BACKGROUND

Construction of the existing Yesler Terrace development was the first project undertaken by SHA following its organization in 1938. SHA has determined that the housing units and the associated infrastructure are nearing the end of their useful life and need to be replaced. SHA began redevelopment planning for the site in 2006, with the establishment of the Yesler Terrace Citizen Review Committee (CRC). The CRC was formed to make recommendations to the SHA Board of Commissioners on the redevelopment efforts and is made up of participants representing Yesler Terrace residents, the surrounding neighborhood and stakeholders throughout the City. Through a series of meetings the CRC developed a planning framework called the *Yesler Terrace Definitions and Guiding Principles.*[2] These principles, finalized in September 2007 and adopted by the SHA Board of Commissioners in December 2007, outline the core values that will guide the redevelopment process: social equity, economic opportunity, environmental stewardship and sustainability and one-for-one replacement of housing.

Based on the definitions and guiding principles developed by the CRC, eight planning concepts[3] were developed by planning consultants and approved by the CRC in response to the guiding principles. These concepts served as the cornerstone for SHA to develop conceptual site development scenarios. Five workshops were held in 2008 by SHA and the design consultant team to gather input from residents of Yesler Terrace. In 2009 the design consultant team worked with the CRC to solicit input during eight meetings that covered a wide range of design issues. The meetings included the following items for review, discussion and evaluation by the group:

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[1] Acreage includes internal rights-of-way.
[2] http://seattlehousing.org/redevelopment/yesler-terrace/principles/
[3] http://seattlehousing.org/redevelopment/yesler-terrace/concepts/

1) Establishment of planning goals including the Guiding Principles and the Planning Concepts to create a framework for review of Site Design Concepts.
2) Review and discussion of Seattle neighborhood case studies to familiarize the CRC with neighborhoods similar in size and density to that being proposed for Yesler Terrace.
3) Exploration of ideas about "Concept Variables" including building height, density, land use, open space, circulation, etc., some of which were depicted in model form to give CRC members the opportunity to physically see the size, scale and configuration of the proposed development.
4) Presentation and discussion of alternative Concept Variables (i.e. building height, land use, open space, circulation, etc.) and combinations of multiple Concept Variables to create three unique Site Design Concepts for further study.
5) Presentation and discussion of three unique Site Design Concepts which demonstrated varied approaches to major design issues of building height, circulation, open space, land use, etc. CRC members individually evaluated the three Site Design Concepts with regard to the appropriate use and combination of the Concept Variables.
6) Initial review of CRC evaluations to give members feedback on their responses as a group.
7) Presentation of the CRC evaluation summary from which CRC members discussed and made decisions on recommendations to be given to the SHA Board of Directors.
8) Presentation of the recommended Site Concept Framework which synthesized the recommendations of the CRC and various elements created in the three Site Design Concepts.

This recommended Site Concept Framework in turn provided the basis for the range of redevelopment alternatives evaluated in this Draft EIS.[4]

2.3 ENVIRONMENTAL REVIEW PROCESS AND PURPOSE

SEPA/ NEPA EIS Approach and Lead Agencies

The City of Seattle Human Services Department and SHA are joint sponsors of the Yesler Terrace Redevelopment EIS. The joint sponsors have determined that the Proposal may have probable significant adverse impacts on the environment. As such, an environmental impact statement (EIS) is required under RCW 43.21C.030 (2)(c) and under 24 CFR 58.37. The City of Seattle Human Services Department is the responsible entity for compliance with the National Environmental Policy Act (NEPA) and SHA is the lead agency in accordance with the Washington State Environmental Policy Act (SEPA) on this EIS. The EIS is a joint NEPA and SEPA document that satisfies applicable requirements of SEPA (RCW 43.21C) and NEPA (42 U.S.C. 4332[2][c]). The Proposal is subject to compliance with NEPA, because funds from the public housing programs under Title I of the Housing Act of 1937 (HOPE VI, Capital Funds, Demolition/Disposition) will be used for this project (24 CFR 58.1(b)(6)(i)).

[4] http://seattlehousing.org/redevelopment/yesler-terrace/workshops/

Figure 2-1
Vicinity Map

Yesler Terrace Redevelopment EIS

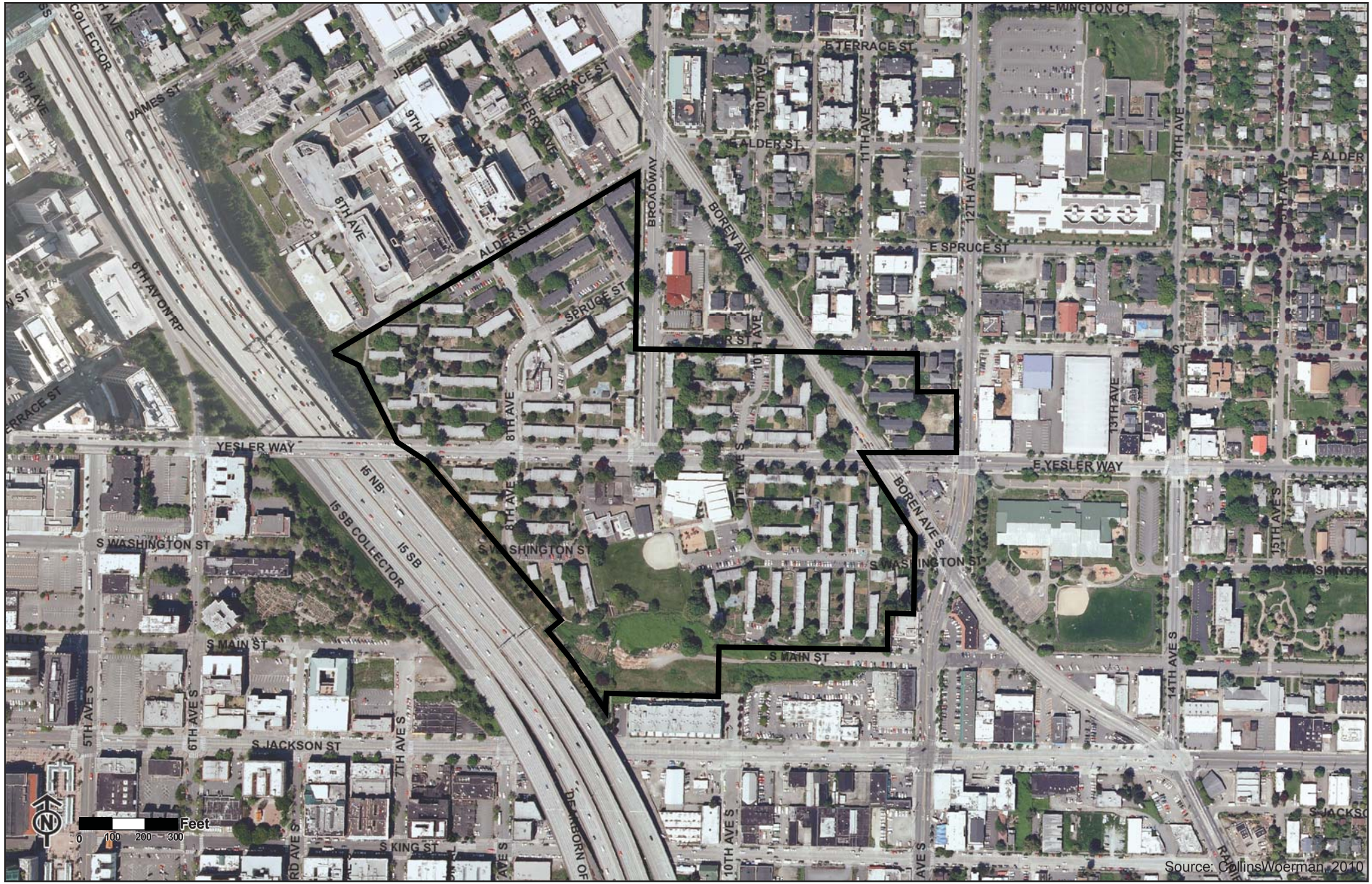


Figure 2-2
Site Map

Yesler Terrace
Redevelopment EIS

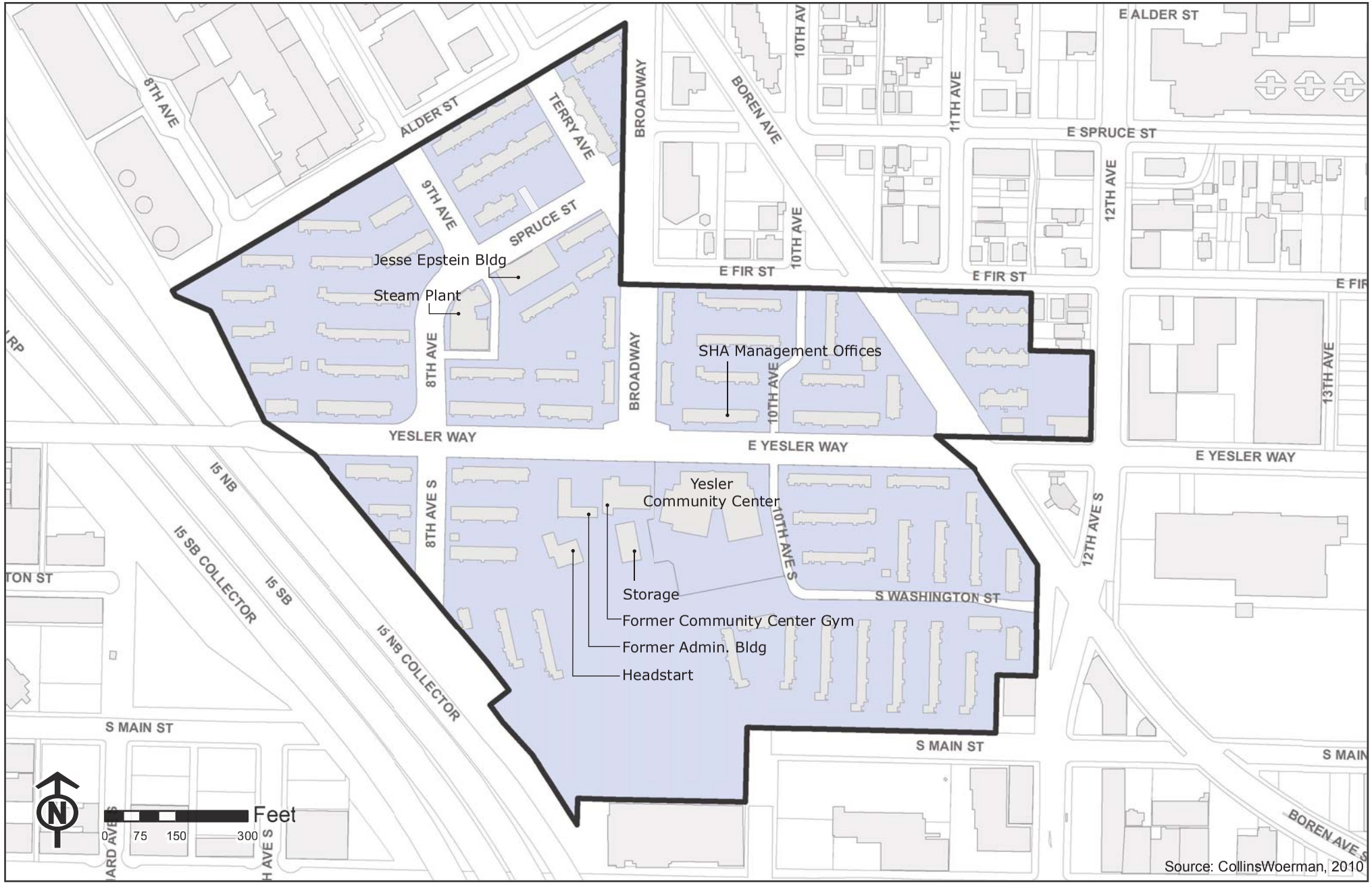


Figure 2-3
Existing Site Conditions

Yesler Terrace
Redevelopment EIS

Determination of Significance and EIS Scoping

On April 1, 2010, a joint NEPA Notice of Intent to Prepare an EIS/SEPA Determination of Significance and Request for Comments on the Scope of the Yesler Terrace Redevelopment EIS was issued. A 45-day, expanded public comment period was initiated, and copies of the notice were mailed to federal, state, regional and local agencies, and local organizations. The notice was published in the Federal Register and the SEPA Register and also published in local, regional, community and ethnic newspapers. A public scoping meeting was held on April 29, 2010, to give the public an opportunity to provide oral comments on the scope of the EIS (see **Appendix B** for details of the scoping process).

Purpose of EIS Analysis

This Draft EIS is intended to evaluate the probable significant environmental impacts that could occur as a result of proposed redevelopment activities on the site under a range of EIS Alternatives. Four mixed use redevelopment alternatives (see **Section 2.8** below) have been identified and analyzed that meet the Proposal's objectives, purpose and need (see **Section 2.4** and **Section 2.5**). A residential redevelopment alternative based on the existing L-3 zoning was also analyzed for comparison purposes.

The Proposal involves several actions that would be taken by SHA, the City of Seattle, and the U.S. Department of Housing and Urban Development (HUD). Those actions include both "non-project actions" such as City of Seattle planning and zoning decisions for the Yesler Terrace site, and "project actions" for permits and approvals for a specific redevelopment. The "non-project actions" and "project actions" are together described as the "Proposed Actions."

The purpose of the Draft EIS is to provide various agency decision makers with relevant environmental information to be considered in making decisions about the Proposed Actions (along with economic and other considerations, as well as public input). The alternatives function to provide representative levels and types of redevelopment and supporting infrastructure for analysis of environmental impacts in this EIS. As part of the ongoing planning and decision-making process, features of the alternatives may be mixed and matched to arrive at a final redevelopment plan for Yesler Terrace, which will be outlined in SHA's decision on the proposal, and in the Record of Decision as required by NEPA. See **Section 2.8** of this chapter for detail on the EIS Alternatives.

Planned Action Review

This Draft EIS is intended to fulfill SEPA requirements for a Planned Action environmental review for future redevelopment of the majority of the Yesler Terrace site (all but the East of Boren Sector), per RCW 43.21C.031, SMC 25.05.164 [et seq], and SHA Resolution 4945. According to SEPA, a "Planned Action" is a designation for one or more types of project actions for which the environmental review is shifted to an earlier, planning-oriented phase in the process, rather than being conducted at the time a project-specific permit application is made. The intent of this designation is to provide a more streamlined environmental process by using an existing EIS prepared at this earlier stage for SEPA compliance for long-term actions. The Planned Action approach also allows for local government to identify in advance the cumulative environmental impacts and required mitigation measures for development anticipated under the plan.

Under SEPA, the basic steps in designating a Planned Action are to: 1) prepare an EIS; 2) designate the Planned Action by adoption of an ordinance; and, 3) review future applications for redevelopment permits for consistency with the designated Planned Action. After issuance of the Final EIS, it is contemplated that the City of Seattle will consider adoption of a Yesler Terrace Planned Action Ordinance.

The City's Planned Action Ordinance, once adopted, would reflect a decision by the City that adequate environmental review has been completed for the project and that further environmental review under SEPA will not be necessary for redevelopment that is consistent with the provisions of the Planned Action Ordinance and the environmental analysis contained in this EIS. The Planned Action Ordinance would pertain to future development features that have been reasonably defined for environmental review purposes and that are subject to City of Seattle permit approvals. Projects that have not been included in the Planned Action Ordinance could require additional environmental review at the time of permit application submittal or application for federal funding, including review under SEPA and NEPA. For future redevelopment projects subject to state and federal permits or proposed for federal funding, the appropriate agencies would determine whether further environmental review is required.

When specific redevelopment is proposed in the future at Yesler Terrace, the City or other agencies would determine whether the potential environmental impacts are within the parameters analyzed and mitigation identified in this EIS and adopted as part of the Planned Action Ordinance. If not, additional environmental review may be required. However, if potential impacts are within the parameters analyzed in this EIS and adopted as part of the Planned Action Ordinance, further environmental analysis would not be required under SEPA for permits and approvals by the City for construction and build-out on the site.

The East of Boren Sector would be redeveloped under its existing zoning and would not require a Land Use Code text amendment or rezone. Therefore, this area is not proposed for designation as a Planned Action. It is assumed that the City would make a threshold determination at the time of application for development of the East of Boren Sector and determine if additional environmental review is necessary beyond the environmental impacts of East of Boren development already analyzed in this EIS.

2.4 OBJECTIVES OF THE PROPOSAL

The Yesler Terrace planning process has included extensive public input and participation, culminating in a set of guiding principles, planning concepts, definitions and implementation strategies. These principles, concepts, definitions, and strategies, used together with other relevant documents such as local and regional plans and policies, serve as a foundation for the objectives identified below. For purposes of SEPA (WAC 197-11-440) the following are the primary objectives for the Proposal.

- To redevelop an approximately 36.6-acre public housing site into a higher density, mixed use (including residential, office, hotel, neighborhood commercial, and neighborhood service uses), mixed income neighborhood based on a range of site conditions and factors, including environmental, land use, economic and market considerations and future redevelopment opportunities;
- Create a vibrant, diverse and environmentally sustainable community that integrates uses, activities and incomes and enhances the livability of the Seattle community;

- Preserve and expand a broad spectrum of low income housing opportunities, including the replacement of the existing 561 low income housing units;
- Support and encourage the transition to self-sufficiency of low income residents by providing economic opportunities throughout the long-term redevelopment process;
- Develop low income housing adjacent to the Downtown Seattle core and other major employers and institutions;
- Reconnect the Yesler Terrace community with surrounding neighborhoods, including First Hill, Squire Park and Little Saigon, with an improved street and pedestrian network;
- Foster positive interactions throughout Yesler Terrace and the community at large, regardless of social, economic or cultural distinctions by employing creative urban design and architectural techniques, while avoiding segregation by income, race or other differences, and providing access to public amenities;
- Take advantage of the close proximity to Downtown Seattle by encouraging pedestrian, mass transit and other non-motorized transportation systems;
- In conjunction with the City of Seattle, design and implement an integrated, economically and environmentally responsible infrastructure and public amenity network that will support the community for the long-term and stimulate private investment;
- Incorporate sustainable development practices as part of the design, construction and operation of the community;
- Enhance the community's economic vitality by creating an environment that is attractive to a wide range of employment opportunities and businesses;
- Ensure that the redevelopment is both financially feasible and financially sustainable;
- Continue to coordinate with federal, state and local agencies, tribes, organizations, institutions, residents, community stakeholders, the private sector and others to facilitate redevelopment planning and implementation; and,
- Work cooperatively with the City of Seattle to adopt the necessary land use approvals, including amending the Seattle Land Use Code and applying a new zone designation to Yesler Terrace, to provide for redevelopment of the site with residential, office, hotel, retail, and community service uses, and phased development with flexibility to respond to market factors over time. Land use approvals may also include amendments to portions of the Seattle Comprehensive Plan.

2.5 PURPOSE AND NEED OF THE PROPOSAL

SHA, as SEPA Lead Agency, and the City of Seattle Human Services Department as NEPA Responsible Entity, must identify the purpose of and need for the Yesler Terrace Redevelopment Proposal and alternatives under SEPA and NEPA. SHA's mission is as follows:

> "Our mission is to enhance the Seattle community by creating and sustaining decent, safe, and affordable living environments that foster stability and increase self-sufficiency for people with low incomes."

2.5.1 Purpose

Based on SHA's mission, the purpose of the Yesler Terrace Redevelopment Proposal is to redevelop the Yesler Terrace community into a mixed-income, mixed use community that meets the objectives stated previously in **Section 2.4**.

2.5.2 Need

Yesler Terrace is over 70 years old. More than one-fifth of the 561 housing units were built during World War II as temporary defense housing. Although Yesler Terrace is noteworthy as one of the country's oldest public housing communities, SHA has determined, through separate analysis, that it is no longer a cost-effective or physically efficient way of providing quality affordable housing to its residents. Further information on why retention or modernization of existing housing structures is not consistent with the Proposal Objectives is in **Section 2.8.7**, under *No Action Alternative*. Key issues on the site include:

- Aging sewer and water infrastructure as some mains date back to pre-Yesler Terrace and service lines have extensive leaks and blockages. Some housing units have been taken off-line because of side sewer failure;
- Mold problems due to water intrusion through building foundations, combined with poor ventilation;
- Major rodent infestations that will not be successfully exterminated with the gaps in the existing buildings and many underground abandoned pipes;
- Building lifespan is near the end (typical 80 year lifespan) and buildings do not meet current fire, seismic and other building codes;
- Site accessibility is substandard due to age and older grading approach. This is a difficult site to move around on for seniors and disabled as well as those with small children;
- The site layout does not provide visual security for residents to their front door, their access and their parking. Parking is often a half block away and the pedestrian corridors are narrow and have frequent blind spots;
- The neighborhood is difficult to police effectively because of its awkward layout with many dead-end streets and sidewalks;
- The open spaces, play areas, and community gardens are hidden, making them hard to reach and creating safety issues;
- Critical site design deficiencies, such as lack of physical connectivity, that separate Yesler Terrace from the surrounding neighborhoods; and,
- Lack of supporting commercial uses onsite that would decrease the distance residents would have to travel to procure goods and services, and, potentially, provide employment opportunities.

Based on the above-stated Purpose and Need, SHA is advancing the Yesler Terrace Redevelopment Proposal.

2.6 SITE DESCRIPTION

As described in **Section 2.1**, the approximately 36.6-acre site is located in the City of Seattle's First Hill Neighborhood. Yesler Terrace is generally bound by Interstate 5 (I-5) on the west, Alder Street and E Fir Street on the north, 12th Avenue on the east, and S Main Street on the south (see **Figure 2.2**, Site Map).

2.6.1 Site History

Yesler Terrace was the first project undertaken by SHA following its organization in 1938. It was also the first low income housing development in Washington State.

Before the site could be developed, existing buildings had to be cleared and their tenants relocated. The 1,021 existing residents of the site were notified of the public housing project, offered relocation assistance and were counseled on their eligibility as tenants of the future Yesler Terrace project. There were 158 buildings on the original site, with 471 dwelling units, mostly rented out by absentee landlords. All existing buildings on the site except for the Kenyon Apartments, later renamed the Jesse Epstein Building, were demolished in 1940.

Construction of the first phase of the Yesler Terrace development was completed in 1942, and construction of a second phase of development, which had been approved by the City Council in 1940, started immediately after and was finished in 1943. The total, two-phase development consisted of 863 dwelling units in 97 residential buildings along with community buildings and a steam plant. The Phase 2 component of the project was not initially designated for defense housing, but was turned over to this purpose to address the housing needs of the influx of people working in wartime industries in Seattle during World War II.

Several changes to the Yesler Terrace property have been made since its original construction. The most significant change occurred with the construction of I-5, which in 1962 required demolition of 256 housing units and the loss of 11 acres of the site. In 2003, 21 housing units were removed to allow for construction of the Yesler Community Center by the Seattle Department of Parks and Recreation.

2.6.2 Existing Site Conditions

At present, the Yesler Terrace site is primarily developed with 69 low-rise, 2 and 3-story wood-frame residential buildings, with fenced, private open space for unit occupants, paved parking areas, roads, and off-street walkways. Other structures include the Jesse Epstein office building, the Steam Plant, the Yesler Community Center, the Yesler Gym building, the Yesler Administration building, the Head Start building, a storage building, and five laundry buildings for use by residents. (see **Figure 2-3**, Existing Site Conditions). Vegetation consists of mature trees, lawns, shrubs and other landscaping.

The Yesler Terrace site generally slopes from north to south and also slopes from west to east on the southern portion of the site. The western portion of the site is characterized by steep grades sloping to the I-5 retaining wall. The site has an elevation change of 150 feet from its lowest point south of the S Main Street right-of-way to its highest points near Harborview Hospital. The southern section of the site includes an area of steep slopes (as defined by the City of Seattle code) and is designated as a critical area; this steep slope area was created during the Jackson Street regrade in the early 1900s. The Yesler Terrace site offers many significant territorial views of the City's downtown, the SODO neighborhood, Elliott Bay, the Olympic Mountains, the Cascade Mountains, and Mount Rainier.

The Yesler Terrace site is primarily located in Seattle's First Hill neighborhood. First Hill extends north from the site and is home to numerous high-rise medical and institutional campuses including: Harborview Hospital, Virginia Mason Hospital, Swedish Medical Center and Seattle University. The Central District neighborhood is located east of Boren Avenue, including a portion of the Yesler Terrace site, and is predominated by low-rise multi-family residential and commercial uses. The International District's Little Saigon neighborhood is located south of the site and primarily includes low-rise commercial and retail uses.

Sectors

For descriptive purposes in this Draft EIS, the site has been divided into four sectors that comprise the Planned Action area (hereafter referred to as the West of Boren Sectors), and the area East of Boren Sector, which is outside of the Planned Action area (see **Figure 2-4**, Sector Boundaries). These sectors are generally defined by existing streets for ease of understanding and evaluation. Sector boundaries do not necessarily define the lot lines of specific redevelopment parcels. Those lot lines would be established through future subdivision of the site. Final lot boundaries would ultimately be dependent on sale and lease decisions by SHA, as well as based on specific development projects.

NW Sector

This 12.1-acre sector is located in the northwest quadrant of the site, and is bound by Alder Street to the north, Broadway to the east, E Yesler Way to the south and I-5 right-of-way to the west. The sector presently contains 231 public housing units in 27 buildings, totaling approximately 200,731 SF. Non-housing uses include the abandoned Steam Plant (currently used for storage) and the Jesse Epstein building, which are located in the central area of this sector. See the "Other Existing Uses" section below for details on these buildings. Approximately 3.4 acres of the sector are in public and semi-private open space; an additional 2.9 acres are in private yards. The NW Sector contains 70 off-street surface parking stalls, some reserved for office and institutional uses, the remainder for residential.

NE Sector

This 5.7-acre sector is located in the northeast quadrant of the site and is bound by E Fir Street to the north, Boren Avenue to the east, E Yesler Way to the south and Broadway to the west. The sector contains 87 public housing units in 11 buildings, totaling approximately 62,953 SF Approximately 1.2 acres of the site are in public and semi-private open space; an additional 1.3 acres are in private yards. The NE Sector contains 38 off-street surface parking stalls.

SE Sector

This 6.2-acre sector is located in the southeast quadrant of the site and is bound by E Yesler Way to the north, Boren Avenue S and 12th Avenue S to the east, S Main Street to the south and 10th Avenue S to the west. The sector contains 118 public housing units in 16 buildings, totaling approximately 101,944 SF. Approximately 1.5 acres of the sector are in public and semi-private open space; an additional 2.9 acres are in private yards. The SE Sector contains 62 off-street surface parking stalls.

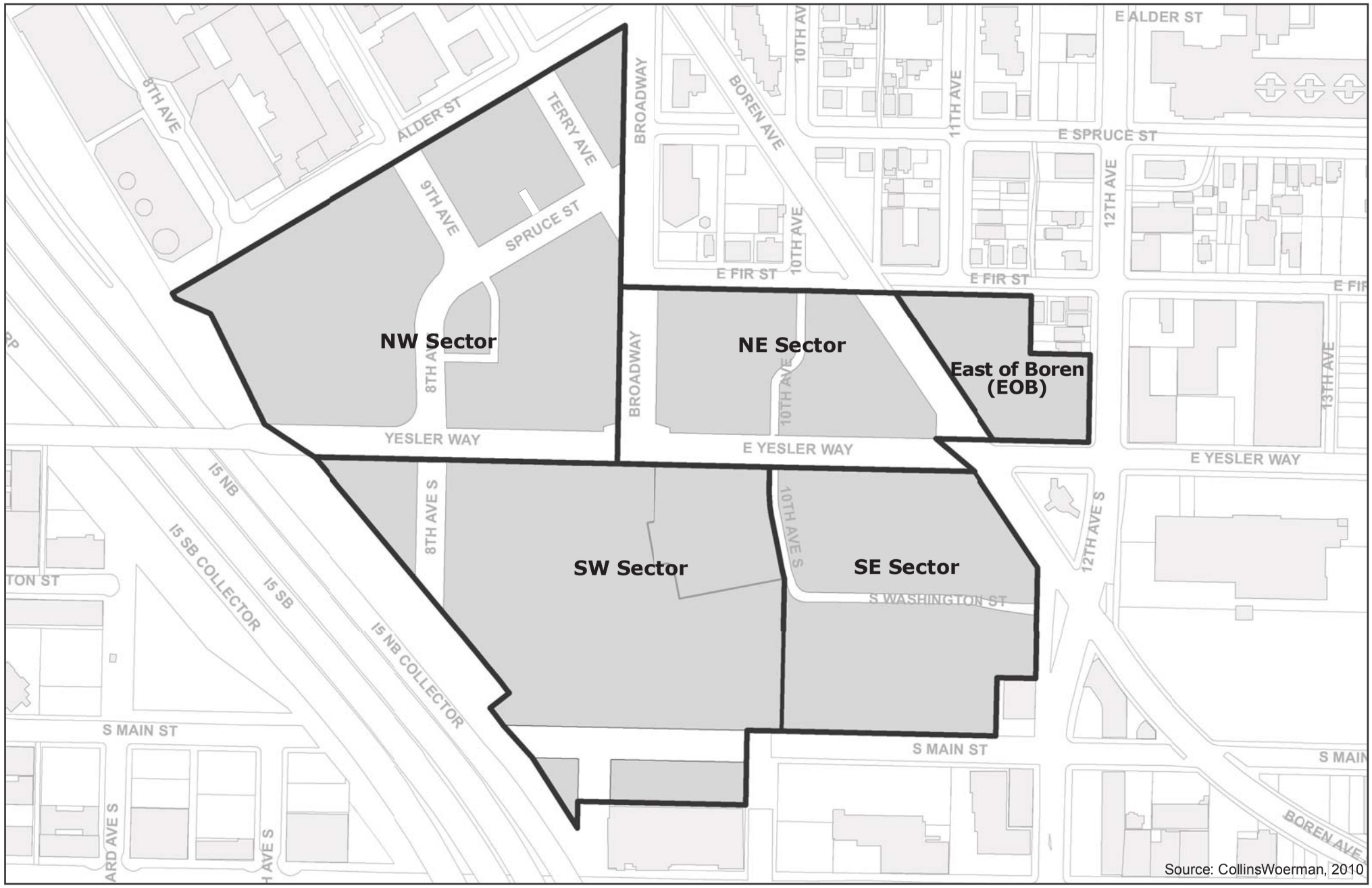


Figure 2-4
Sector Boundaries

Yesler Terrace
Redevelopment EIS

SW Sector

This 10.8-acre sector is located in the southwest quadrant of the site and is bound by E Yesler Way to the north, 10th Avenue S to the east, the Pacific Rim Center to the south and I-5 right-of-way to the west. The sector contains 85 public housing units in 11 buildings, totaling approximately 61,676 SF. Approximately 4.7 acres of the SW Sector are public and semi-private open space, including four community gardens/P-patches, the 1.4-acre Yesler Community Center and play area and the athletic field. The Yesler Community Center includes the 0.7-acre building and a 0.7-acre play area. An additional 1.6 acres are in private yards. The SW Sector contains 119 off-street surface parking stalls, including 32 parking stalls dedicated to the Community Center.

The SW Sector contains the 1.4-acre Yesler Community Center land parcel, which is owned by the City of Seattle and operated by the Seattle Parks and Recreation Department, and includes a 0.7 acre building and a 0.7 acre fenced children's play area to the south of the building. Off-street surface parking is located directly to the south of the Center. The 1.2-acre athletic field, used primarily for baseball and softball, is located directly to the southwest of the Community Center, and is on property owned by SHA. Additionally, a storage building, the Yesler Administration Building, the Yesler Gym Building, and the Head Start building are located in this sector, to the west of the Community Center. See the "Other Existing Uses" section below for details on these buildings.

The southern section of the SW Sector also includes approximately 0.8 acres of steep slope area. Part of the unimproved S Main Street right-of-way is also in a steep slope area. Approximately 0.6 additional acres of unusable property (due to inaccessibility) lies to the south of the steep slope.

East of Boren

The 1.8-acre East of Boren Sector is bound by E Fir Street to the north, 12th Avenue to the east, E Yesler Way to the south and Boren Avenue to the west. This area contains 40 housing units in 4 buildings and one additional building currently used as a children's center, totaling approximately 40,847 SF. Approximately 1.4 acres of the area are in semi-private open space. The East of Boren Sector contains area for 9 parking stalls, including six parking stalls associated with the commercial buildings on 12th Avenue. See Section 3.8**, Land Use**, for details on existing on-site land uses.

Existing Housing

Yesler Terrace (including the East of Boren Sector) currently contains 561 units of public housing. Forty (40) of these units are used by the non-profit YWCA, which is a social service agency providing emergency shelter, a food bank and after-school programs for women and families facing poverty, violence and discrimination;[5] three housing units are vacant due to maintenance issues; six units have been converted to SHA management offices; and, the remaining 512 units are used for low income housing by SHA, housing approximately 1,231 residents. As described in **Section 2.5.2**, the residential buildings are near the end of their lifespan, experiencing deterioration, and do not meet current fire, seismic and other building codes.

[5] YWCA, ywcaworks.org.

All Yesler Terrace housing is designated for households earning at or below 80 percent of the area median income (AMI), however, SHA targets households earning 30 percent or less of the AMI for its public housing units. Current residents of Yesler Terrace comprise a diverse community, including families with children, seniors, people with disabilities and immigrants. See Section 3.17, **Socioeconomics**, for details about the on-site community and population.

Existing Utilities

SHA has determined that many of the existing utilities and infrastructure serving the Yesler Terrace site have exceeded their useful life expectancy and are in need of upgrades, replacement or modernization.

Water

Seattle Public Utilities (SPU) supplies domestic water to the site through a feeder line from the Lincoln Park Reservoir. Some of the water mains onsite were installed over 100 years ago and have exceeded their design life expectancy. Most of the system was installed at the time of the original Yesler Terrace development in the 1940s. The southern portion of the site lacks adequate fire hydrant coverage. The water service lines onsite vary in conditions; however, the overall system has issues with leaks and pressure problems due to sizing or corrosion (see Section 3.14, **Utilities-Water**, for details).

Sewer

SPU provides sanitary sewer service to the site. The SPU sewer system conveys sewer flows to the King County Metro System, and includes pump systems, trunk lines and combined sewer/stormwater mains. Sewage is ultimately treated at the West Point Sewer Treatment Plant. The County's collection system downstream of the site has limited capacity and has combined sewer overflows during intense rainfalls. The lack of separation between the sewer and stormwater systems and uncontrolled stormwater flows contribute to downstream overflows in the combined mains.

Portions of the existing combined sewer system onsite were installed in the late 1800s. This system collects sewer and stormwater flows from the site and public rights-of-way. Many on-site side sewer lines from individual buildings were replaced; however, these replacements were “patchworked” into the site system and the major lateral sewer lines that collect flows from the various clusters of buildings are now failing (see Section 3.14, **Utilities-Sewer** for details).

Stormwater

The site presently contains a combination of both public and private stormwater facilities. The existing public stormwater system collects stormwater from the streets and conveys it to adjacent combined sewer lines. The private site stormwater collection system also ties into this combined system. As described above under Sewer, the County’s collection system downstream of the site has limited capacity during intense rainfall events.

Some of the public stormwater control system onsite does not meet current City of Seattle standards. The private stormwater control system onsite was installed in the early 1940s. Many downspout connections to side sewers in this system were replaced in the late 1990s and are in

good condition. Some minor ponding occurs at low points onsite due to unmaintained catchbasins (see Section 3.3, **Water Resources** for details).

Electrical

The Yesler Terrace site is served by five main electrical feeder lines and an above ground on-site distribution system, owned and operated by Seattle City Light. There is also a main transmission line that runs through the site (see Section 3.14, **Utilities** for details).

Natural Gas

A natural gas distribution system, owned and operated by Puget Sound Energy, supplies gas for space heating, water heating and cooking. The distribution system consists of an 8-inch gas main located in 9th Avenue, an 8-inch gas main located in E Yesler Way, and a 10-inch gas main located in 12th Avenue.

Communications

The Yesler Terrace site is served by overhead communications services including telephone, cable television, and high-speed internet. There is also an existing fiber optic cable line along Alder Street, 9th Avenue, Spruce Street, 8th Avenue, and E Yesler Way.

Existing On-site Street Network and Right-of-Ways

Six arterials surround, intersect, or enter Yesler Terrace. Boren Avenue/Boren Avenue S and 12th Avenue/12th Avenue S are principal arterials that create the eastern boundary of the site. E Yesler Way, Broadway, 8th Avenue (north of Yesler Way) and 9th Avenue are minor arterials that enter or bisect the site. The remaining streets within Yesler Terrace are classified as access streets. (see **Figure 2-3**, Existing Site Conditions). All of the on-site arterials and access streets have curbs, planters and sidewalks. Some of the existing sidewalks and planters do not meet current City of Seattle design standards for required width and some curb ramps do not meet Americans with Disabilities Act requirements.

S Main Street is a substandard access street with curbs, planters and sidewalks only on the north side of the street for one block west of 12th Avenue S. The portion of S Main Street west of 10th Avenue S is an unimproved right-of-way. 9th Avenue S south of S Main Street is also an unimproved right-of-way.

There is no public access to the East of Boren Sector. This area is surrounded by a secured fence and is accessible only to the residents of buildings on this block.

Existing Pedestrian Circulation

In addition to the sidewalks adjacent to the public streets, off-street walkways provide access within and through the site. The primary function of most of these walkways is to provide access to existing residential units that have entries off the street. Walkways that are more likely to be used by the general public primarily traverse the site in a north-south direction and are generally on the west side of the site. A walkway in the northwest portion of the site along I-5 provides off-street pedestrian access between E Yesler Way and Alder Street/Harborview Medical Center. Another similar walkway, which includes stairs, is located in the middle of this block. In the

southwest corner of the site, along I-5, public pathways and stairs connect the terminus of 8th Avenue S to S Jackson Street. It should be noted that a large portion of this access route lies immediately outside the Yesler Terrace property line; public access is provided by recorded easement from WSDOT. Some of the pedestrian walkways described above are in poor condition and/or do not meet accessibility standards based on steep grades, uneven pavement, missing railings, and/or inadequate lighting. This is especially true for the asphalt walkways in the southwest corner of the project area along I-5. Residents have indicated that these walkways adjacent to I-5 are especially unsafe due to inadequate lighting, inaccessible and hidden locations and the presence of transients who utilize the I-5 right-of-way corridor.

Existing Bicycle Circulation

Formal, marked bicycle facilities and bicycle circulation within the site is currently limited to Broadway and E Yesler Way. On E Yesler Way, a climbing bike lane is present in the east bound lane west of Broadway, and there are bicycle symbols within the vehicular travel lane of the roadway (known as sharrows) in the west bound descent lane and the eastbound lane east of Broadway.

Existing Public Open Space and Recreation Areas

Many of the recreation areas at Yesler Terrace are located at and around the Yesler Community Center. The community center facility and a public play area located behind the building are owned by the City of Seattle and maintained by the Seattle Parks and Recreation Department. All the other open spaces and recreation areas are owned and maintained by SHA. Behind the community center is a large open grassy area owned by SHA that is configured for use as a baseball field. In addition to the recreational uses near the community center, there are seven smaller play areas within the residential blocks. In the southern portion of the site there are four P-Patch community gardens for Yesler Terrace residents.

There are additional informal open spaces at Yesler Terrace that are accessible to the general public, including lawns and small hardscaped areas.

Overall, there are approximately 19.5-acres in public, private and semi-private open space in the West of Boren Sectors, and an additional 1.4 acres in the East of Boren Sector. The majority of this open space (17.2-acres) is private (8.7 acres) and semi-private (8.5 acres) and consists of small fenced yards or areas such as the P-Patches that are only accessible to residents of the site (see Section 3.15, **Public Services - Parks and Recreation** for details). There are also 1.4 acres of open space in steep slope and non-usable areas in the SW Sector.

Existing Parking

There are currently 292 off-street parking spaces on the Yesler Terrace site, This includes 161 parking spaces located along the edge of S Washington Street and S Main Street, but outside of the street's right-of-way, and 131 spaces in off-street parking lots. The off-street lots include the 32 parking spaces dedicated to the Yesler Community Center, 27 parking spaces dedicated to the Jesse Epstein building, and 6 parking spaces in the East of Boren Sector. Surface parking for residents is located in six parking lots and accessed via streets and private roads or driveways. Limited delivery and short-term parking is provided adjacent to some on-site buildings. Long-term on-street parking is restricted in most areas within and adjacent to the site

with Residential Parking Zone permits. Time-limited on-street parking is available for visitors to the site (see Section 3.13, **Transportation** for details).

Other Existing Uses

The non-housing uses on the site are concentrated in the northeast quadrant of the SW Sector, and the central area of the NW Sector, and are described below (See **Figure 2-3**).

Yesler Community Center

The Yesler Community Center, a 21,971 SF building built in 2005, is located in the SW Sector and is owned by the City of Seattle and operated by the Seattle Parks and Recreation Department. The community center's facilities include a gym, playground, classrooms, and spaces that can be rented for special events or meetings. The Center also houses after-school programs, tutoring, a computer lab, teen activities, senior computer training, ESL classes and other programs.

Yesler Gym Building

The one-story, 5,463 SF gym is located to the west of the Yesler Community Center This building is occasionally used for meetings, but is not currently leased or occupied by a full-time tenant. The gym/auditorium was part of the original community center for Yesler Terrace.

Yesler Administration Building

This one to two-story, 3,353 SF building is located to the west of the Gym Building and is connected by an open courtyard and breezeway. Current tenants and uses in this building include: classrooms, Yesler Terrace Neighborhood House (on-site services), Yesler Terrace Community Council, Catholic Community Services and an SHA Jobs Resource Center. The administration building was part of the original community center for Yesler Terrace.

Head Start Building

This one-story, 3,526 SF building is located in the SW Sector to the south of the Yesler Administration Building. Neighborhood House, a non-profit group, operates a family and social service center and a Head Start Center (pre-school) within this building.

Storage Shed

A one-story 3,231 SF storage shed is located to the east of the Head Start building in the SW Sector. This building is used for storage by SHA.

Steam Plant

An 8,467 SF Steam Plant is located in the central area of the NW Sector. The plant provided steam heat to the residential units until it was decommissioned in 1989-1990. Currently, a portion of the building is used for Yesler Terrace facilities storage, and other portions, including the upper floor area and the majority of the boiler room, are leased to Harborview Hospital and used as its cabinet shop and grounds shop.

SHA Management Offices

SHA uses one of the residential buildings in the NE Sector, near the intersection of Broadway and E Yesler Way, for its property services facility. This building is also used by the Yesler Community Council and the International District Housing Alliance.

Jesse Epstein Building

This 20,259 SF, 3-story building is located in the NW Sector, to the northeast of the Steam Plant. Primary tenants of this building currently include Neighborhood House (regional administrative office), YWCA and Puget Sound Neighborhood Health Center. This building was formerly the Kenyon Apartment-Hotel prior to the development of Yesler Terrace.

See Section 3.8, **Land Use**, and Section 3.11, **Historic Resources**, for further information on these buildings.

2.7 DESCRIPTION OF PROPOSAL

2.7.1 Background

As stated previously, SHA is proposing redevelopment of Yesler Terrace, a public housing community located on First Hill in Seattle. Yesler Terrace currently contains 561 public housing units, with approximately 1,231 residents. Redevelopment is proposed in order to create a mixed-income, mixed use community that better serves existing and future residents. The project would include a mix of affordable and market-rate housing, office and retail uses, as well as parks and open space, and vehicular, pedestrian and bike improvements. It is anticipated that redevelopment of Yesler Terrace would take approximately 15-20 years to complete.

The environmental impacts of six alternatives are analyzed in this Draft EIS in comparative form, to sharply define the issues and provide a clear basis for choice among alternatives (see discussion under **Section 2.8,** Description of Alternatives, later in this chapter). These alternatives are:

- Alternative 1 - Lower Density
- Alternative 1A - Lower Density with Less Office
- Alternative 2 - Medium Density
- Alternative 3 - Higher Density
- Alternative 4 - Existing Zoning
- No Action Alternative

2.7.2 Proposed Actions

The Proposed Actions for the Yesler Terrace Redevelopment Proposal include:

- Decision by SHA on which alternative to implement;
- Possible City of Seattle Comprehensive Plan changes;
- Zoning changes that would be necessary in order to accommodate the mixed use redevelopment, including a Land Use Code text amendment and a change to the Official Land Use Map (legislative rezone);

- Planned Action Ordinance adoption by City of Seattle;
- Possible Development Agreement between the City of Seattle and SHA;
- Preliminary and Final Plat approvals by City of Seattle;
- Street Vacation and dedication approvals by City of Seattle;
- Future local, state and federal permits that would be required for construction and development of the Yesler Terrace community;
- Release of Funds by HUD; and,
- Construction and operation of the buildings and facilities within Yesler Terrace community.

As discussed further in this chapter, not all alternatives would require the same set of actions. For example, Alternative 4 would not require planning or zoning changes, or street vacations. Also, the specifics of the Land Use Code text amendment may vary depending on the uses and square footages in the particular alternative. The environmental impacts of the Proposed Actions are evaluated in the context of each alternative.

Assumed redevelopment of Yesler Terrace would include replacement of all existing low income housing units, as well as upgrading some of the supporting infrastructure. The redevelopment alternatives would replace some utility systems and several streets. The redevelopment alternatives would provide public benefits, including park and open space access and an improved street network and walking environment enhancing connections to the surrounding neighborhood.

Market rate housing would also be added to the site together with office, hotel, neighborhood commercial and neighborhood services under Alternatives 1-3. Alternative 4 would include the replacement of the existing low-income housing units and neighborhood services, the addition of market rate housing, as well as a small amount of neighborhood commercial use in the area East of Boren Avenue.

Planned Action Ordinance

As discussed in **Section 2.3**, it is proposed that the majority of future redevelopment of the Yesler Terrace site be designated by the City of Seattle as a Planned Action by adoption of a Planned Action Ordinance. It is assumed that the Planned Action Ordinance would cover redevelopment activities in the West of Boren Sectors. The East of Boren Sector would be redeveloped under its existing zoning. Therefore, this area is not included as part of the Planned Action area.

Comprehensive Plan and Land Use Code Text Amendments, and Legislative Rezone

At present, the Yesler Terrace site is primarily designated Multi-Family Residential in the City of Seattle Comprehensive Plan Future Land Use Map. A small portion of the site along 12th Avenue is designated Commercial/Mixed Use.

As part of the City's annual Comprehensive Plan Amendment cycle, in May 2010 the City's Department of Planning and Development proposed a Comprehensive Plan Amendment to establish Master Planned Community sites and policies. The intent was to establish a mechanism in the City's Comprehensive Plan to consider planning for large sites, such as

Yesler Terrace, and also to designate Yesler Terrace as a Master Planned Community on the Future Land Use Map in the Plan. In July 2010, the City Council made a threshold decision to include the Master Planned Community amendment on the docket for further consideration. The City is conducting its own environmental review on the package of annual Comprehensive Plan Amendments, including the Master Planned Community amendment, separate from this Draft EIS. A City Council decision on whether to adopt this package of Amendments is anticipated to occur in March 2011.

In addition to the City-initiated Comprehensive Plan changes described above, additional Comprehensive Plan amendments may be considered as part of City review of the Yesler Terrace Proposal.

According to the zoning map in the Seattle Land Use Code, the East of Boren Sector is zoned Multi-Family Residential, Mid-Rise (MR) and Neighborhood Commercial (NC3P-65). SHA proposes to develop the East of Boren Sector under existing zoning. The West of Boren Sectors are zoned Multi-family Residential, Low-Rise 3 (L3). Under this designation, only residential and certain institutional uses are allowed. In order to allow higher residential densities and non-residential uses, such as single-use office buildings, hotel or retail uses in the West of Boren Sectors, a Land Use Code text amendment and legislative rezone of the West of Boren Sectors are necessary. The City may decide, for uniformity purposes, to rezone the entire site to a new zone designation, even though the East of Boren Sector is proposed to be developed under existing zoning (see Section 3.8, **Land Use**, and Section 3.9**, Relationship to Plans and Policies** for details).

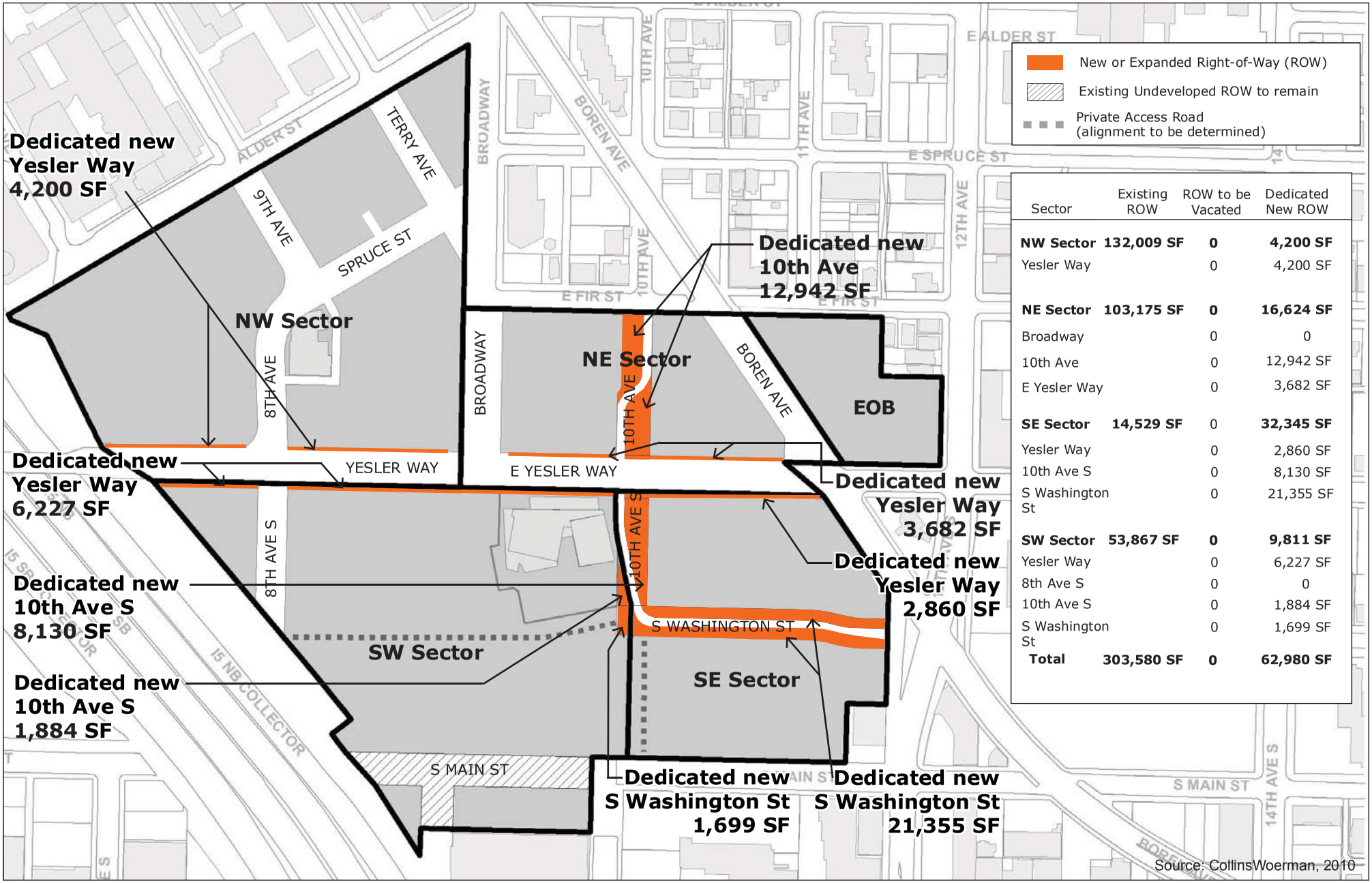
Street Vacations and New Street Dedications

Alternatives 1, 1A and 4 do not involve any street vacations. Additional street dedications under these three alternatives would include potential street dedication along S Washington Street and 10th Avenue to increase the width of the rights-of-way (and straighten the 10th Avenue/10th Avenue S right-of-way in Alternative 1). Alternatives 1 and 1A would also include potential street dedications along Yesler Way/E Yesler Way. (see **Figure 2-5** and **Figure 2-8** for the locations of streets under Alternatives 1 and 1A, and Alternative 4, respectively).

Under Alternatives 2 and 3, certain street vacations and new street dedications are assumed in order to evaluate the potential for a more connected street grid network internally and to/from the surrounding community. For Alternatives 2 and 3, see **Figure 2-6** for dedications and **Figure 2-7** for vacations of streets for these Alternatives.

The following road segments would be vacated under Alternatives 2 and 3:

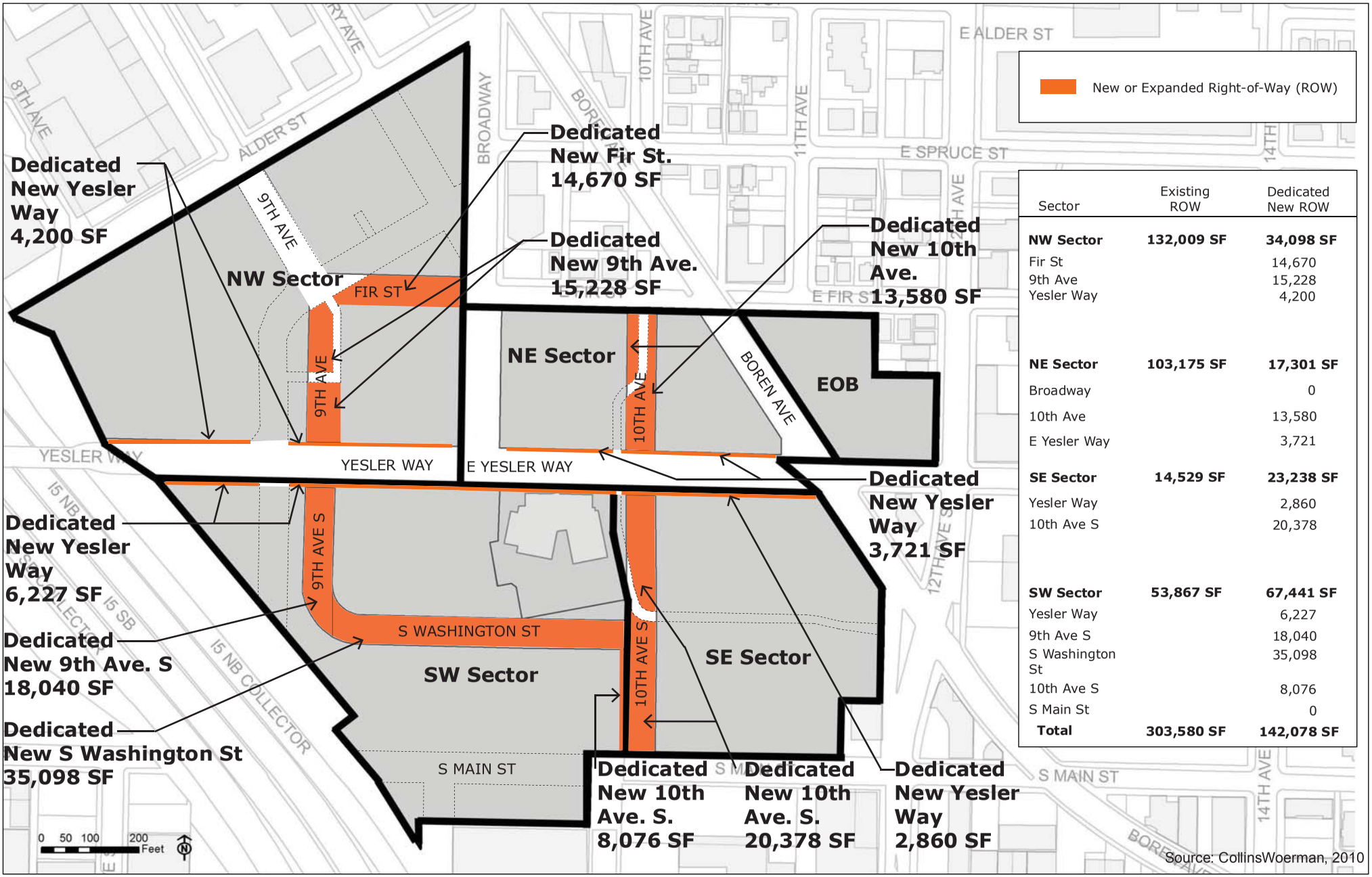
- Terry Avenue;
- Spruce Street;
- 8th Avenue from Spruce Street to Yesler Way;
- 8th Avenue S from Yesler Way to the property line at Interstate 5;
- Service road around the Steam Plant (portion not within new 9th Avenue alignment);
- S Washington Street from 10th to 12th Avenue S.
- Portions of 10th Avenue and 10th Avenue S to allow for straightening of the right-of-way.
- S Main Street west of 10th Avenue S;
- Stub of 9th Avenue S south of S Main Street.



Sector	Existing ROW	ROW to be Vacated	Dedicated New ROW
NW Sector	**132,009 SF**	**0**	**4,200 SF**
Yesler Way		0	4,200 SF
NE Sector	**103,175 SF**	**0**	**16,624 SF**
Broadway		0	0
10th Ave		0	12,942 SF
E Yesler Way		0	3,682 SF
SE Sector	**14,529 SF**	0	**32,345 SF**
Yesler Way		0	2,860 SF
10th Ave S		0	8,130 SF
S Washington St		0	21,355 SF
SW Sector	**53,867 SF**	**0**	**9,811 SF**
Yesler Way		0	6,227 SF
8th Ave S		0	0
10th Ave S		0	1,884 SF
S Washington St		0	1,699 SF
Total	**303,580 SF**	**0**	**62,980 SF**

Figure 2-5
EIS Alternatives 1 & 1A - ROW Vacations & Dedications

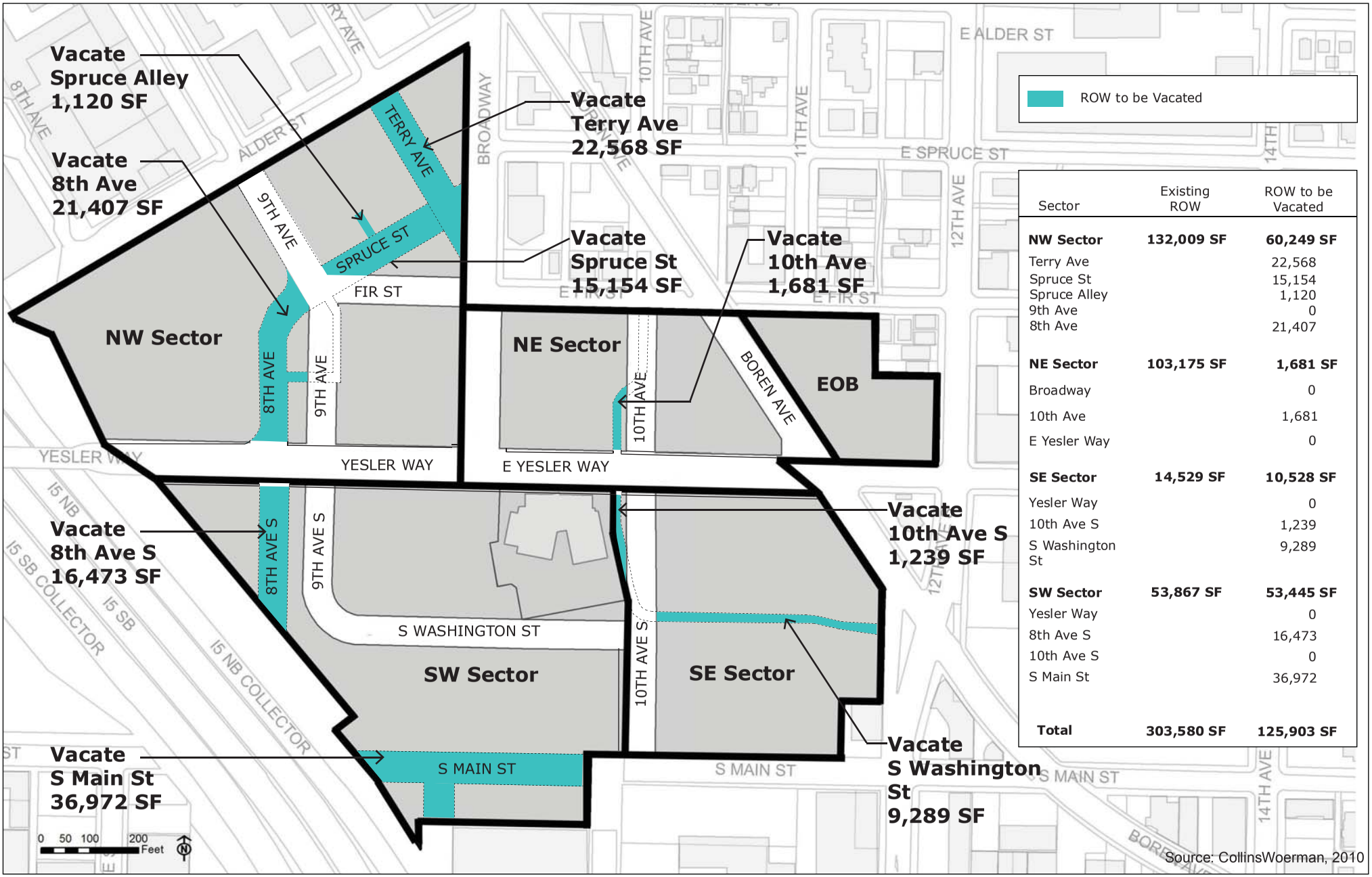
Yesler Terrace
Redevelopment EIS



Sector	Existing ROW	Dedicated New ROW
NW Sector	**132,009 SF**	**34,098 SF**
Fir St		14,670
9th Ave		15,228
Yesler Way		4,200
NE Sector	**103,175 SF**	**17,301 SF**
Broadway		0
10th Ave		13,580
E Yesler Way		3,721
SE Sector	**14,529 SF**	**23,238 SF**
Yesler Way		2,860
10th Ave S		20,378
SW Sector	**53,867 SF**	**67,441 SF**
Yesler Way		6,227
9th Ave S		18,040
S Washington St		35,098
10th Ave S		8,076
S Main St		0
Total	**303,580 SF**	**142,078 SF**

Figure 2-6
EIS Alternative 2&3 - ROW Dedications

Yesler Terrace
Redevelopment EIS

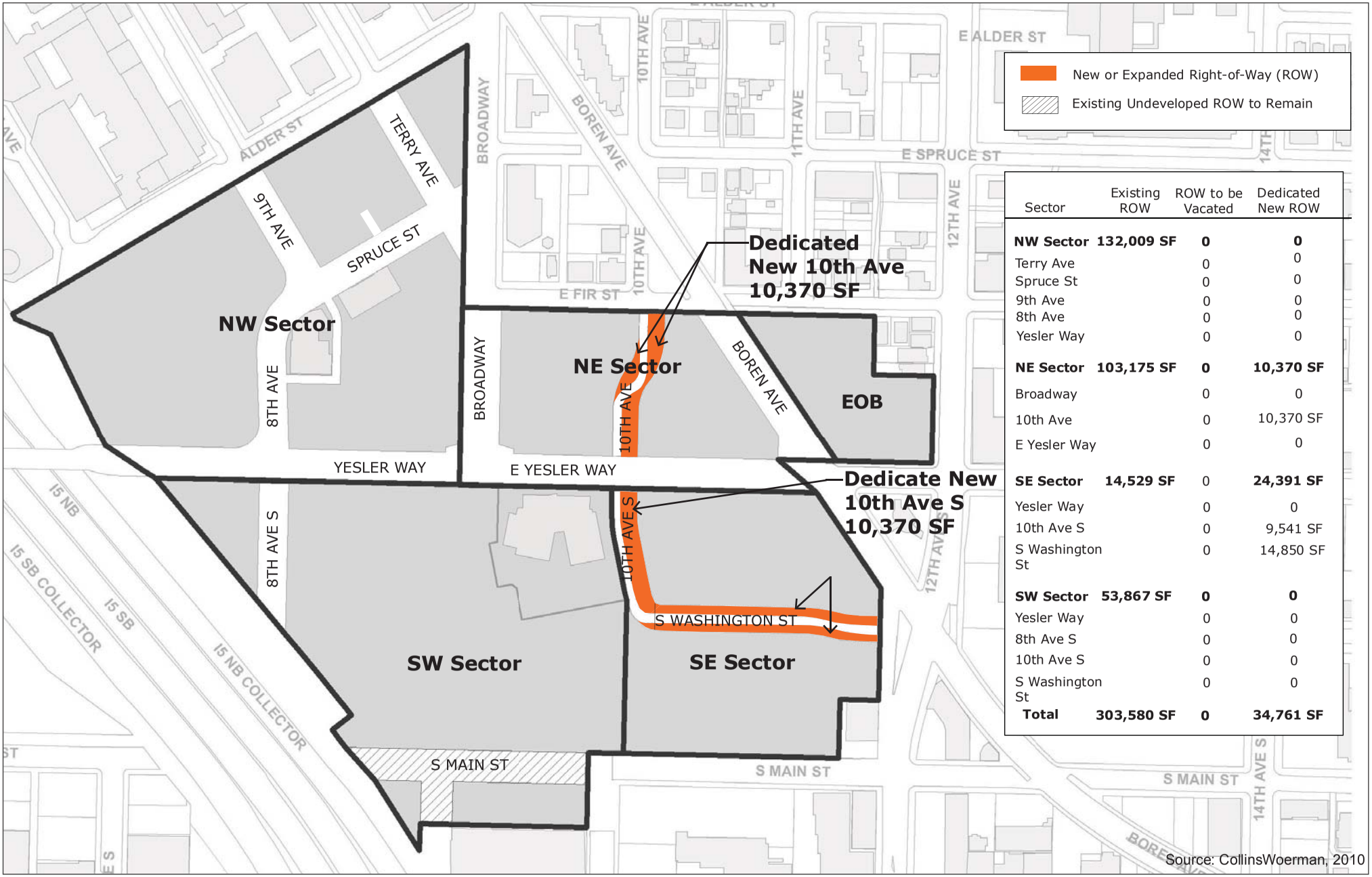


Sector	Existing ROW	ROW to be Vacated
NW Sector	**132,009 SF**	**60,249 SF**
Terry Ave		22,568
Spruce St		15,154
Spruce Alley		1,120
9th Ave		0
8th Ave		21,407
NE Sector	**103,175 SF**	**1,681 SF**
Broadway		0
10th Ave		1,681
E Yesler Way		0
SE Sector	**14,529 SF**	**10,528 SF**
Yesler Way		0
10th Ave S		1,239
S Washington St		9,289
SW Sector	**53,867 SF**	**53,445 SF**
Yesler Way		0
8th Ave S		16,473
10th Ave S		0
S Main St		36,972
Total	**303,580 SF**	**125,903 SF**

Source: CollinsWoerman, 2010

Figure 2-7
EIS Alternative 2 & 3 - ROW Vacations

Yesler Terrace
Redevelopment EIS



Sector	Existing ROW	ROW to be Vacated	Dedicated New ROW
NW Sector	**132,009 SF**	**0**	**0**
Terry Ave		0	0
Spruce St		0	0
9th Ave		0	0
8th Ave		0	0
Yesler Way		0	0
NE Sector	**103,175 SF**	**0**	**10,370 SF**
Broadway		0	0
10th Ave		0	10,370 SF
E Yesler Way		0	0
SE Sector	**14,529 SF**	0	**24,391 SF**
Yesler Way		0	0
10th Ave S		0	9,541 SF
S Washington St		0	14,850 SF
SW Sector	**53,867 SF**	**0**	**0**
Yesler Way		0	0
8th Ave S		0	0
10th Ave S		0	0
S Washington St		0	0
Total	**303,580 SF**	**0**	**34,761 SF**

Figure 2-8
EIS Alternative 4 - ROW Vacations & Dedications

Yesler Terrace
Redevelopment EIS

The following alley would be vacated under Alternatives 2 and 3:

- The southern portion of the alley north of Spruce Street between 9th Avenue and Terry Avenue (the northern portion of the alley was previously vacated).

The following streets would be dedicated as new right-of-ways under Alternatives 2 and 3:

- E Fir Street would be dedicated from Broadway to 9th Avenue;
- 9th Avenue would be dedicated from E Fir Street to Yesler Way;
- 9th Avenue S would be dedicated from Yesler Way to S Washington Street;
- S Washington Street would be dedicated from 9th Avenue S to 10th Avenue S;
- 10th Avenue S would be dedicated from S Washington Street to S Main Street;
- Additional right-of-way adjacent to 10th Avenue and 10th Avenue S would be dedicated to widen and straighten the existing right-of-way; and
- Additional right-of-way adjacent to Yesler Way and E Yesler Way would be dedicated to widen the right-of-way.

For all of the redevelopment alternatives, there would be a net gain in public right-of-way (more right-of-way dedicated than would be vacated).

Under Alternatives 1-4, street vacations and dedications would be part of a strategy to provide public benefits through accommodating complete streets, low-impact development and green street improvements. Overall, these improvements would provide greater connectivity and accessibility. Utility easements would need to be vacated and new easements would be needed for new proposed public utilities that would not be located in the right-of-way.

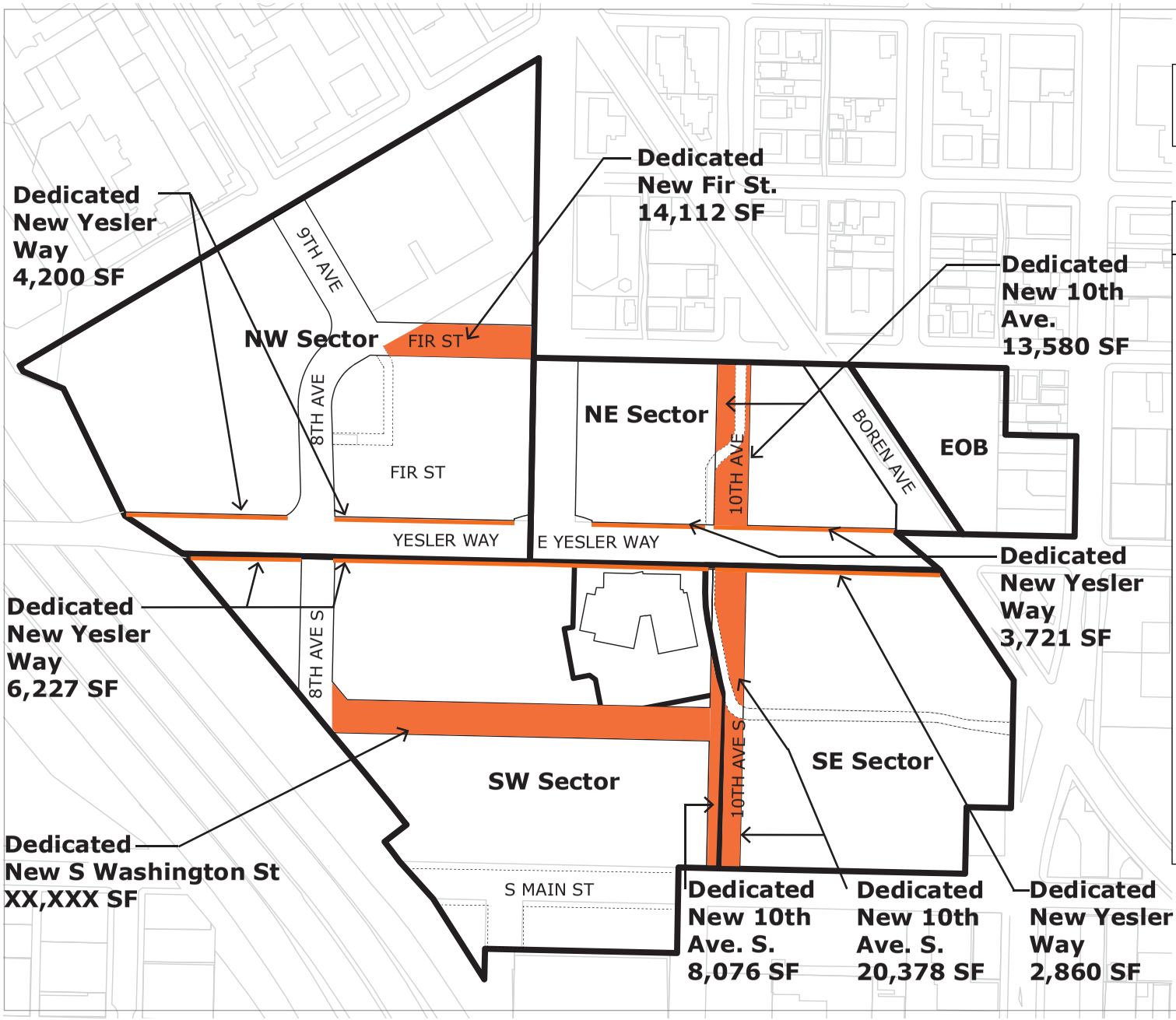
Under the No Action Alternative, no street vacations or new street dedications would occur.

Please see Section 3.9, **Relationship to Plans and Policies**, for more information regarding street vacations.

2.7.3 Steam Plant Retention

On October 6, 2010, the City of Seattle Landmarks Preservation Board designated the Steam Plant property in the NW Sector as a City Landmark. Over the coming months, the Landmarks Board and SHA will negotiate a Controls and Incentives Agreement that will govern alterations to the Steam Plant. Such agreements typically require retention of Landmark buildings. However, under certain limited circumstances, the agreement may provide that the building does not need to be retained.

The proposed street layout in Alternatives 2 and 3 analyzed in this EIS requires the demolition of the Steam Plant to allow for the new intersection of 9th Avenue and Fir Street. Since the outcome of the Controls and Incentives Agreement is not known at this time, a preliminary potential street layout has been developed to indicate how this retention could be accommodated under these two alternatives (see **Figure 2-9** and **2-10**).

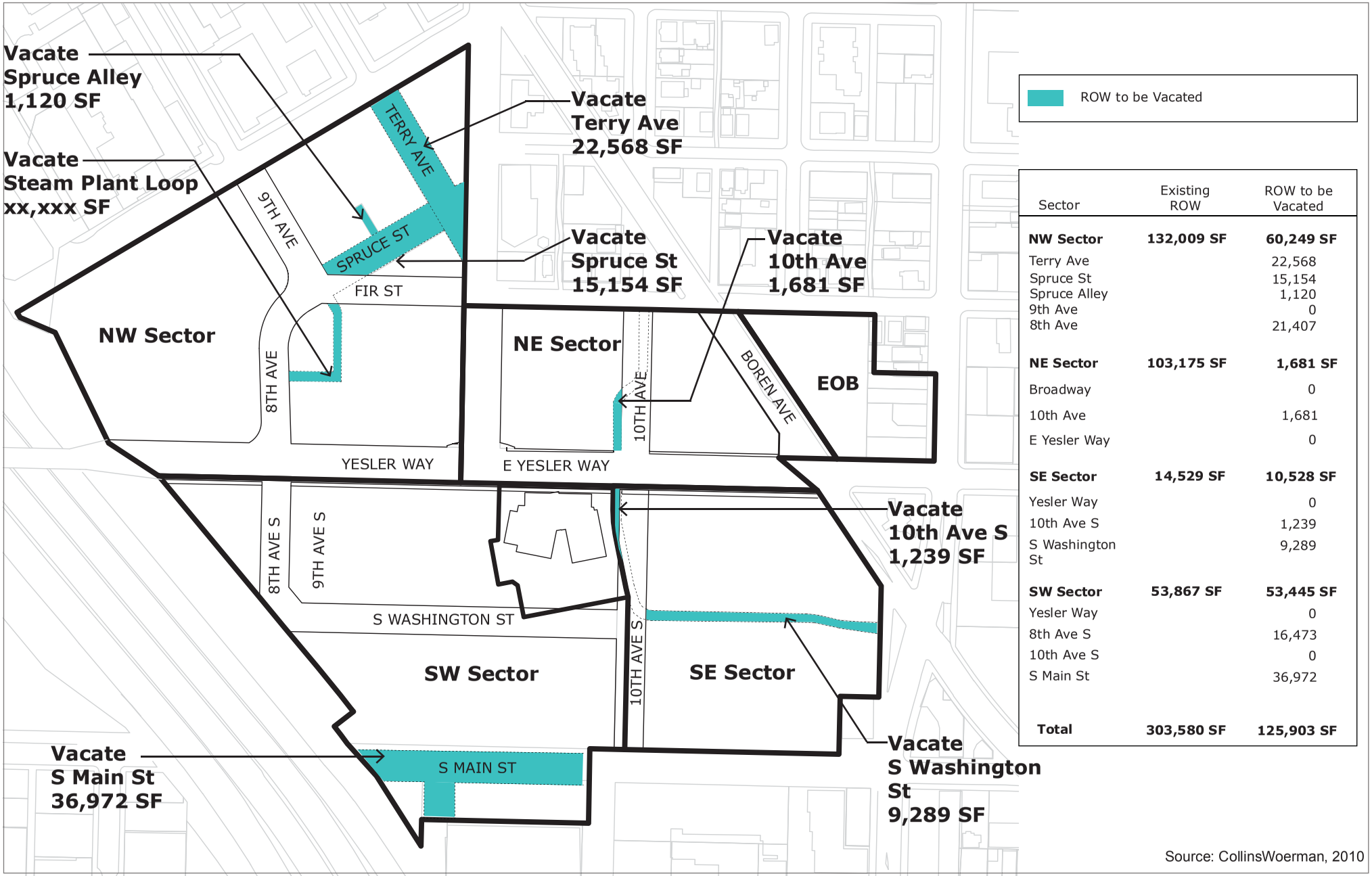


Sector	Existing ROW	Dedicated New ROW
NW Sector	**132,009 SF**	**33,540 SF**
Fir St		14,112
9th Ave		15,228
Yesler Way		4,200
NE Sector	**103,175 SF**	**17,301 SF**
Broadway		0
10th Ave		13,580
E Yesler Way		3,721
SE Sector	**14,529 SF**	**23,238 SF**
Yesler Way		2,860
10th Ave S		20,378
SW Sector	**53,867 SF**	**67,976 SF**
Yesler Way		6,227
9th Ave S		16,778
S Washington St		36,895
10th Ave S		8,076
S Main St		0
Total	**303,580 SF**	**142,055 SF**

Source: CollinsWoerman, 2010

Figure 2-9
ROW Dedication For Potential Street Layout with Steam Plant Retention

Yesler Terrace
Redevelopment EIS



Sector	Existing ROW	ROW to be Vacated
NW Sector	**132,009 SF**	**60,249 SF**
Terry Ave		22,568
Spruce St		15,154
Spruce Alley		1,120
9th Ave		0
8th Ave		21,407
NE Sector	**103,175 SF**	**1,681 SF**
Broadway		0
10th Ave		1,681
E Yesler Way		0
SE Sector	**14,529 SF**	**10,528 SF**
Yesler Way		0
10th Ave S		1,239
S Washington St		9,289
SW Sector	**53,867 SF**	**53,445 SF**
Yesler Way		0
8th Ave S		16,473
10th Ave S		0
S Main St		36,972
Total	**303,580 SF**	**125,903 SF**

Source: CollinsWoerman, 2010

Figure 2-10
ROW Vacation For Potential Street Layout with Steam Plant Retention

Yesler Terrace
Redevelopment EIS

2.8 DESCRIPTION OF ALTERNATIVES

This Draft EIS addresses the probable significant environmental impacts of the redevelopment alternatives and the No Action Alternative. At this stage of the process, there is no preferred plan for redevelopment of Yesler Terrace. Further evaluation and public input (via this EIS, ongoing planning and the SHA/City decision-making processes) will be considered to develop a preferred plan in the future. In order to disclose environmental information relevant to the Yesler Terrace Redevelopment and in compliance with SEPA and NEPA, this Draft EIS evaluates several redevelopment alternatives as well as the No Action Alternative.

2.8.1 EIS Alternatives Concept Overview

To respond to the purpose and need for the Proposal, SHA desires to create a vibrant, diverse and environmentally sustainable community within Yesler Terrace that integrates uses, activities and incomes and enhances the livability of the community. The proximity of Yesler Terrace to downtown Seattle and the future construction of the First Hill Streetcar provide SHA a unique opportunity to integrate a new mixed-income, mixed use sustainable community into the larger fabric of the city. Under the redevelopment concept, new and realigned streets would connect Yesler Terrace to the surrounding neighborhoods and new office, hotel and neighborhood commercial uses would provide additional employment opportunities and various benefits/amenities associated with a mixed use community.

Within this framework and for purposes of environmental review, SHA developed four redevelopment alternatives under new zoning (Alternatives 1, 1A, 2 and 3), a redevelopment alternative under existing zoning, (Alternative 4), and the No Action Alternative to be analyzed in this Draft EIS. The redevelopment alternatives represent a full range of land use intensities and densities that the site could accommodate, given the Proposal's objectives, purpose and need for the Proposal, and current site conditions. The redevelopment alternatives represent an overall envelope of potential redevelopment for analysis in the EIS; however, no single alternative should be considered a definitive plan for the redevelopment of the Yesler Terrace site. The alternatives function to provide representative levels and types of redevelopment that could be achieved over time for analysis in the EIS. As part of the ongoing planning and decision-making process, a different mix and configuration of land uses within the range of these redevelopment scenarios could be selected as a preferred plan.

For the Planned Action environmental review, a potential massing concept was formulated to reflect the number of residential units and square footage of non-residential uses described for each of the redevelopment alternatives (Alternatives 1 through 4). (These potential massing concepts are frequently referred to in this EIS as the capacity model or the capacity analysis.) Proposed uses would be accommodated in a mix of mid-rise and high-rise buildings under Alternatives 1 through 3. As high-rise buildings in some ways have the potential for greater environmental impacts for certain issues, the massing concepts for Alternatives 1 through 3 includes an assessment of where high-rise buildings could potentially be sited within the West of Boren Sectors. (No high-rise buildings are proposed in the East of Boren Sector.)

Figures 2-15 through 2-18 illustrate potential high-rise locations for Alternatives 1 through 3. These locations were defined by applying certain criteria (see **Section 2.8.3**) to determine the spacing between the high-rise buildings. The locations are not exact and high-rise buildings may shift slightly when specific building proposals are submitted for permit review. A high-rise building may be built at any of the depicted locations. However, a high-rise would not

necessarily be built at all of the depicted locations. Each potential location is evaluated in this EIS in order to allow for the possibility of a high-rise building at any one of the identified locations.

The massing concept for each alternative also depicts the following:

- *total* maximum number of high-rise buildings within *all* the West of Boren Sectors combined;
- maximum number of high-rise buildings within *each* of the West of Boren Sectors;
- maximum height of high-rise buildings.

In terms of building height, this EIS evaluates several building heights in order to assess the environmental impacts associated with different building heights. A maximum building height is evaluated. In addition, the massing concepts were developed with buildings at lower heights, in order to assess any differences in environmental impacts. Similar to the discussion above as to potential high-rise locations, not all the buildings at these locations would necessarily be built to the maximum height limit. However, the maximum height limit is evaluated at each of the potential high-rise locations in order to allow for the possibility of a maximum height building at any one of the depicted high-rise locations. Both the maximum zoning and massing concept assume the same number, footprint and distribution of buildings across the site under each alternative; the differences between the maximum zoning and capacity model are limited to differences in building height assumptions.

Through the zoning changes necessary to accommodate the mixed use redevelopment in Alternatives 1 through 3, it is anticipated that limits on building height and the number of high-rise buildings would be established. Based on consideration of environmental and other factors, potential locations for high-rise buildings and the maximum height of buildings would be finalized. As the site is built out over time, there would be flexibility to locate a high-rise or maximum-height building at any of the locations approved for that type of development.

2.8.2 EIS Alternatives Summary

In order to conduct comprehensive environmental review, a number of assumptions have been developed for the EIS alternatives related to the continuation of certain existing uses on the site, amount of mixed use development, amount of open space (including parks and open space), building heights, road network, utility and stormwater concept, parking ratios, etc. (see **Appendix C** for the key redevelopment assumptions by alternative). These assumptions create an envelope of potential redevelopment and a range of redevelopment scenarios that allow for the analysis of environmental impacts under SEPA and NEPA. **Table 2-1** summarizes the range of site redevelopment assumed under the EIS Alternatives at build-out in 2030, including the area in various land uses, parking, and parks and open space under each of the alternatives.

Specific building footprints, sizes and designs will be developed for specific areas of the site, consistent with the Proposed Actions, and reviewed as part of future permit applications.

Proposal Objectives

Alternatives 1 through 3 meet the objectives of the proposal to varying degrees. While each of these alternatives creates a mixed use neighborhood, only Alternatives 2 and 3 provide an enhanced street network that links Yesler Terrace into the surrounding neighborhoods.

Alternative 4 does not meet the objectives of the proposal; this alternative would not redevelop the site into a mixed use neighborhood, as this alternative only includes residential uses in the West of Boren sectors. It also does not add any new low income housing opportunities beyond the replacement of the existing low income housing units.

The No Action Alternative is included as required by NEPA and SEPA, and it provides a baseline for comparison of impacts. The No Action Alternative is not considered a cost effective or physically efficient alternative and it does not meet the objectives of the proposal. Further information is provided in **Section 2.8.7** under the No Action Alternative.

Mix of Uses

As shown in **Table 2-1**, Alternatives 1-4 assume different mixes of housing, office, hotel, neighborhood commercial and neighborhood service uses. These uses would include:

- **Housing** – All existing low income housing units would be replaced onsite under all alternatives. New market rate housing would be added to the site under Alternatives 1 – 4. New very low income units (239 to 335 units) and low income housing (660 to 1,231 units) would also be provided under Alternatives 1, 2 and 3. All types of housing would be in mid-rise and high-rise buildings distributed throughout the site under Alternatives 1-3. Only market rate housing and replacement of the existing low income housing units would be provided in low-rise buildings throughout the site under Alternative 4 (Existing L3 Zoning).

- **Office/Hotel** – Single-use office buildings would be provided in high-rise buildings only in the NW Sector under Alternatives 1, 1A and 2. Hotels could also be located in the NW Sector under Alternatives 1 and 2. In Alternative 3, single-use office buildings and hotels would also be allowed in the northwest portion of the SW Sector. Neighborhood office uses would primarily be provided in midrise buildings throughout the site in Alternatives 1-3 and only in the East of Boren sector in Alternative 4. No new office uses would be provided under Alternative 4, but the existing Jesse Epstein office building would remain. No hotel uses would be provided under Alternative 1A.

- **Neighborhood Commercial** – Neighborhood commercial uses could include (but are not limited to) offices, and small to medium retail such as grocery, dry cleaners, dining establishments, and bookstores. Neighborhood commercial uses would occur primarily in midrise buildings on the first through third floor under Alternatives 1-3. Under Alternative 4 (Existing L3 Zoning), neighborhood commercial uses would only occur in the East of Boren Sector, consistent with the NC3 zoning.

- **Neighborhood Services** – Neighborhood service uses could include (but are not limited to) police, education, library, social services, non-profit organizations, government funded health agencies, and SHA offices open to the public. Neighborhood service uses would primarily be provided in midrise buildings on the first through third floor under

Redevelopment Alternatives 1-3 and lowrise buildings under Alternative 4. Neighborhood services under Alternative 4 would be limited to public facilities as permitted under the current L3 zoning.

Table 2-1
SUMMARY OF REDEVELOPMENT UNDER EIS ALTERNATIVES[4]

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal	East of Boren	Total
Acreage	**12.1**	**5.7**	**6.2**	**10.8**	**34.8**	**1.8**	**36.6**
Existing Conditions/No Action Alternative							
Residential (sf)	200,731	62,953	101,944	61,767	**427,395**	40,847	**468,242**
Office (sf)	20,259	0	0	0	**20,259**	0	**20,259**
Neighborhood Commercial (sf)	0	0	0	0	**0**	0	**0**
Neighborhood Services (sf)	8,467	3,331	0	37,544[1]	**49,342**	0	**49,342**
Total	**229,457**	**66,284**	**101,944**	**99,311**	**496,996**	**40,847**	**537,843**
Residential (units)	231	87	118	85	**521**	40	**561**
Parking Spaces	70	38	62	119	**289**	3	**292**
Parks and Open Space (acres)[2]	3.4	1.2	1.5	6.1[3]	**12.2**	1.4	**13.6**
Alternative 1 - Lower Density							
Residential (sf)	702,087	553,399	717,761	551,905	**2,525,152**	232,751	**2,757,903**
Office/Hotel(sf)	800,103	0	0	0	**800,103**	0	**800,103**
Neighborhood Commercial (sf)	20,000	10,000	0	0	**30,000**	10,000	**40,000**
Neighborhood Services (sf)	18,000	10,000	0	21,971[1]	**49,971**	0	**49,971**
Total	**1,540,190**	**573,399**	**717,761**	**573,876**	**3,405,226**	**242,751**	**3,647,977**
Residential (units)	763	588	785	611	**2,747**	253	**3,000**
Parking Spaces	1,920	541	666	550	**3,677**	237	**3,914**
Parks and Open Space (acres)[2]	4.2	1.1	2.1	6.6[3]	**14.0**	0.7	**14.7**
Alternative 1A – Low Density with Less Office							
Residential (sf)	702,038	553,399	717,761	551,905	**2,525,103**	232,751	**2,757,854**
Office (sf)	401,000	0	0	0	**401,000**	0	**401,000**
Neighborhood Commercial (sf)	20,000	10,000	0	0	**30,000**	10,000	**40,000**
Neighborhood Services (sf)	18,000	10,000	0	21,971[1]	**49,971**	0	**49,971**
Total	1,141,038	573,399	717,761	573,876	**3,006,074**	242,751	**3,248,825**
Residential (units)	763	588	784	611	**2,747**	253	**3,000**
Parking Spaces	1,331	541	666	550	**3,088**	237	**3,325**
Parks and Open Space (acres)[2]	4.7	1.1	2.1	6.6[3]	**14.5**	0.7	**15.2**

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal	East of Boren	Total
Alternative 2 - Medium Density							
Residential (sf)	959,199	566,012	1,022,043	854,208	**3,401,462**	232,751	**3,634,213**
Office/Hotel (sf)	1,001,126	0	0	0	**1,001,126**	0	**1,001,126**
Neighborhood Commercial (sf)	20,000	15,000	15,000	0	**50,000**	10,000	**60,000**
Neighborhood Services (sf)	10,000	10,000	8,000	21,971[1]	**49,971**	0	**49,971**
Total	**1,990,325**	**591,012**	**1,045,043**	**876,179**	**4,502,559**	**242,751**	**4,745,310**
Residential (units)	1,055	602	1,129	961	**3,747**	253	**4,000**
Parking Spaces	2,464	557	997	869	**4,887**	236	**5,123**
Parks and Open Space (acres)[2]	4.8	1.5	2.6	6.3[3]	**15.2**	0.7	**15.9**
Alternative 3 - Higher Density							
Residential (sf)	1,214,262	782,628	1,222,806	997,284	**4,216,980**	279,720	**4,496,700**
Office/Hotel (sf)	1,001,660	0	0	200,000	**1,201,660**	0	**1,201,660**
Neighborhood Commercial (sf)	30,000	18,000	10,000	12,000	**70,000**	18,000	**88,000**
Neighborhood Services (sf)	10,000	10,000	8,000	21,971[1]	**49,971**	0	**49,971**
Total	**2,255,922**	**810,628**	**1,240,806**	**1,231,255**	**5,538,611**	**297,720**	**5,836,331**
Residential (units)	1,351	856	1,366	1,124	**4,697**	303	**5,000**
Parking Spaces	2,735	788	1,199	1,315	**6,037**	295	**6,332**
Parks and Open Space (acres)[2]	5.1	1.7	2.4	6.2[3]	**15.4**	0.7	**16.1**
Alternative 4 - Existing Zoning							
Residential (sf)	422,500	149,198	296,942	274,895	**1,143,535**	272,145	**1,415,680**
Office (sf)	20,259	0	0	0	**20,259**	0	**20,259**
Neighborhood Commercial (sf)	0	0	0	0	**0**	10,000	**10,000**
Neighborhood Services (sf)	8,467	19,500	0	21,971[1]	**49,938**	0	**49,938**
Total	**451,226**	**168,698**	**296,942**	**296,866**	**1,213,732**	**282,145**	**1,495,877**
Residential (units)	449	154	317	299	**1,219**	304	**1,523**
Parking Spaces	574	224	372	392	**1,562**	278	**1,840**
Parks and Open Space (acres)[2]	4.0	1.4	2.2	6.2[3]	**13.8**	0.7	**14.5**

Source: CollinsWoerman, 2010.

1 Neighborhood Services includes the existing 21,971 SF Yesler Community Center

2 Parks and Open Space acreage includes public and semi-private open space areas, as well as unusable open space (steep slopes and inaccessible areas). It does not include private yards.

3 Parks and Open Space acreage includes the 0.7 acre Yesler Community Center building and the 0.7 acre outdoor play area.

4 The numbers presented in this table were utilized for EIS analysis purposes, based on the capacity model developed for each alternative (See **Section 2.8.3**). These numbers were rounded in the alternative descriptions to indicate comparative differences.

Sustainable Features

Sustainable design is a guiding principle for Yesler Terrace, in the approach to design of the neighborhood as a whole, in the design of the street and infrastructure systems, in the design of buildings and sites, in the approach to demonstrating public benefit, and in ongoing site programming and management. Sustainable design opportunities would be explored in the following areas, subject to feasibility analyses:

- **Natural Drainage and Green Roofs** – Green roofs can provide additional open space, opportunities for urban agriculture and decreased energy demands by reducing the cooling load for the building. Green Stormwater Infrastructure (GSI) would be developed for flow control and water quality treatment to the maximum extent feasible.

- **Tree Protection** – The City of Seattle has aggressive urban forest goals in order to help restore tree cover which has been lost due to development. Trees can provide stormwater management, habitat value, noise buffering, air purification, carbon sequestration, and mitigation of the urban heat island effect. Trees also have a positive effect on property values and neighborhood quality. Protection of existing trees, as feasible, and careful attention to new tree planting could help meet the Seattle Comprehensive Urban Forest Management Plan Goals for multi-family residential and commercial development by achieving 15-20 percent overall tree canopy within 30 years.

- **Urban Agriculture** – New P-Patch Community Gardens and rooftop gardens could be provided within the site for residents to grow food. Balconies, decks, and right-of-way planting strips could also be utilized for individual residents' agriculture needs. A farmer's market could be established for residents to sell locally grown food, and small micro-retail spaces and food vendor carts could also be allowed where value-added food products could be sold.

- **Native Plants** – Native plants are adapted to the local climate and do not depend upon irrigation after plant establishment for ultimate survival. Landscaping with native plants, beyond that required by code, could be planted to reduce water demand and integrate with the local ecosystem.

- **District Infrastructure Systems for Energy, Water and Waste** – District infrastructure systems aggregate enough service demands to make local neighborhood utility solutions feasible. District infrastructure systems could be used as one approach to provide necessary infrastructure services, if determined to be feasible. District solutions may reduce greenhouse gases. Water reuse and anaerobic digesters may reduce sewer flows. Rainwater capture may reduce stormwater flows. Water reuse and rainwater capture could also reduce potable water demands. District systems for Yesler Terrace could potentially include energy, potable water, wastewater, and solid waste.

- **Waste Management and Deconstruction** – When existing buildings need to be demolished, there are often opportunities to reduce the amount of waste being sent to the landfill with sustainable waste management strategies. In the Seattle area, standard practice for building construction and demolition results in fairly high recycling rates of over 50 to 60 percent. However, these rates can be increased by implementing aggressive demolition recycling. Such efforts can require considerable additional effort

on the part of the contractor. Some of the options under consideration that could mitigate waste generated by the Yesler Terrace project include on-site source separated recycling, potential reuse of demolition materials on-site, deconstruction of existing buildings, and salvage and reuse of building components.

Due to the presence of asbestos and lead-based paint in the majority of the existing onsite buildings, it is unlikely that solid waste resulting from most building demolition would be recyclable. Building materials would be tested as part of demolition activities in order to determine the levels of contamination present. The test results would be used to determine whether building materials could be recycled or would need to be sent to a landfill or to a specialized facility that handles hazardous waste (see Section 3.6, **Environmental Health**, for details).

- **Building Design** – Building design at Yesler Terrace could integrate a wide variety of green building features. Green building encompasses energy and water conservation, waste reduction, and good indoor environmental quality. Tools and standards that are used to measure green building performance could be used at Yesler Terrace. Some options include: Built Green, LEED, and the Evergreen Sustainable Development Criteria. Custom green building guidelines could also be developed to guide building design and construction. Some of the specific building design strategies that might be considered include solar panels for electricity generation or domestic solar hot water, energy star rated appliances, water conserving fixtures beyond code, low toxic materials, finishes, and flooring, energy and water sub-metering for individual units, high efficiency fixtures such as dual flush toilets, toilet flushing and irrigation supplied by recaptured wastewater or rainwater, dual plumbing systems for all new buildings to accommodate water reuse, and wind generated alternative energy.

Street Network Configuration and Circulation Concept

The street network configuration and circulation concept for Alternatives 1, 1A and 4 would rely on using the existing roadway network in its existing location, and would include the expansion of the widths of Washington Street and 10th Avenue/10th Avenue S by dedicating additional right-of way adjacent to its present location. In Alternative 1 and 1A, Yesler Way/E Yesler Way would also be expanded by dedicating additional right-of-way. No street vacations would be assumed under these alternatives (see **Figure 2-11** and **Figure 2-14**)

As stated in **Section 2.7.2** of this chapter, under Alternatives 2 and 3, certain street vacations and new street dedications are assumed in order to provide a more connected street grid network internally and to/from the surrounding community (see **Figure 2-12** and **Figure 2-13**). The configuration assumed under these alternatives is intended to provide better connections to the surrounding neighborhoods and provide an internal circulation loop which connects all of the site sectors without the need to travel on arterials. This could be achieved by new and expanded existing rights-of-way across the site.

The No Action Alternative assumes the existing street network would remain unchanged.

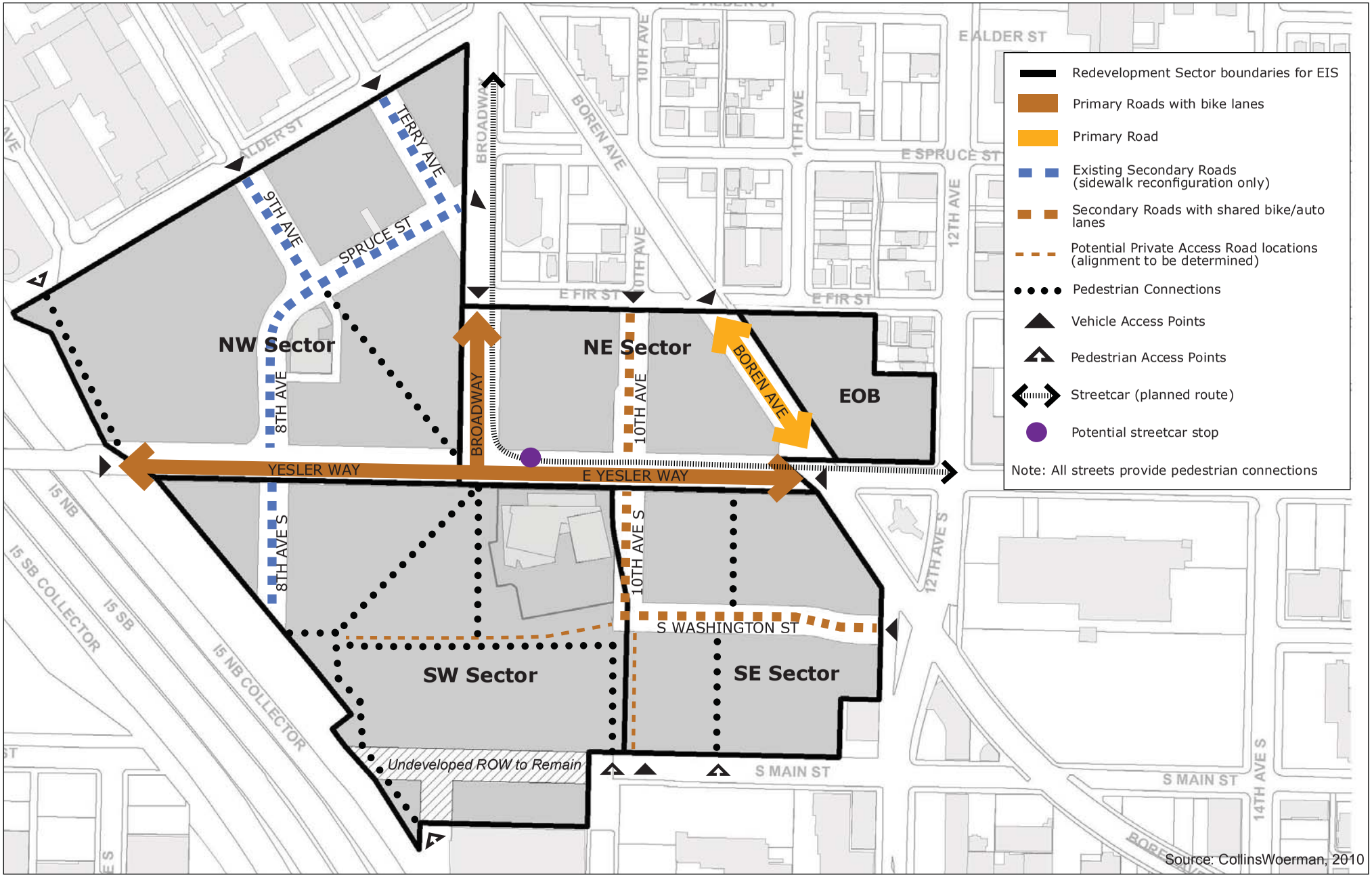
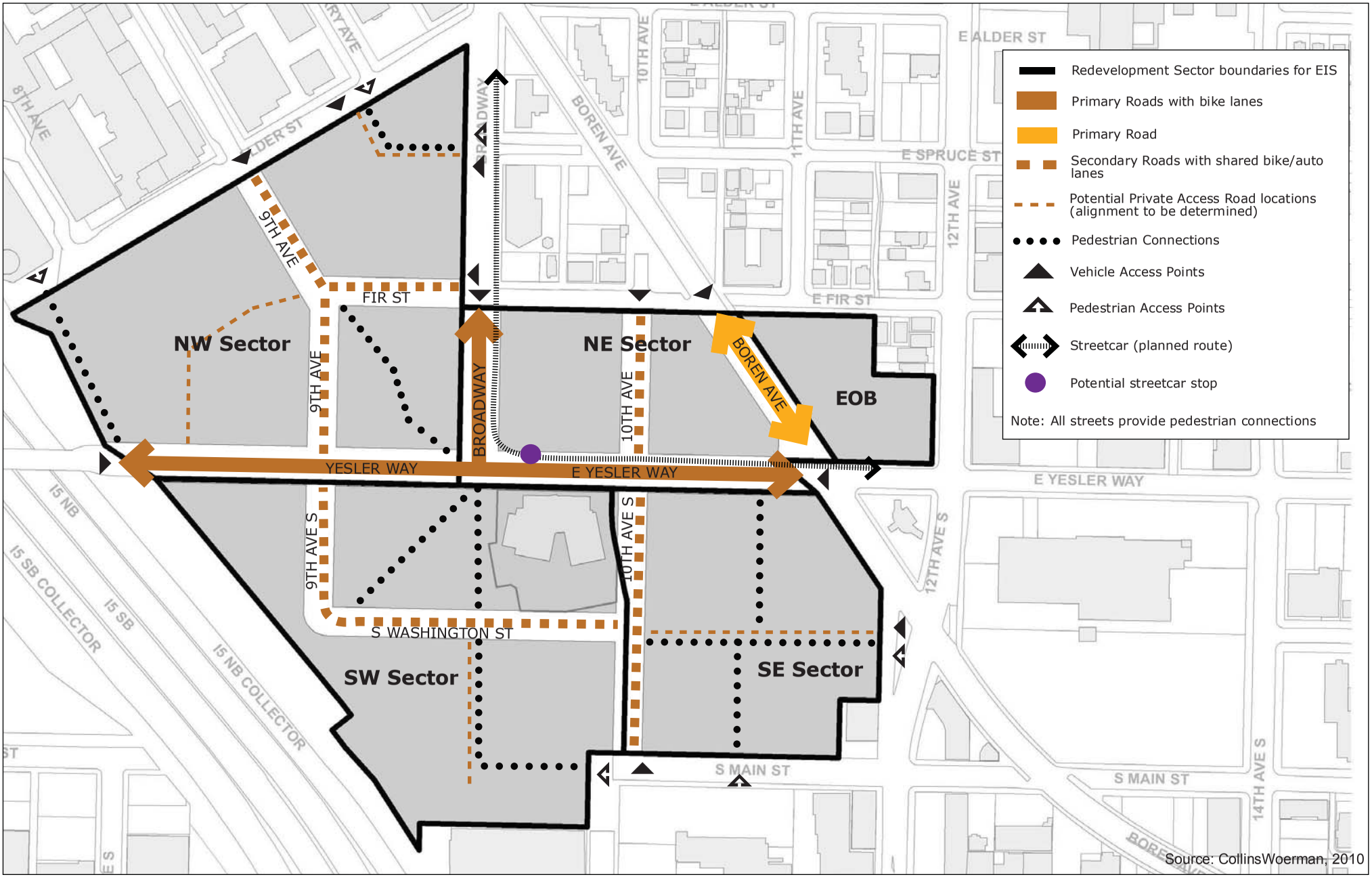


Figure 2-11
EIS Alternative 1 & 1A - Circulation

Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 2-12
EIS Alternative 2 - Circulation

Yesler Terrace
Redevelopment EIS

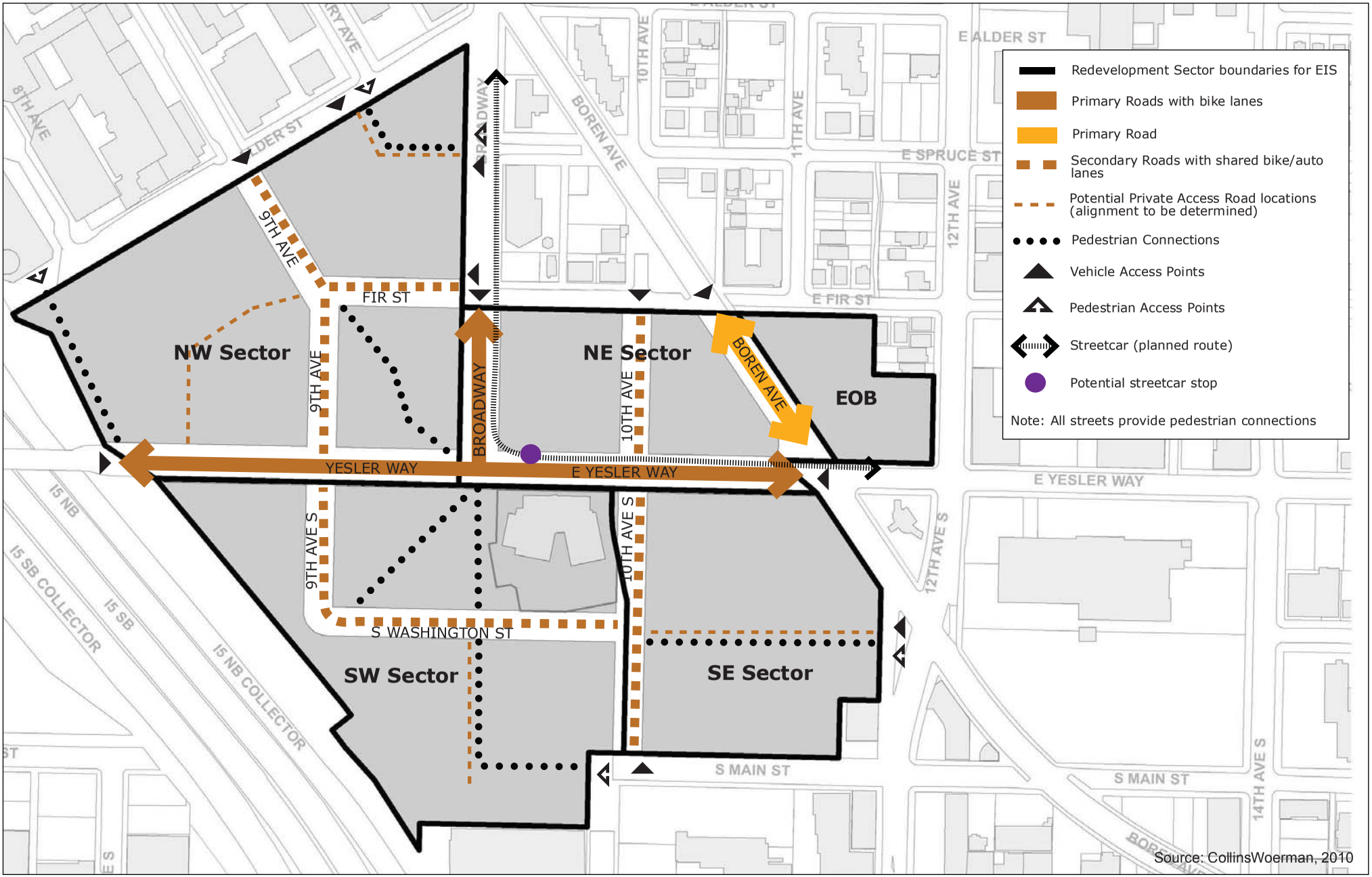


Figure 2-13
EIS Alternative 3 - Circulation

Yesler Terrace
Redevelopment EIS

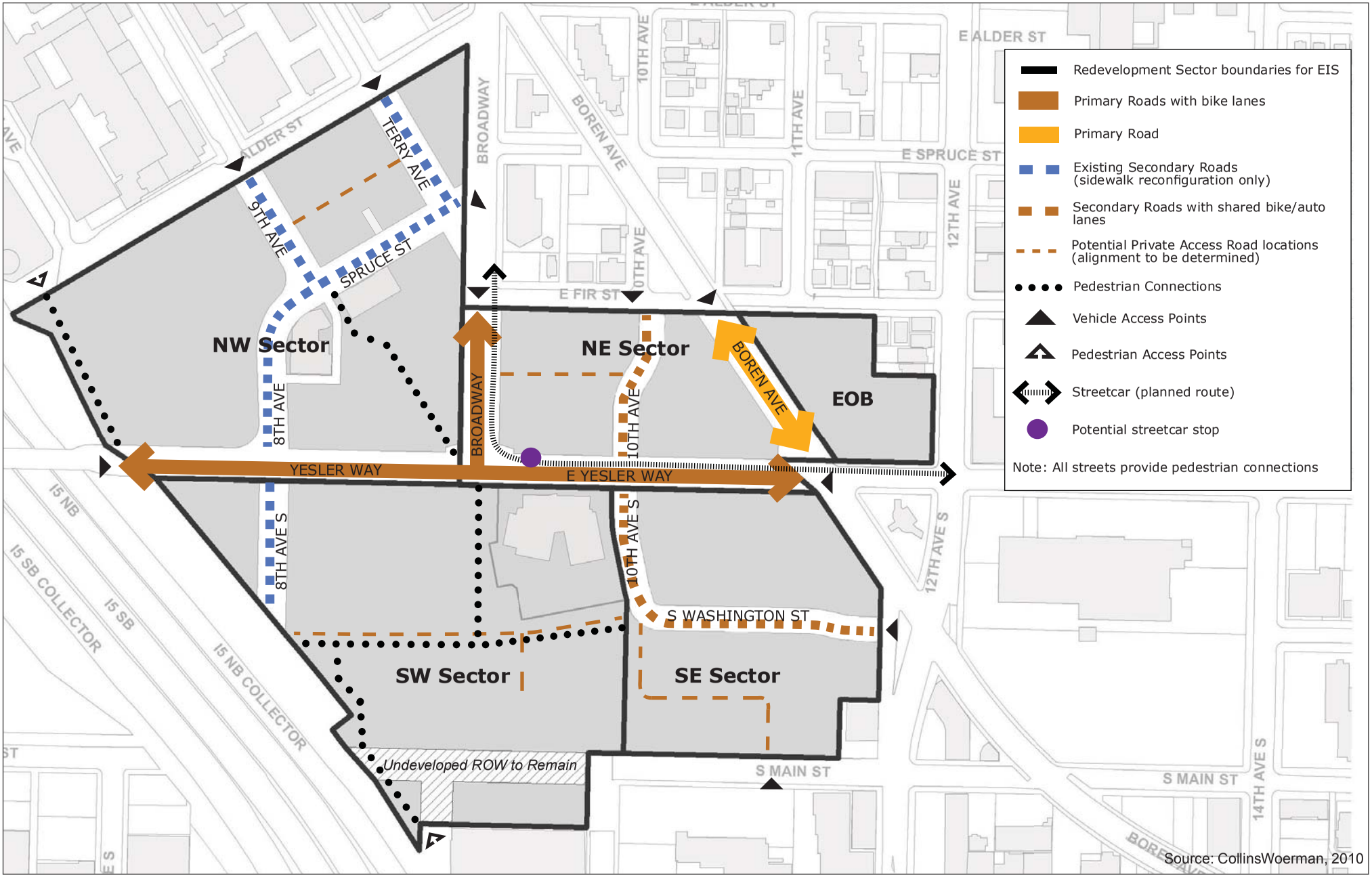


Figure 2-14
EIS Alternative 4 - Circulation

Yesler Terrace
Redevelopment EIS

Transit

As described in **Section 2.9**, Sound Transit and the City of Seattle have approved a streetcar route through the Yesler Terrace site, with a stop just east of the E Yesler Way/Broadway intersection. The First Hill Streetcar will travel north and south on Broadway and east and west on E Yesler Way, and is scheduled to be operational by 2013/2014. Other forms of transit are assumed to continue to serve the general area under all alternatives (see Section 3.13, **Transportation**, for details).

Pedestrian Circulation

Under Alternatives 1 through 4, pedestrian circulation through the site would be accommodated along all streets and private access roads, and would include a system of trails to connect public open spaces and streets (see **Figure 2-11** through **Figure 2-14**). All improved rights-of-way and private access roads would be developed as complete streets providing sidewalks for pedestrians. Intersection crossing improvements would be provided to aid safety, and woonerf-type streets would be developed to allow pedestrian activation along the entire street and to enhance walkability and connectivity of the site sectors. Sidewalks and planters would be improved or built to meet current City of Seattle design standards for required width, and curb ramps would meet Americans with Disabilities Act (ADA) requirements.

Some sector parks could include hillclimbs to connect the terraces of the community. If hillclimbs are provided, meandering paths within these sector parks would allow community members to navigate the site's steep hills at gentler, more accessible grades.

A new pedestrian connection would be made to the south property line at approximately 10th Avenue S to accommodate a future hillclimb from Jackson Street. This connection would improve pedestrian access to the International District and key transit routes along S Jackson Street.

The No Action Alternative assumes the pedestrian paths and stairs described in **Section 2.6.2** would remain.

Bicycle Circulation

Bicycle circulation throughout the site would be improved under Alternatives 1-4 with the development of dedicated bike lanes on expanded streets and shared, calmed streets, as proposed on 10th Avenue/10th Avenue S, and S Washington Street. Non-motorized corridors on the site could also be developed to support bicycle access from S King Street, S Jackson Street and S Main Street. A cycle track may be developed in association with the streetcar improvements on E Yesler Way and Broadway. Cyclists may also use neighborhood streets that are designed with traffic calming strategies.

Parks, Recreation and Open Space

As described in **Section 2.6.2** of this chapter, there are currently 13.6 acres of public and semi-private parks and open space areas located on the Yesler Terrace site, including approximately 1.4 acres of steep slopes or unusable or inaccessible areas. Existing formal recreational opportunities are available at the Yesler Community Center, including a playground and the

SHA-owned ballfield. The remainder of the parks and open space areas are primarily comprised of open lawns with no recreational facilities except for small play areas accessible only to building residents.

The Yesler Terrace Redevelopment anticipates providing a variety of open space types and sizes throughout the site in order to accommodate the mix of assumed uses and user populations, and to provide public benefit. Alternatives 1-4 assume a mix of public, semi-private and private open space.

- **Open Space for Public Use** – Public open space would be open to the public and would include both active and passive recreational opportunities including community gardens, children's play areas, open lawns, tree groves, and other uses. Public open space would be provided in the form of a centralized Commons Park as well as open space areas in each Sector.

  The Commons Park would serve as the community's central gathering place. It would contain both active and passive recreational opportunities to attract and serve different facets of the community. Active areas may include community gardens, an amphitheater, farmers market plaza, community center terrace, and a children's play area. Passive recreation areas, such as an open lawn and a native tree grove, would focus on providing residents with access to light, views, and a connection to nature in the city.

  Sector open space is intended to serve the daily needs of surrounding residents and building occupants and to highlight the unique qualities of the neighborhood for visitors from outside the district. Where possible, the open spaces would be designed to be accessible through each sector and would be located adjacent to streets to increase connectivity, increase the perceived amount of open space and maximize the pedestrian use of streets. Sector open space would also be configured to allow maximum access to light and air. Productive landscape features, such as community gardens and natural drainage, could be highlighted.

  Each sector would contain one Sector Park which would serve as the Sector's hub. This park would focus on passive recreation activities, such as open lawn and picnic areas, as well as children's play areas and community gardens. Additional parks within each sector would take one of several forms. Pocket Parks would be very small parks located adjacent to housing that has limited private outdoor space. These parks would serve as shared front yards. Other public parks may consist of plazas with comfortable seating and open sightlines for people watching and relaxing, cascading water features that are part of the site's stormwater system, and community gardens. Meandering paths within these parks would allow community members to navigate the site's steep hills at gentler, more accessible grades. Viewpoint Parks would be located along the site's steep edges to allow users to enjoy the views of the surrounding city and landscape.

- **Semi-private Open Space** – Semi-private open space would be provided at ground level around most residential buildings and would be open to residents with limited access to the general public. Semi-private courts and entries associated with each building will primarily provide passive open space for building residents. Between buildings, additional semi-private open space with amenities, such as playgrounds and community gardens, will be shared by several buildings. These semi-private open

spaces could allow public access during designated hours to increase the connectivity of the overall public realm.

- **Private Open Space** – Additional open space in the form of balconies and building roof courtyards, which would not be accessible from ground level, would be provided at each building for exclusive use by the building's residents.

Please see Section 3.15, **Public Services - Parks and Recreation**, for additional analysis regarding parks and open space.

Parking

The proposed parking supply for each alternative was determined using peak parking demand ratios developed specifically for Yesler Terrace. Alternatives 1-3 assume that parking would be provided at a ratio of 0.85 parking stalls per residential unit. Parking for neighborhood commercial and service uses would be provided at a parking ratio of 2 stalls/1,000 square feet, parking for office uses would be provided at 1.5 stalls per 1,000 square feet and parking for hotel uses would be less than office uses at 0.25 stalls per room (see **Appendix C** for further information about the parking ratio methodology).

Under Alternatives 1 and 1A, approximately 75 percent of parking could be provided in above-grade garages at the base of buildings; these parking garages would be screened from view or "wrapped" with street-level uses. Parking in Alternatives 2 and 3 would be provided in below grade garages under buildings, plazas and open space.

Under Alternative 4, Existing Zoning, it is assumed that approximately 50 percent of the parking would be surface parking and 50 percent would be in garages, using the same parking ratios noted above. The ratio for surface parking to parking in garages was determined based on the economics of the development of subsidized housing. Surface parking costs less and is more economical for subsidized housing projects. Market rate housing can afford the higher costs of structured underground parking. Under the No Action Alternative, all existing parking spaces are assumed to remain.

Please refer to Section 3.13, **Transportation**, for additional analysis regarding parking.

Sale to Private Entities

At this time, SHA is contemplating the sale of portions of the Yesler Terrace site to private entities for redevelopment. As has been successfully implemented at other SHA developments such as High Point and Rainier Vista, SHA could sell certain land parcels for development of low-income and market-rate housing, and commercial uses, while retaining ownership of certain parcels for development of extremely low income and very low income units that would be managed by SHA. By selling portions of the property targeted for non-SHA housing or non-housing uses to a private entity, SHA would generate revenue to fund new development and focus limited resources on managing and maintaining SHA facilities and serving SHA tenants.

Before the sale of a portion of SHA property to a private entity, the parties could enter into an agreement that would apply to subsequent development, to ensure compliance with overall land use approvals for the site. See Section 3.8.2, **Land Use**, for additional detail.

2.8.3 EIS Alternatives Comparison

Building Heights

The building height assumptions differ among the EIS alternatives, with the highest building heights assumed under Alternatives 2 and 3, and lowest building heights assumed under Alternative 4 and the No Action Alternative.

For environmental review purposes, a potential massing concept was formulated, which depicts assumptions about the number of high-rise residential and office/hotel buildings under each alternative. The term "high-rise" in this Draft EIS is defined as buildings over 100 feet in height, for both office and residential uses. The number and location of the high-rise buildings modeled within each alternative were based on the criteria set forth below and are shown in **Figures 2-15** through **2-18**.

In Alternatives 1-3, the office high-rise buildings are located in the NW sector, along Alder Street adjacent to the Harborview high-rise buildings, for compatibility purposes in terms of land use and height, bulk and scale. In Alternative 3, one additional high-rise building (office and housing) would be located in the northwest corner of the SW Sector, adjacent to I-5 and Yesler Way.

Criteria for the location of residential high-rise buildings in Alternatives 1-3 included several minimum standards to reduce the impacts created by the height, bulk and scale of these buildings. These include the following:

1. Protection of public views with minimum spacing between buildings
    a. minimum orthogonal spacing of 240 feet
    b. minimum diagonal spacing of 80 feet
2. View protection from buildings
    a. Foreground views up to 500 feet should be unobstructed a minimum of 60 percent of a 360^0 view from the building
    b. Distant views to horizon should be unobstructed a minimum of 35 percent of a 360^0 view from the building
3. Prioritization of sunlight accessibility to the Commons Park
    a. Consideration to limit a majority of shadows on the Commons Park from 10:00 AM to 2:00 PM
    b. Consideration to limit many shadows on the Sector Parks from 10:00 AM to 2:00 PM
4. Establishment of a maximum number of high-rise building sites consistent with the criteria above
    a. 14 high-rise building sites total
        i. 3 office
        ii. 10 residential
        iii. 1 mixed use office/residential

Determination of the number of high-rise buildings in each alternative is driven by the above criteria, the total amount of private and public open space, the total amount of right of ways, and building configurations which would allow all other buildings on the site to be built below the heights of high-rise buildings.

Alternative 1

High-rise Office/Hotel, 240' max

High-rise Residential
240' max in NW & NE Sectors
180' max in SW & SE Sectors

Source: CollinsWoerman, 2010

Figure 2-15
Potential High-Rise Locations - Alternative 1

Yesler Terrace
Redevelopment EIS

Alternative 1A

High-rise Office, 240′ max

High-rise Residential
240′ max in NW & NE Sectors
180′ max in SW & SE Sectors

Source: CollinsWoerman, 2010

Figure 2-16
Potential High-Rise Locations - Alternative 1A

Yesler Terrace
Redevelopment EIS

High-rise Office/Hotel, 240' max

High-rise Residential
240' max in NW, NE, SW & SE Sectors

Alternative 2

Source: CollinsWoerman, 2010

Figure 2-17
Potential High-Rise Locations - Alternative 2

Yesler Terrace
Redevelopment EIS

Alternative 3

High-rise Office/Hotel, 240' max

High-rise Residential
300' max in NW & NE Sectors
240' max in SW & SE Sectors

Source: CollinsWoerman, 2010

Figure 2-18
Potential High-Rise Locations - Alternative 3

Yesler Terrace
Redevelopment EIS

Table 2-2 summarizes the maximum building heights under the EIS alternatives by sector. While this table compares the maximum building heights that would be allowed, only a few buildings would be built to this maximum height in each sector.

The maximum height of residential high-rise buildings would be highest under Alternative 3 (300 feet north of Yesler Way; 240 feet south of Yesler Way) and lowest under Alternative 1 and 1A (240 feet north of Yesler Way; 180 feet south of Yesler Way). The greatest number of high-rise residential buildings are assumed to be built to the maximum height under Alternative 3 (11), while the fewest high-rise residential buildings are assumed to be built under Alternative 1 and 1A (4).

The maximum height of high-rise office/hotel buildings under Alternative 1, 1A, 2 and 3 would be 240 feet. While Alternatives 1, 2 and 3 assume approximately three high-rise office buildings each, the total average height of the office buildings would be highest under Alternative 3 and lowest under Alternative 1. Alternative 1A assumes only two high-rise office buildings with a lower total average height than Alternative 1. (See Section 3.10, **Aesthetics**, for additional detail).

No high-rise buildings are proposed for the East of Boren Sector in any alternative. No high-rise buildings would be allowed under Alternative 4.

Table 2-2
MAXIMUM BUILDING HEIGHT SUMMARY OF ALTERNATIVES
(Feet)

	Alternative 1	Alternative 1A	Alternative 2	Alternative 3	Alternative 4[6]	No Action Alternative
NW Sector	240 (housing, office/hotel)	240 (housing, office)	240 (housing, office/hotel)	300 (housing) 240(office/hotel)	37*	30 (existing)
NE Sector	240	Same as Alt 1	240	300	37*	20 (existing)
SE Sector	180	Same as Alt 1	240	240	37*	20 (existing)
SW Sector	180	Same as Alt 1	240	240 (housing) 240(office/hotel)	37*	35 (existing)
East of Boren	75 (west half) 65 (east half)	Same as Alt 1	75 (west half) 65 (east half)	75 (west half) 65 (east half)	75 (west half) 65 (east half)	30 (existing)

Source: CollinsWoerman, 2010.
** Additional 5 feet of height allowed for sloped roofs.*

Levels of Density

As shown in **Table 2-3**, Alternatives 1-4 assume different densities of redevelopment. For purposes of environmental review, the net housing density has been defined as the number of units per acre, based on the gross site area minus the rights-of-way, the potential office parcels, public open space, critical and non-usable areas, private access drives and road, and the Yesler Community Center. The average floor-area ratio (FAR) for the office/hotel parcels is defined as

[6] For Alternative 4, Existing Zoning, draft code revisions for the L3 zone dated May 18, 2009 were used to project proposed development for the West of Boren Sectors.

the total gross floor area of the assumed office/hotel buildings divided by the square footage of the total land area on which the office/hotel buildings are based.[7] Therefore, the FAR figures in Table 2-3 refer to the average of individual office buildings, and not FAR for the entire sector. Actual FAR for individual buildings may be more or less than this average FAR. In addition to these uses, others (such as Neighborhood Commercial or Neighborhood Services uses) are expressed as square footages within the description of individual alternatives.

Alternative 4 (Existing L3 Zoning[8]) would assume the lowest overall housing density at 74 housing units per acre while Alternative 3 would assume the highest overall housing density at 292 housing units per acre.

In Alternatives 2 and 3, the NW Sector assumes the highest housing densities (271 and 365 housing units per acre, respectively)., Under Alternative 1 and 1A, the NE Sector assumes the highest housing densities (221 housing units per acre) while under Alternative 4, the East of Boren Sector assumes the highest housing densities (183 housing units per acre).

Table 2-3
DENSITY OF REDEVELOPMENT ALTERNATIVES

	Alternative 1	Alternative 1A	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
NW Sector • Housing units/acre • Avg.Office FAR	161 7.5	147 4.3	271 7.6	365 7.6	64 2.0	27 2.0
NE Sector • Housing units/acre	221	Same as Alt 1	235	340	67	26
SE Sector • Housing units/acre	176	Same as Alt 1	242	304	68	20
SW Sector • Housing units/acre • Avg Office FAR	192	Same as Alt 1	199	234 4.4	61	24
West of Boren • **Housing units/acre** • **Avg Office FAR**	**183** **7.5**	Same as Alt 1 **4.3**	**235** **7.6**	**303** **6.7**	**65** **2.0**	**25** **2.0**
East of Boren • Housing units/acre	152	Same as Alt 1	154	188	183	23
Site Area • **Housing units/acre** • **Avg Office FAR**	**180** **7.5**	Same as Alt 1 **4.3**	**227** **7.6**	**292** **6.7**	**74** **2.0**	**24** **2.0**

Source: CollinsWoerman, 2010.

[7] FAR is based on assumed lot areas in order to give a measure of density to allow a comparison of the alternatives, but the method of calculation differs from how FAR is determined under the City's Land Use Code.

[8] As noted in Section 1.3, Alternative 4 assumes development under the existing Lowrise 3 zone designation for the West of Boren Sectors, while taking into account pending changes to the Lowrise 3 zone. The May 2009 version of the draft Lowrise code changes have been used to develop the description of Alternative 4 for the West of Boren Sectors.

Alternative 4 and the No Action Alternative would have the lowest floor-area ratio (FAR) for office use at 2.0, based on the existing Jesse Epstein office building. Alternative 2 assumes the highest FAR at 7.6. Alternative 3's average FAR is lower across the site due to averaging the FAR with the proposed office use in the SW Sector.

Under the No Action Alternative, the existing housing density of 24 units per acre would remain.

Housing Types

The Yesler Terrace Redevelopment is assumed to potentially accommodate five housing income levels:

- **Extremely Low Income** – Household income at or below 30 percent of the citywide area median income (AMI).
- **Very Low Income** – Household income at or below 50 percent of the AMI.
- **Low Income** – Household income at or below 80 percent of the AMI.
- **Market Rate** – Market-rate housing at the prevailing price.

Under Alternatives 1-4, it is assumed the 561 existing low income housing units would be replaced on the site while the No Action Alternative assumes the existing 561 units would remain. All alternatives assume that the 561 low income units would be replaced onsite and do not contemplate off-site development.

As shown in **Table 2-4**, the highest amount of low income housing (extremely low, very low and low income) would be provided under Alternative 3 (2,127 units); the lowest amount would be provided under Alternative 4 and No Action (561 units). The highest amount of market rate housing would be provided under Alternative 3 (2,873 units); the lowest amount would be provided under Alternative 4 (962 units). Please see Section 3.16, **Socioeconomics**, for additional information on housing.

Table 2-4
HOUSING TYPES BY ALTERNATIVE

	Alternative 1	Alternative 1A	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
Extremely Low Income	561	Same as Alt. 1	561	561	561	561
Very Low Income	239	Same as Alt. 1	335	335	0	0
Low Income	660	Same as Alt. 1	950	1,231	0	0
Subtotal	**1,460**	Same as Alt. 1	**1,846**	**2,127**	**561**	**561**
Market Rate	1,540	Same as Alt. 1	2,154	2,873	962	0
Total	**3,000**	Same as Alt. 1	**4,000**	**5,000**	**1,523**	**561**

Source: CollinsWoerman, 2010.

2.8.4 Tenant Relocation

As stated in **Section 2.6.2** in this chapter, approximately 521 low income public housing units with approximately 1,231 permanent residents are currently located on the Yesler Terrace site in the West of Boren Sectors. An additional 40 housing units are located within the East of Boren Sector. In total, there are 561 housing units located on the site. Under Alternatives 1-4, all existing residential structures would be demolished on a phased basis and existing SHA residents would be offered relocation assistance. SHA residents would be given at least 18 months notice prior to relocation, and any resident wanting to return to Yesler Terrace who remains in good standing with SHA would be offered the opportunity to return to the redeveloped community.

Due to the potential for federal funding, all residents will be offered relocation assistance in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA). The URA applies to federally funded projects that involve the involuntary relocation of people or businesses. To comply with the URA, SHA proposes a package of relocation benefits, including options for payment of moving costs, temporary or permanent relocation to units in other SHA-owned or managed properties, and Section 8 Vouchers for either temporary or permanent relocation to privately owned apartments or homes. SHA would pay any rent differential incurred by the tenant as a result of relocation for up to 42 months. Some tenants may also have the option of relocating temporarily to available on-site units that would be programmed to be removed during a later phase of development. See Section 3.16, **Socioeconomics**, for further details concerning the impacts of relocation and the Tenant Relocation Plan.

Under the No Action Alternative, the existing 561 low income units are assumed to remain. Residents may need to be temporarily relocated on a case by case basis as renovation/restoration of buildings occurs as necessary.

Please see Section 3.16, **Socioeconomics**, for more details on tenant relocation.

2.8.5 Building Demolition

As stated in **Section 2.6.2** in this chapter, the site currently contains approximately 84 existing structures, including 69 residential buildings comprising 561 housing units, various residential support facilities (such as Head Start, a gym, an administration building, and other uses), the Yesler Community Center, the Steam Plant, and the Jesse Epstein office building.

Under Alternatives 1-4, the 561 existing residential units would be demolished and the existing tenants relocated (see a description of the tenant relocation plan above). Under Alternative 4, it is assumed that all existing buildings would be demolished except the Yesler Community Center, the Steam Plant and the Jesse Epstein office building. Under Alternative 1 and 1A, it is assumed that all existing buildings would be demolished except the Yesler Community Center and the Steam Plant. Under Alternatives 2 and 3, it is assumed that all existing buildings would be demolished except the Yesler Community Center.[9]

Under the No Action Alternative, all existing buildings are assumed to remain.

[9] On October 6, 2010, the Yesler Terrace Steam Plant was designated as a City Landmark. Please see Section 2.7.3, **Steam Plant Retention**, Section 3.11, **Historic Resources**, and **Appendix L** for additional information about potential mitigation requirements for demolition of the Steam Plant building.

Please see Section 3.8, **Land Use**, for additional analysis regarding building demolition.

2.8.6 Development Phasing/Assumed Buildout Date

The Yesler Terrace Redevelopment project is assumed to be built out by the year 2030. A specific phasing development schedule has not been determined and would depend upon market conditions, the availability of applicable funding from local, state and/or federal sources, redevelopment goals and objectives as expressed in Section 2.4, primary factors considered in developing an overall phasing plan (see below), and development phasing decision criteria (see below).

The goal for the specific redevelopment phasing schedule is to replace the 561 low income units, and also fulfill the other goals and objectives of the redevelopment as expressed in **Section 2.4**. There are several factors that will be considered in developing a specific phasing schedule for the redevelopment of Yesler Terrace. The primary factors are:

- Civil Infrastructure – Minimize cost of demolition, site preparation, and public infrastructure replacement.
- Land Value – Create value for the future private "for sale" parcels.
- Project Character – Establish the Yesler Terrace character in the first phase(s) of development.
- Streetcar – Respond to the opportunities created by streetcar construction and activity within the Yesler Terrace Redevelopment frontage.

Building development phasing considers these factors in conjunction with the proposed phasing of civil infrastructure improvements as outlined under Infrastructure Phasing below.

Development Phasing Decision Criteria

The following descriptions outline potential criteria which could be used in making decisions about phasing of the Yesler Terrace Redevelopment. Some or all of these may be used over the course of the project. Specific grouping of criteria may be used in making phasing decisions for one phase of the project, but change in later phases depending on SHA goals, market demand or other factors.

SHA Rental Housing

- Coordinate relocation of existing tenants in buildings to be demolished to other alternative housing options.
- Investigate funding availability for replacement housing from various sources (i.e. sale of land within Yesler Terrace, Federal, State and local funding or grants for low income housing, partnership opportunities with other low income housing providers, funding from other SHA sources).
- Integrate low income housing across the project site.
- Consider the program, feasibility and schedule of development on the East of Boren Sector for temporary or permanent relocation of existing residents during early construction phases on the main site.

Civil Infrastructure

Minimize cost of demolition, site preparation, and public infrastructure replacement:

- Initial building development could occur on vacant parcels or parcels which minimize housing demolition (coordinate with replacement of existing housing that is in the worst physical condition)
- Initially develop parcels which have the least amount of topographical change to minimize site preparation costs
- Choose development parcels that can make use of existing infrastructure systems for early phased projects
- Investigate funding availability for infrastructure development from various sources, such as the sale of land within Yesler Terrace, and Federal, State and local funding sources.

Land Value

Create value for the future private "for sale" parcels:

- Develop public open space areas prior to building development to create market interest and additional value for parcels adjacent to parks

Project Character

Establish the Yesler Terrace character in the first phases of development:

- Initial projects should provide a diversity of building types and users to portray the character of the new Yesler Terrace Redevelopment
- Initial phases should create a critical mass of development sufficient to establish a focal point within the site
- Avoid wide dispersal of building development across the site in initial phase(s)
- Provide open space areas to create identity in the initial development phase(s)
- Use existing development and services (i.e. Yesler Community Center, existing community services, Streetcar stop at E Yesler Way and Broadway, etc.) as a catalyst for creating identity in the development

Streetcar

Plan for development along the streetcar line and in relation to the Yesler and Broadway stop:

- Initial phases could focus development adjacent to the E Yesler Way and Broadway streetcar stop for visibility of the new Yesler Terrace Redevelopment character
- Parcels along the planned streetcar route on E Yesler Way and Broadway may benefit from early increased value and could be the best location for early phases of building development
- The planned streetcar stop will concentrate transit users, which could support retail activity in mixed use projects. Early development in these locations could include ground level retail uses

Infrastructure Phasing

Infrastructure phasing may influence where and when building development will occur across the site. Sales of individual development sites or parcels to private developers may trigger specific infrastructure improvements and affect the sequencing of development. The intent of this section is to outline how building development might occur in each sector for all alternatives based on existing capacity and future phasing of infrastructure in the sector.

Alternative 1 (Lower Density) & Alternative 1A (Lower Density with Less Office)

The intensity of development under Alternative 1 would be highest in the NW Sector and lowest in the East of Boren Sector. Alternative 1A represents a variation of Alternative 1 wherein most proposed land uses would be similar to Alternative 1, except for office and parking development; 400,000 SF of office would be provided under Alternative 1A, as compared to 800,000 SF under Alternative 1. Subsequently, phasing of building development would be similar.

NW Sector

Early building development in this sector would be facilitated by the close proximity to existing infrastructure located in Alder Street, 9th Avenue, Broadway, Terry Street, Spruce Street and E Yesler Way. The probability of relocating the existing 12 inch diameter combined sewer extending from the intersection of 9th Avenue and Spruce Street to E Yesler Way will detract from early development on the block located immediately northwest of the intersection of Yesler Way and Broadway. In this block, building development would probably follow infrastructure relocation to maximize efficiency of design and construction. Also, portions of this sector which have very steep topography should be avoided until later phases due to the additional construction costs associated with building development in these locations.

NE Sector

Early building development phasing for this sector could be located adjacent to the perimeter streets of Broadway, E Fir Street, Boren and E Yesler Way. Existing infrastructure capacity is key to early development in these areas and may limit the amount of development possible until later improvements to the infrastructure systems downstream of this area are completed (See Section 3.18, **Utilities**). Roadway improvements to 10th Avenue may not be necessary for early phases, but may be required to provide adequate traffic flow and access for the sector in later phases.

SE Sector

Building development phasing in this sector could start adjacent to E Yesler Way and Boren Avenue S prior to infrastructure improvements to 10th Avenue S and S Washington. Existing infrastructure capacity is key to early development in these areas and may limit the amount of development possible until later improvements to the infrastructure systems downstream of this area are completed. Secondary phasing of this sector could occur along 10th Avenue S and S Washington when infrastructure for roadway, water and sewer are available with capacities adequate for building development. Later phasing of building development could occur on the southern portion of this sector (which is the steepest and most costly to develop) once roadway and infrastructure improvements to S Main Street are complete and a private access roadway connecting S Washington Street with S Main Street is provided.

SW Sector

Development phasing in this sector may include initial demolition of some of the non-residential Yesler Terrace Buildings (i.e. the Yesler Terrace Administration Building, the Yesler Terrace Gym, the Head Start Building, and a storage building). This could provide open space adjacent to the Yesler Community Center for use by existing residents and residents of initial phases of building development in other sectors of the site. Other early phases of building development in this sector could occur adjacent to E Yesler Way and 8th Avenue S where existing infrastructure is available. Later phases of building development could occur once private access roads and utility infrastructure, which aligns with the extension of S Washington and 10th Avenue S, are provided. The southern portion of the sector also has the steepest topography which would increase costs of construction, but has the greatest opportunities for unobstructed views to the south. Development of this portion of the sector later in the phasing, once a majority of Yesler Terrace is redeveloped, could provide the most value for the land, even considering the potential increased cost of building development.

East of Boren Sector

Since zoning changes will not be required for this sector, building development could occur as one of the first phases of the development. This early development could occur in single or multiple phases. Since only a small amount of infrastructure improvements are required (i.e. rerouting an 8-inch diameter water main) and there is adequate capacity of utility and roadway infrastructure, building development could begin under existing zoning without the rezone and related land use actions necessary for the site west of Boren Avenue. The east half of this sector would require no demolition. Demolition of existing buildings on the west half of the sector would require that these structures be vacated.

Alternative 2 (Medium Density) & Alternative 3 (Higher Density)

The intensity of development under Alternative 2 would be highest in the NW Sector and lowest in the East of Boren Sector. However, in Alternative 3 the intensity of development would be more equally dispersed across the NW, NE, SE, and SW sectors with the highest intensity in the NW Sector and the lowest intensity being in the East of Boren Sector. Both of these alternatives have similar infrastructure configurations and are anticipated to be phased in a similar manner. Due to the larger amount of development in these two alternatives, it could be expected that development would start slowly and expand substantially over the course of the expected project duration. This would also be affected by economic cycles and needs for SHA replacement housing.

NW Sector

Since Terry Avenue, 8th Avenue and Spruce Street rights-of-way (ROWs) will be vacated and new ROWs at Fir Street and 9th Avenue will be dedicated, development in this sector must consider the impacts of these changes and avoid locations where existing infrastructure will be removed or new infrastructure constructed. Subsequently, early building development in this sector, prior to major infrastructure improvements, would require buildings be located in close proximity to existing infrastructure located in Alder Street, 9th Avenue, Broadway, and E Yesler Way. In areas adjacent to new infrastructure improvements, building development would probably follow infrastructure relocation to maximize efficiency of design and construction.

Portions of this sector which have very steep topography should be avoided until later phases due to the extra construction costs of building development in these locations.

NE Sector

Early building development phasing for this sector is similar to Alternatives 1 and 1A and could be located adjacent to the perimeter streets of Broadway, E Fir Street, Boren and E Yesler Way. Existing infrastructure capacity is key to early development in these areas and may limit the amount of development possible until later improvements to the infrastructure systems downstream of this area are completed. Roadway improvements to 10th Avenue may not be necessary for early phases, but will be required to provide adequate traffic flow and access for the sector in later phases. In Alternative 3, where multiple high-rise residential sites could be available for development, locations of early phases of development should consider the possible later phase locations of high-rise buildings to preserve adequate spacing between high-rise buildings and maximum view potential.

SE Sector

Building development in early phases of this sector could start adjacent to E Yesler Way and Boren Avenue S prior to infrastructure improvements to 10th Avenue S. Existing infrastructure capacity is critical to the feasibility of early development in these areas and may limit the amount of development possible until later improvements to the infrastructure systems downstream of this area are completed. Secondary phasing of this sector could occur along 10th Avenue S when infrastructure for roadway, water and sewer are available with capacities adequate for building development. Later phasing of building development could occur on the southern portion of this sector (which is the steepest and most costly to develop) once roadway and infrastructure improvements to S Main Street are complete and a potential private access roadway is provided between 10th Avenue S and Boren Avenue S. In Alternative 3, which maximizes high-rise residential sites available for development, locations of early phases of development should also consider possible later phase locations of high-rise buildings to preserve adequate spacing between high-rise buildings and maximum view potential.

SW Sector

Early phasing in this sector may include initial demolition of some of the non-residential Yesler Terrace Buildings (i.e. the Yesler Terrace Administration Building, the Yesler Terrace Gym, the Head Start Building, and a storage building). Since 8th Avenue S will be vacated and 9th Avenue S will be dedicated in this sector, early phase development along Yesler Way could be restricted until new infrastructure at 9th Avenue S and S Washington Street connects to 10th Avenue S. When this infrastructure is complete, additional development could also occur adjacent to S Washington Street. Later phases of building development could occur on the southern portion of the sector once private access roads and utility infrastructure south of the new S Washington Street ROW is provided. The southern portion of this sector also has the steepest topography which would increase costs of construction, but has the greatest opportunities for unobstructed views to the south. Development of this portion of the sector later in the phasing, once a majority of Yesler Terrace is redeveloped, could provide the most value for the land even considering the potential increased cost of building development.

East of Boren Sector

The phasing of building development in this sector would be similar to Alternative 1 and 1A.

Alternative 4 (Existing Zoning)

The intensity of development under Alternative 4 would be approximately the same across the NW, NE, SE, & SW Sectors and highest in the East of Boren Sector. This alternative represents the configuration achievable under the existing L3 zoning designation and proposes few new infrastructure improvements, other than those necessary to provide capacity to the water, sewer and electric systems for the level of development proposed. 10th Avenue, 10th Avenue S and S Washington Street would be expanded to meet minimum Seattle city street standards. All new roadways and drives shown under this alternative would remain private, but could include new utility easements necessary for location of additional services.

NW, NE, SE & SW Sectors

In order to meet the goals for the redevelopment phasing plan, early building development in these sectors could occur in multiple locations. Location of early development could likely be based on the condition of existing housing which may necessitate demolition. Development could generally occur in clusters of buildings served by common drives and parking to avoid disruption of tenants in future phases of development. Since all existing infrastructure would remain in its existing locations, any easements across private property (i.e. the diagonal 12-inch diameter combined sewer extending from the intersection of 9th Avenue and Spruce Street to E Yesler Way) will need to be avoided. Also, development in portions of these sectors which have very steep topography would likely be avoided until later phases, due to the extra construction costs of building development in these locations.

East of Boren Sector

The phasing of building development in this sector would be similar to Alternatives 1-3.

2.8.7 Description of Redevelopment Alternatives

Alternative 1 – Lower Density

Overall Development Concept

Alternative 1 represents the lower range potential of mixed use redevelopment of the site, with an assumed 3.65 million SF of housing-based/mixed use redevelopment built over the assumed 20-year horizon (see **Figure 2-19**). Land uses under Alternative 1 would include approximately:

- 3,000 dwelling units (2,747 dwelling units West of Boren and 253 units East of Boren);
- 800,000 SF of office (portion of this could be hotel);
- 40,000 SF of neighborhood commercial (including 10,000 SF of neighborhood retail/office in the East of Boren Sector);
- 50,000 SF of neighborhood services (including the Yesler Community Center);
- 6.0 acres of public open space (including the existing 1.4 acre Yesler Community Center parcel, and a 1.7-acre Common Park west of the Community Center) and 7.3 acres of semi-private open space; and,

- 3,900 parking spaces within/under buildings.

The intensity of development under this alternative would be highest in the NW Sector and lowest in the East of Boren Sector. It is assumed that two existing on-site buildings (the approximately 8,500 SF Steam Plant and the approximately 22,000 SF City-owned Yesler Community Center) would be retained. No street vacations are proposed under this alternative. This alternative would require a Land Use Code text amendment and rezone to allow mixed use redevelopment. It may also require a City of Seattle Comprehensive Plan amendment (see Section 3.9, **Plans and Policies,** for additional detail).

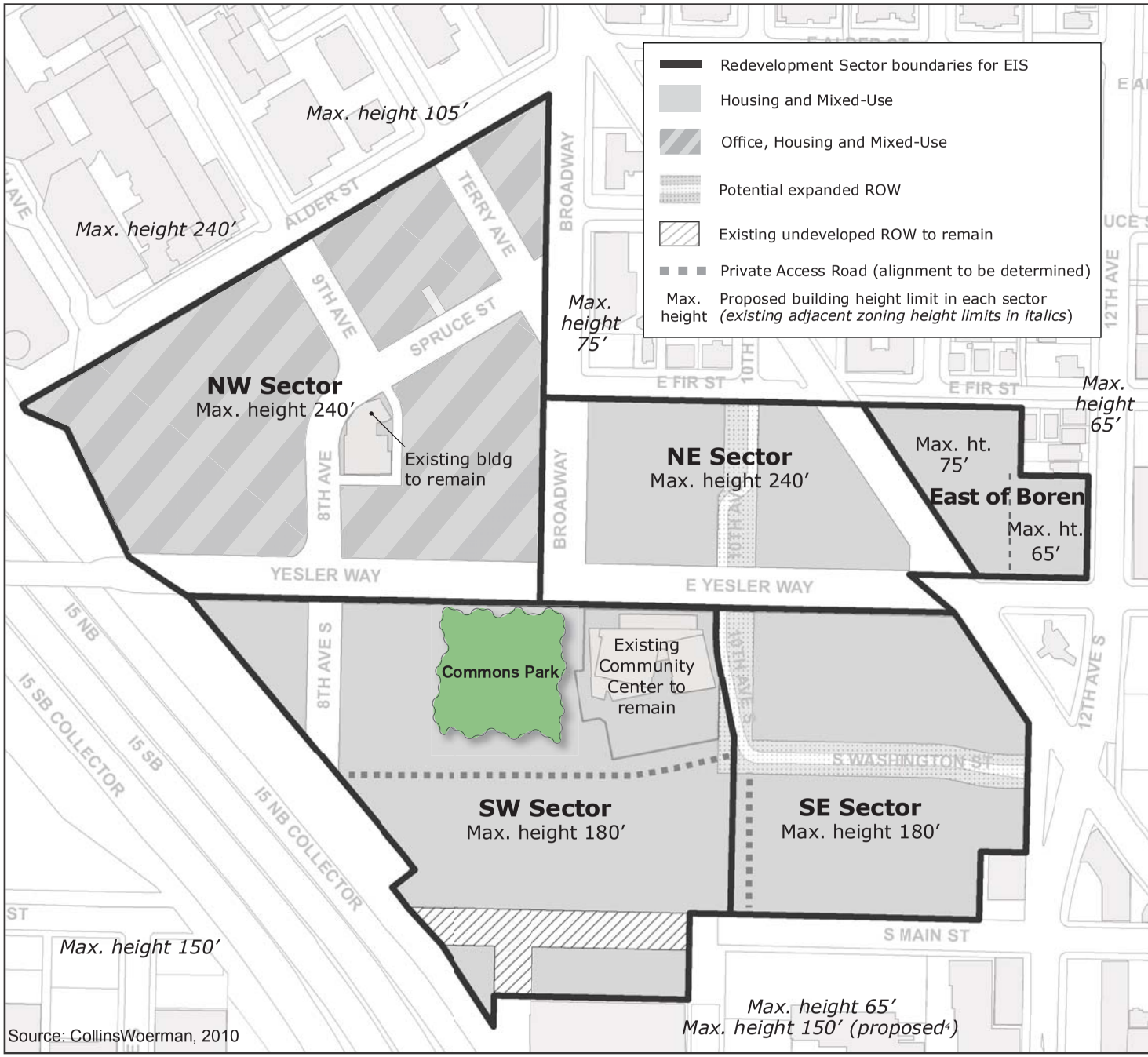
For purposes of the EIS analysis (including the evaluation of potential visual impacts from development to the maximum proposed heights), certain assumptions have been made related to the number of possible mid- and high-rise buildings and the distribution of such buildings across the site under each alternative (refer to **Section 2.8.3** in **Chapter 2** for more information on high-rise locational criteria utilized in this analysis). These assumptions, detailed in **Table 2-5**, below, are not intended to indicate a definitive development plan for the site, but are used instead as a basis for assessing the potential impacts of redevelopment in this EIS. The specific number, height, location and general design parameters of onsite buildings would be determined as part of the Proposed Actions.

In this alternative, high-rise buildings are proportionally placed in each of the NW, NE, SE, and SW sectors to accommodate the lower density land use and maximize spacing between the high-rise buildings (See **Figure 2-15**). In the NW Sector, three high-rise office buildings are located adjacent to Alder Street to minimize view and shadow impacts to the site and approximately match the adjacent height and density of the adjacent zoning at Harborview Hospital. Four residential high-rise buildings, built to maximum allowed height, are distributed in the remaining sectors and are configured to minimize shadows on parks and maximize public and private views.

Table 2-5
ALTERNATIVE 1
POTENTIAL MID-RISE AND HIGH RISE BUILDINGS[1,2]

Sector	Number of Mid-Rise Residential Buildings	Number of High- Rise Residential Buildings	Number of High-Rise Office/Hotel Buildings	Total Number of High-Rise Buildings
NW Sector	8	0	3 (240' max; modeled two blgs at 165'; one bldg at 225'	**3**
NE Sector	4	1 (240' max./modeled)	0	**1**
SE Sector	6	1 (180' max./modeled)	0	**1**
SW Sector	3	2 (180' max/modeled)	0	**2**
East of Boren	3	0	0	**0**
Total Site	**24**	**4**	**3**	**7**

Source: CollinsWoerman, 2010.
[1] Mid-rise buildings are defined in this EIS as less than 100 feet and high-rise buildings as 100 feet or more.
[2] Both the maximum height and the height modeled in the capacity analysis of this alternative were analyzed in this EIS.



Sector	Use	Area (sq ft)
NW Sector	Housing- 763 Units	702,087
	Office[1]	800,103
	Neighborhood Commercial[2]	20,000
	Neighborhood Services[3]	18,000
12.1 Acres	*Subtotal*	1,540,190
NE Sector	Housing- 588 Units	553,399
	Office	0
	Neighborhood Commercial	10,000
	Neighborhood Services	10,000
5.7 Acres	*Subtotal*	573,399
SE Sector	Housing- 785 Units	717,761
	Office	0
	Neighborhood Commercial	0
	Neighborhood Services	0
6.2 Acres	*Subtotal*	717,761
SW Sector	Housing- 611 Units	551,905
	Office	0
	Neighborhood Commercial	0
	N'hood Services (existing)	21,971
10.8 Acres	*Subtotal*	573,876
Summary of NW, NE, SE & SW Sectors	Housing - 2,747 units	2,525,152
	Office	800,103
	Neighborhood Commercial	30,000
	Neighborhood Services	49,971
34.8 Acres	*Total*	3,405,226
East of Boren (EOB)	Housing - 253 units	232,751
	Office	0
	Neighborhood Commercial	10,000
	Neighborhood Services	0
1.8 Acres	*Subtotal*	242,751
Summary of All Sectors	Housing - 3,000 units	2,757,903
	Office	800,103
	Neighborhood Commercial	40,000
	Neighborhood Services	49,971
36.6 Acres	*Total*	3,647,977
Open Space for Public Use (4.5 acres)		197,845

Includes commons park, sector parks (one in each sector), and sector pocket parks; excludes open space at the City-owned Yesler Community Center

[1]Office: Larger commercial uses (e.g. single-use offices and hotels)
[2]Neighborhood Commercial: Retail and small office uses
[3]Neighborhood Services: Social services, non-profits, etc.
[4]As of November 2009 in Livable South Downtown proposed zoning

Figure 2-19
Redevelopment Alternative 1, Lower Density

Yesler Terrace
Redevelopment EIS

Following are descriptions of the specific components of this alternative.

Housing

The average housing density over the site under this alternative would be approximately 180 dwelling units/acre. The housing would be comprised of a combination of 5, 6 and 7-story mid-rise buildings and four 18 to 24-story high-rise buildings (a maximum of 240 ft. in height). No low-rise buildings (4 stories or less) would be assumed under this alternative, but could be developed if market conditions warrant. High-rise residential buildings would be oriented and distributed throughout the site to facilitate the long-term protection of views from public spaces and to control the near and distant viewshed from the buildings. Minimum spacing between high-rise buildings would be established to protect these views. Typical housing would be contained in single-use or mixed use buildings. Two-story, ground-level housing units (with private open space for unit occupant use) could be provided in the base of some mid-rise and high-rise residential buildings in some locations. Some mixed use buildings could also include neighborhood commercial and neighborhood service uses located up to 3 stories above ground level.

Housing would be provided for extremely low (at or below 30 percent AMI) and very low income (at or below 50 percent AMI) households, as well as low income (at or below 80 percent AMI) and market rate households.

Office/Hotel

Under Alternative 1, it is assumed that office uses (other than small offices in neighborhood commercial areas) would be located only in the NW Sector of the site which is adjacent to other intense non-housing uses, such as Harborview Hospital and other medical office uses to the north. Single-use office buildings would be allowed in the NW Sector. Hotel use could also be located in the NW Sector. Office buildings in this sector could be designed as stand-alone buildings or clustered to provide a campus-type configuration with shared open space, parking and other facilities. The maximum height for office/hotel uses would be 240 feet in the NW Sector. The capacity model for this alternative assumes office and hotel development in three high-rise buildings of 13 to 18 stories (165 feet - 225 feet in height). The office/hotel development floor-area ratio (FAR) is estimated at approximately 7.5.

Neighborhood Commercial

Neighborhood commercial uses could include: small offices, and small to medium retail uses – such as grocery, dry cleaners, restaurants, and book stores. In this alternative such uses would be located in mixed use buildings that provide either office or housing as their predominant use. Neighborhood commercial uses could occur in the NW and NE Sectors onsite, as well as the East of Boren Sector. Typical locations would be along or adjacent to primary streets, particularly near the intersection of Broadway and E Yesler Way around the future First Hill Streetcar station, and the intersection of 12th Avenue and E Yesler Way.

Neighborhood Services

Neighborhood service uses could include: police, library, classrooms, social services, supportive services, non-profit organizations, government-funded health agencies, and SHA offices open to the public. In this alternative, these uses would be located in mixed use buildings that provide

either office or housing as their predominant use. Neighborhood service uses could occur in all sectors onsite. Typical locations would be along or adjacent to primary or secondary streets.

Parks and Open Space

A 1.7-acre Commons Park would be provided in the core of Yesler Terrace, adjacent to the existing 1.4-acre City of Seattle parcel containing the Yesler Community Center. The Commons Park would serve as the community's central gathering place, containing both active and passive recreational opportunities to attract and serve different facets of the community. Each sector would contain one larger Sector Park which would serve as the Sector's hub. These parks would focus on passive recreation activities, such as open lawn and picnic areas, as well as children's play areas and community gardens.

Residential buildings would typically include semi-private open space in courtyards or on roofs for use by the building occupants. Additional private open space in the form of balconies, building roofs, and courtyards not accessible from grade, would be provided at each building for building residents' exclusive use. Open space for public use would be provided equitably across all sectors of the site within reasonable proximity to all residential buildings.

Alternative 1 includes 14.7 acres of parks and open space comprised of 6.0 acres of public open space (including the existing 1.4 acre Yesler Community Center parcel as well as the 1.7 acre Commons Park), 7.3 acres of Semi-Private Open Space and 1.4 acres of steep slope and inaccessible area in the SW sector which would remain.

Access

The street network configuration and circulation concept for Alternative 1 would rely on using the existing roadway network in its existing location; no street vacations would occur for this alternative. Additional street dedications would occur to increase the width of 10th Avenue/10th Avenue S (and straighten the right-of-way), and of S Washington Street, Yesler Way, and E Yesler Way beyond minimum zoning requirements to accommodate complete streets, low-impact development and green street improvements. Private access roads and drives would augment existing and expanded right-of-ways (see **Figure 2-11**).

Parking

It is assumed that 25 percent of the parking under this alternative would be provided in below-grade garages under buildings, plazas and open space. Typically, parking would be provided below individual buildings, but in some cases parking would be combined and located below multiple buildings. The remaining 75 percent of parking would be provided in above-grade garages at the base of high-rise buildings. The above-grade parking garages would be screened from street view by housing units, office use, neighborhood commercial or neighborhood service uses. Parking for delivery vehicles would be accommodated off-street within building structures. A few short-term surface parking stalls would be provided on the site under this alternative. Designated delivery and drop off zones would be provided in the parking zone of the street rights-of-way. On-street parking in rights-of-way is controlled by the City and could be metered for primary use by visitors to the site.

Utilities

The assumed Yesler Terrace water system would comply with City of Seattle regulations. It is assumed that the NW and NE Sectors of the site would use the existing water mains. Water mains would be replaced south of E Yesler Way and new water service connections would be provided to proposed buildings.

The assumed sewer system would comply with City of Seattle standard plans and specifications. A new sewer main is proposed in 8th Avenue, along the I-5 ROW between E Yesler Way and 8th Avenue S and a new sewer main extension would be provided in S Main Street. It is assumed that proposed buildings would connect to the sewer main by using existing side sewers or installing new side sewers. The sewer main that crosses diagonally from 9th Avenue to the intersection of Broadway and E Yesler Way would remain, but the 9th Avenue combined sewer main north of Spruce Street would be diverted to the new combined sewer main in 8th Avenue.

A permanent stormwater control system would be installed to serve redevelopment. This system would consist of both public and private infrastructure and would be designed and constructed in accordance with the City of Seattle Drainage Code. The stormwater control system for the privately-owned portions of the site would include catch basins, inlets, green stormwater infrastructure (GSI) flow control facilities, downspouts, footing drains and private stormwater conveyance pipes that would collect and convey runoff to the existing combined sewer system. GSI facilities could include permeable pavement access roads, courtyards and private sidewalks, green roofs on a portion of the buildings, bioretention planters and swales. If the assumed extent of GSI facilities is not feasible, then stormwater vaults/tanks serving individual parcels could be used. By using GSI facilities, the peak stormwater discharge to the combined sewer system would decrease from existing conditions.

All of the overhead electrical lines would be replaced with new overhead lines. New natural gas service lines onsite would also be provided. See Section 3.3, **Water Resources**, and Section 3.14, **Utilities**, for more detail.

Alternative 1A – Lower Density with Less Office

Overall Development Concept

Alternative 1A represents a variation of Alternative 1 wherein most proposed land uses would be similar to Alternative 1, except for office and parking development; 400,000 SF of office would be provided under this alternative, as compared to 800,000 SF under Alternative 1 (see **Figure 2-20**). Also, unlike Alternative 1, hotel uses would not be included in Alternative 1A. This alternative represents the lowest range of mixed use redevelopment, with an assumed 3.25 million SF of housing based/mixed use redevelopment over the assumed 20-year horizon. Land uses under Alternative 1A would include approximately:

- 3,000 dwelling units (2,747 dwelling units West of Boren and 253 units East of Boren);
- 400,000 SF of office;
- 40,000 SF of neighborhood commercial (including 10,000 SF of neighborhood retail/office in the East of Boren Sector);
- 50,000 SF of neighborhood services (including the Yesler Community Center);

- 6.0 acres of public open space (including the existing 1.4 acre Yesler Community Center building and outdoor play area and a 1.7 acre Commons Park to the west of the Community Center), and 7.8 acres of semi-private open space; and
- 3,300 parking spaces within/under buildings.

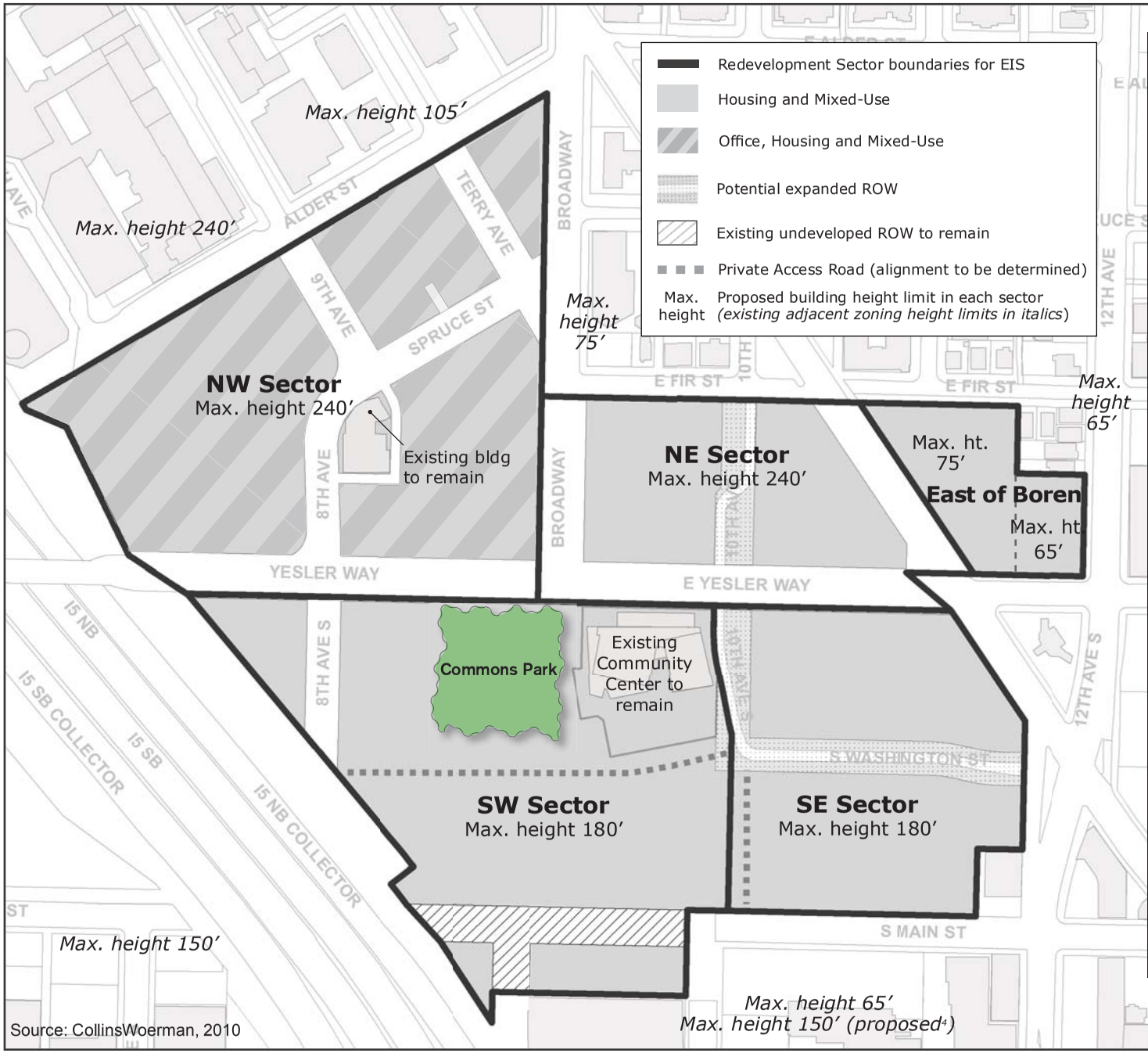
The intensity of development under this alternative would be highest in the NW Sector and lowest in the East of Boren Sector. It is assumed that two existing on-site buildings (the approximately 8,500 SF Steam Plant, and the approximately 22,000 SF City-owned Yesler Community Center) would be retained. No street vacations are proposed under this alternative. It is assumed that limited transportation and utility infrastructure improvements would be required to support proposed uses. This alternative would require a Land Use Code text amendment and rezone to allow mixed use redevelopment. It may also require a City of Seattle Comprehensive Plan amendment (See **Section 3.9,** Plans and Policies**,** for additional detail).

In this alternative, high-rise buildings are proportionally placed in each of the NW, NE, SE, and SW Sectors to accommodate the areas of lower density land use and to maximize spacing between the high-rise buildings (See **Table 2-6** and **Figure 2-16**). In the NW sector two high-rise office buildings are located adjacent to Alder Street to minimize view and shadow impacts to the site and approximately match the adjacent height at Harborview Hospital. Four residential high-rise buildings built to maximum allowed height are distributed in the remaining sectors and are configured to minimize shadows on parks and maximize public and private views.

Table 2-6
ALTERNATIVE 1A
POTENTIAL MID-RISE AND HIGH RISE BUILDINGS[1,2]

Sector	Number of Mid-Rise Residential Buildings	Number of High- Rise Residential Buildings	Number of High-Rise Office Buildings	Total Number of High-Rise Buildings
NW Sector	8	0	2 (240' max; modeled one blg at 125'; one bldg at 100'	**2**
NE Sector	4	1 (240' max./modeled)	0	**1**
SE Sector	6	1 (180' max./modeled)	0	**1**
SW Sector	3	2 (180' max/modeled)	0	**2**
East of Boren	3	0	0	**0**
Total Site	**24**	**4**	**2**	**6**

Source: CollinsWoerman, 2010.
[1] Mid-rise buildings are defined in this EIS as less than 100 feet and high-rise buildings as 100 feet or more.
[2] Both the maximum height and the height modeled in the capacity analysis of this alternative were analyzed in this EIS.



Source: CollinsWoerman, 2010

Sector	Use	Area (sq ft)
NW Sector	Housing- 763 Units	702,038
	Office[1]	401,000
	Neighborhood Commercial[2]	20,000
	Neighborhood Services[3]	18,000
12.1 Acres	*Subtotal*	1,141,038
NE Sector	Housing- 588 Units	553,399
	Office	0
	Neighborhood Commercial	10,000
	Neighborhood Services	10,000
5.7 Acres	*Subtotal*	573,399
SE Sector	Housing- 784 Units	717,761
	Office	0
	Neighborhood Commercial	0
	Neighborhood Services	0
6.2 Acres	*Subtotal*	717,761
SW Sector	Housing- 611 Units	551,905
	Office	0
	Neighborhood Commercial	0
	N'hood Services (existing)	21,971
10.8 Acres	*Subtotal*	573,876
Summary of NW, NE, SE & SW Sectors	Housing - 2,747 units	2,525,103
	Office	401,000
	Neighborhood Commercial	30,000
	Neighborhood Services	49,971
34.8 Acres	*Total*	3,006,074
East of Boren (EOB)	Housing - 253 units	232,751
	Office	0
	Neighborhood Commercial	10,000
	Neighborhood Services	0
1.8 Acres	*Subtotal*	242,751
Summary of All Sectors	Housing - 3,000 units	2,757,854
	Office	401,000
	Neighborhood Commercial	40,000
	Neighborhood Services	49,971
36.6 Acres	*Total*	3,248,825
Open Space for Public Use (4.5 acres)		197,845

Includes commons park, sector parks (one in each sector), and sector pocket parks; excludes open space at the City-owned Yesler Community Center

[1]Office: Larger commercial uses (e.g. single-use offices and hotels)
[2]Neighborhood Commercial: Retail and small office uses
[3]Neighborhood Services: Social services, non-profits, etc.
[4]As of November 2009 in Livable South Downtown proposed zoning

Figure 2-20
Redevelopment Alternative 1A, Lower Density With Less Office

Yesler Terrace
Redevelopment EIS

Following are descriptions of the specific components of this alternative.

Housing

Housing uses would be the same as described under Alternative 1.

Office

It is assumed that the office component (other than small offices in neighborhood commercial areas) of this alternative would be located only in the NW Sector of the site, adjacent to other intense non-housing offsite uses, such as Harborview Hospital and other medical office uses to the north. Single-use office buildings would be allowed in the NW Sector. Office buildings in this sector could be designed as stand-alone buildings or clustered to provide a campus-type configuration with shared open space, parking and other facilities. The maximum height for office uses would be 240 feet in the NW Sector. The capacity model for this alternative assumes office development in two high-rise buildings of 8 to 10 stories (100 ft. - 125 ft. in height). The square footage of office development assumed in Alternative 1A is approximately half that of Alternative 1, resulting in one less office building in the NW sector, and the remaining two office buildings in the NW sector would be 5 to 8 stories less than the office buildings assumed in the Alternative 1 capacity model. Office development floor-area ratio (FAR) is estimated at approximately 4.3. No hotel uses would be included under Alternative 1A.

Neighborhood Commercial

Neighborhood commercial uses would be the same as described under Alternative 1.

Neighborhood Services

Neighborhood services uses would be as described under Alternative 1.

Parks and Open Space

Alternative 1A includes a total of 15.2 acres of parks and open space comprised of 6.0 acres of public open space (including the existing 1.4 acre Yesler Community Center building and outdoor play area as well as a 1.7 acre Commons Park and the sector parks described under Alternative 1), 7.8 acres of semi-private open space and 1.4 acres of steep slopes and inaccessible areas in the SW sector that would remain. Approximately 0.5 acres more open space would be provided under Alternative 1A compared to Alternative 1.

Access

Access would be the same as described under Alternative 1 and as shown in **Figure 2-11**.

Parking

It is assumed that parking would be provided as described under Alternative 1.

Utilities

The sewer, water and stormwater control systems, including necessary replacements, are assumed to be similar to Alternative 1 (see Section 3.3, **Water Resources**, and Section 3.14, **Utilities**, for details).

Alternative 2 – Medium Density

Overall Development Concept

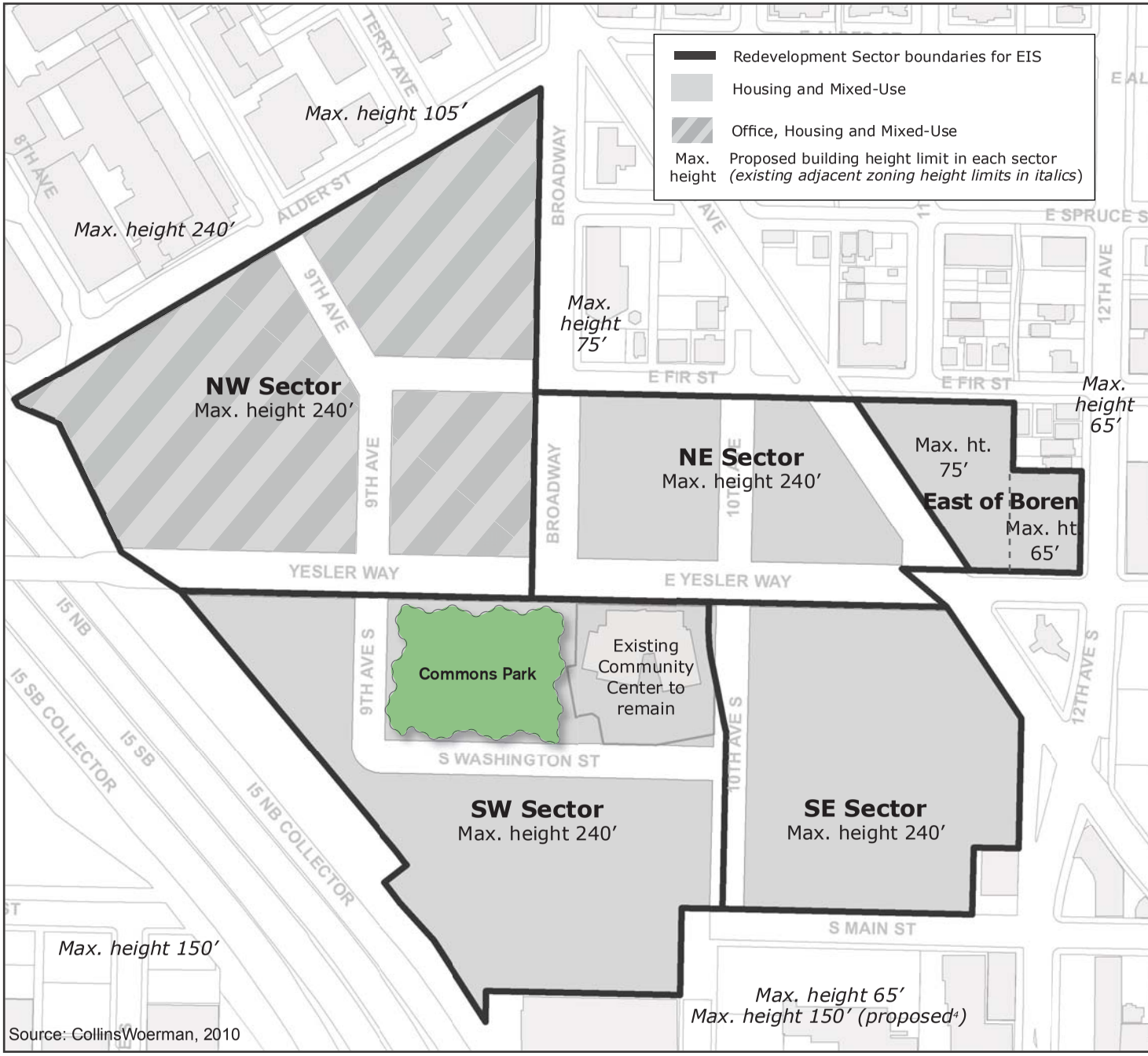
Alternative 2 represents the middle range of potential redevelopment of the site, with an assumed 4.75 million SF of housing-based/mixed use redevelopment over the assumed 20-year horizon (see **Figure 2-21**). Land uses under Alternative 2 would include approximately:

- 4,000 dwelling units (3,747 dwelling units West of Boren and 253 units East of Boren);
- 1,000,000 SF of office;
- 60,000 SF of neighborhood commercial (including 10,000 SF of neighborhood retail/office in the East of Boren Sector);
- 50,000 SF of neighborhood services (including the Yesler Community Center);
- 6.5 acres of public open space (including the 1.4 acre Yesler Community Center parcel and a 1.9-acre Commons Park west of the existing Yesler Community Center) and 9.4 acres of semi-private open space; and,
- 5,100 parking spaces in garages within/under buildings.

The intensity of development would be highest in the NW Sector and lowest in the East of Boren Sector. It is assumed that the only existing building to be retained would be the City-owned Yesler Community Center.[10] Street vacations and new street dedications are proposed under this alternative to provide a more connected grid network internally and to/from the surrounding community. It is assumed that substantial transportation and utility infrastructure improvements would be required to support proposed uses. This alternative would require a Land Use Code text amendment and rezone to allow mixed use redevelopment. It may also require a City of Seattle Comprehensive Plan amendment (See Section 3.9, **Plans and Policies**, for additional detail).

In this alternative, a larger number of high-rise buildings (3 office/hotel and 2 residential) are located in the NW Sector, which is topographically the highest portion of the site. These locations minimize view impacts to other buildings on the site and cluster high-rise buildings adjacent to the high-rise zoning at the Harborview Hospital. All minimum high-rise location criteria standards are met in this sector (See **Section 2.8.3**). Five residential high-rise buildings are distributed in the remaining sectors and located to minimize shadows on parks and maximize public and private views. This alternative shows some high-rise building configurations that are less than the maximum allowed height to demonstrate the maximum number of high-rise buildings that could be accommodated in this alternative and still meet the location criteria (See **Table 2-7** and **Figure 2-17**).

[10] On October 6, 2010, the Yesler Terrace Steam Plant was designated as a City Landmark. Please see Section 2.7.3, **Steam Plant Retention**, Section 3.11, **Historic Resources**, and **Appendix L** for additional information about potential mitigation requirements for demolition of the Steam Plant building.



Source: CollinsWoerman, 2010

Sector	Use	Area (sq ft)
NW Sector	Housing - 1,055 units	959,196
	Office[1]	1,001,126
	Neighborhood Commercial[2]	20,000
	Neighborhood Services[3]	10,000
12.1 Acres	*Subtotal*	1,990,325
NE Sector	Housing - 602 units	566,012
	Office	0
	Neighborhood Commercial	15,000
	Neighborhood Services	10,000
5.7 Acres	*Subtotal*	591,012
SE Sector	Housing - 1,129 units	1,022,043
	Office	0
	Neighborhood Commercial	15,000
	Neighborhood Services	8,000
6.2 Acres	*Subtotal*	1,045,043
SW Sector	Housing - 961 units	854,208
	Office	0
	Neighborhood Commercial	0
	N'hood Services (existing)	21,971
10.8 Acres	*Subtotal*	876,179
Summary of NW, NE, SE & SW Sectors	Housing - 3,747 units	3,401,462
	Office	1,001,126
	Neighborhood Commercial	50,000
	Neighborhood Services	49,971
34.8 Acres	*Total*	4,502,559
East of Boren (EOB)	Housing - 253 units	232,751
	Office	0
	Neighborhood Commercial	10,000
	Neighborhood Services	0
1.8 Acres	*Subtotal*	242,751
Summary of All Sectors	Housing - 4,000 units	3,634,213
	Office	1,001,126
	Neighborhood Commercial	60,000
	Neighborhood Services	49,971
36.6 Acres	*Total*	4,745,310
Open Space for Public Use (5.0 acres)		217,726

Includes commons park, sector parks (one in each sector) and sector pocket parks; excludes open space at the City-owned Yesler Community Center.

[1]Office: Larger commercial uses (e.g. single-use offices and hotels)
[2]Neighborhood Commercial: Retail and small office uses
[3]Neighborhood Services: Social services, non-profits, etc.
[4]As of November 2009 in Livable South Downtown proposed zoning

Figure 2-21
Redevelopment Alternative 2, Medium Density

Yesler Terrace
Redevelopment EIS

Table 2-7
ALTERNATIVE 2
POTENTIAL MID-RISE AND HIGH RISE BUILDINGS[1,2]

Sector	Number of Mid-Rise Residential Buildings (max 75 ft)	Number of High- Rise Residential Buildings	Number of High-Rise Office/Hotel Buildings	Total Number of High-Rise Buildings
NW Sector	7	2 (max. 240'/ both bldgs modeled at 190')	3 (240' max; three bldgs modeled at 190', 200' and 240'	**5**
NE Sector	4	1 (240' max./ 230' modeled)	0	**1**
SE Sector	6	2 (240' max./ one bldg modeled at 230', other bldg modeled at 190')	0	**2**
SW Sector	6	2 (240' max/ both bldgs modeled at 140')	0	**2**
East of Boren	3	0	0	**0**
Total Site	**24**	**7**	**3**	**10**

Source: CollinsWoerman, 2010.
[1] Mid-rise buildings are defined in this EIS as less than 100 feet and high-rise buildings as 100 feet or more.
[2] Both the maximum height and the height modeled in the capacity analysis of this alternative were analyzed in this EIS.

Following are descriptions of the specific components of this alternative.

Housing

The average housing density over the site under this alternative would be approximately 227 dwelling units/acre. The capacity model for this alternative assumes the housing would be comprised of a combination of 7 and 8-story mid-rise buildings (approximately 85 feet in height) and seven 14 to 23-story high-rise buildings (up to a maximum of 240 feet throughout the West of Boren sectors). No low-rise buildings (4 stories or less) would be assumed in this alternative, but could be developed if market conditions warrant. High-rise residential buildings would be oriented and distributed throughout the site to facilitate the long-term protection of views from public spaces and to control the near and distant viewshed from the buildings. Minimum spacing between high-rise buildings would be established to protect these views. Typical housing would be contained in single-use or mixed use buildings. Two-story ground–level housing units (with private open space for unit occupant use) could be provided in the base of some mid-rise and high-rise residential buildings in some locations. Some mixed use buildings could also include neighborhood commercial and neighborhood service uses located up to 3 stories above ground level.

Housing would be provided for extremely low (at or below 30 percent AMI) and very low income (at or below 50 percent AMI) households, as well as low income (at or below 80 percent AMI) and market rate households.

Office/Hotel

It is assumed that the office component (other than small offices in neighborhood commercial areas) of this alternative would be located only in the NW Sector of the site, adjacent to other intense non-housing uses offsite, such as Harborview Hospital and other medical office uses to the north. Single-use office buildings would be allowed in the NW Sector. Hotel use could also be located in the NW Sector. Office buildings in this sector could be designed as stand-alone buildings or clustered to provide a campus-type configuration with shared open space, parking and other facilities. The maximum height for office/hotel uses would be 240 feet in the NW Sector. The capacity model for this alternative assumes office and hotel development would occur in three high-rise buildings of 15 to 19 stories (190 ft. - 240 ft. in height). The square footage of office development assumed in Alternative 2 is approximately 25 percent more than that of Alternative 1, resulting in taller office buildings than Alternative 1. Office/hotel development floor-area ratio (FAR) is estimated at approximately 7.6.

Neighborhood Commercial

Neighborhood commercial uses under this alternative would be as described under Alternative 1. In Alternative 2, neighborhood commercial uses could also be located along Boren Avenue, near E Yesler Way and could occur in all sectors except the SW sector. Alternative 2 includes approximately 20,000 SF more neighborhood commercial use than Alternative 1 or 1A.

Neighborhood Services

Neighborhood service uses under this alternative would be the same as described under Alternative 1.

Parks and Open Space

A 1.9-acre Commons Park would be provided in the core of Yesler Terrace, adjacent to the existing 1.4-acre City of Seattle parcel containing the Yesler Community Center, and would be slightly larger than the Commons Park described in Alternative 1. Sector parks and semi-private open space would also be provided, as described in Alternative 1.

Alternative 2 includes a total of 15.9 acres of parks and open space comprised of 6.5 acres of public open space (including the existing 1.4 acre Yesler Community Center and a 1.9 acre Commons Park) and 9.4 acres of semi-private open space. The 1.4 acre steep slope and inaccessible area in the SW sector would be redeveloped. This alternative would provide more public and semi-private open space than Alternative 1 (1.2 acres more) and Alternative 1A (0.7 acres more).

Access

The circulation concept for Alternative 2 is based on a comprehensive reconfiguration of the circulation infrastructure across the site. This new configuration would enhance connections to surrounding neighborhoods and provide an internal circulation loop of secondary rights-of-way which would connect all of the site sectors without the need to travel on primary rights-of-way (see **Figure 2-12**).

The following road segments would be vacated under Alternative 2:

- Terry Avenue;
- Spruce Street;
- 8th Avenue from Spruce Street to Yesler Way;
- 8th Avenue S from Yesler Way to the property line at Interstate 5;
- Service road around the Steam Plant (portion not within new 9th Avenue alignment);
- S Washington Street from 10th to 12th Avenue; and
- Portions of 10th Avenue and 10th Avenue S to allow for straightening of right-of-way;
- S Main Street west of 10th Avenue S; and
- Stub of 9th Avenue south of S Main Street.

The following alley would be vacated under Alternative 2:

- The southern portion of the alley between Terry Avenue and 9th Avenue, north of Spruce Street (the northern portion was previously vacated).

The following streets would be dedicated under Alternative 2:

- Fir Street would be dedicated from Broadway to 9th Avenue;
- 9th Avenue would be dedicated from E Fir Street to Yesler Way:
- 9th Avenue S would be dedicated from Yesler Way to S Washington Street;
- S Washington Street would be dedicated from 9th Avenue S to 10th Avenue S;
- 10th Avenue S would be dedicated from S Washington Street to S Main Street; and
- Additional right-of-way adjacent to 10th Avenue would be dedicated to widen and straighten the existing right-of-way; and,
- Additional right-of-way would be dedicated adjacent to Yesler Way and E Yesler Way to accommodate capacity for complete streets, low-impact development and green street improvements.

Parking

It is assumed that parking under this alternative would be provided in below-grade structures under buildings, plazas and open space. Typically, parking would be provided below individual buildings, but in some cases parking could be combined and located below multiple buildings. Parking for delivery vehicles would be accommodated off street within building structures. A few short-term surface parking stalls could be provided on the site under this alternative. Designated delivery and drop off zones would be provided in the parking zone of the street rights-of-way. On-street parking in rights-of-way is controlled by the City and could be metered for primary use by visitors to the site.

Utilities

Under Alternative 2, it is assumed that new water mains would be installed in 9th Avenue and 9th Avenue S, 10th Avenue and 10th Avenue S, 12th Avenue, E Fir Street, S Washington Street and S Main Street. Existing water mains would remain in E Yesler Way and Broadway.

New sewer mains are assumed along I-5 ROW south of E Yesler Way, 9th Avenue, 9th Avenue S, 10th Avenue and 10th Avenue S, S Washington Street and S Main Street. Water services and side sewers would be replaced (see Section 3.14, **Utilities**, for details).

The permanent stormwater control system would be similar to under Alternative 1. Green Stormwater Infrastructure (GSI) facilities under Alternative 2 could include permeable pavement access roads, courtyards and private sidewalks, green roofs (more than Alternative 1), bioretention planters and swales. If the extent of assumed green stormwater infrastructure is not feasible, then stormwater vaults/tanks serving individual parcels could be used.

All electrical and communication lines would be placed underground. New natural gas mains may be provided on new streets and service lines would be provided onsite.

See Section 3.3, **Water Resources**, and Section 3.14, **Utilities**, for additional detail.

Alternative 3 – Higher Density

Overall Development Concept

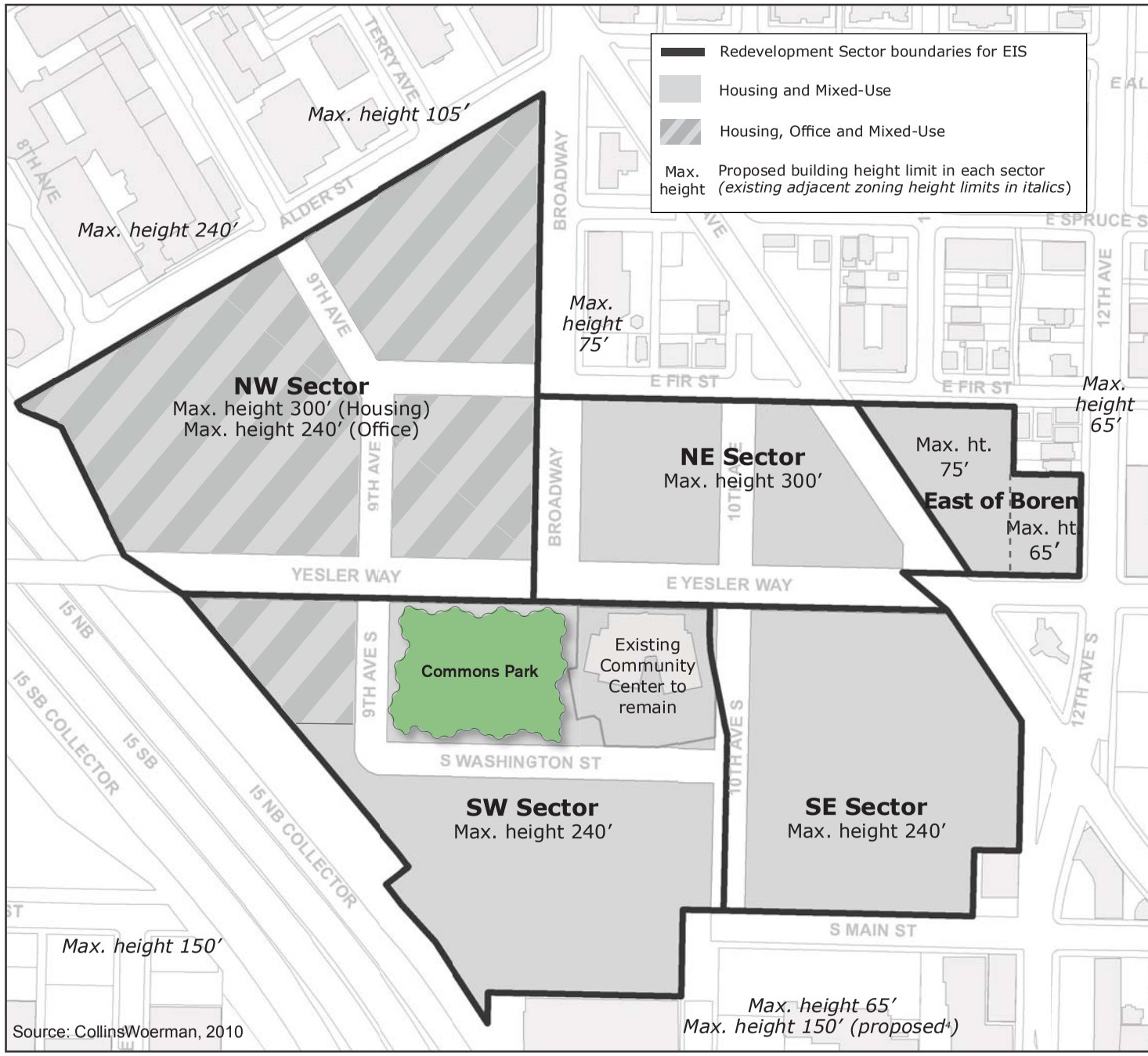
Alternative 3 represents the higher range of potential redevelopment of the site, with an assumed 5.84 million SF of housing-based/mixed use redevelopment over the assumed 20-year planning horizon (see **Figure 2-22**)

Land uses under Alternative 3 would include approximately:

- 5,000 dwelling units (4,697 units West of Boren and 303 units East of Boren);
- 1,200,000 SF of office (a portion of which could be hotel);
- 88,000 SF of neighborhood commercial (including 18,000 SF of neighborhood retail/office in the East of Boren Sector);
- 50,000 SF of neighborhood services (including the Yesler Community Center);
- 6.9 acres of public open space (including the 1.4 acre Yesler Community Center and outdoor play area and a 1.9-acre Commons Park west of the existing Yesler Community Center), and 9.2 acres of semi-private open space; and,
- 6,300 parking spaces within/under buildings.

The intensity of development would be highest in the NW Sector and lowest in the East of Boren Sector. It is assumed that the only existing building to be retained would be the City-owned Yesler Community Center.[11] Street vacations and new street dedications are also proposed under this alternative to provide a more connected grid network internally and to/from the surrounding community. It is assumed that substantial transportation and utility infrastructure improvements would be required to support proposed uses. This alternative would require a Land Use Code text amendment and rezone to allow mixed use redevelopment. It may also require a City of Seattle Comprehensive Plan amendment to neighborhood policies (See Section 3.9, **Plans and Policies**, for additional detail).

[11] On October 6, 2010, the Yesler Terrace Steam Plant was designated as a City Landmark. Please see Section 2.7.3, **Steam Plant Retention**, Section 3.11, **Historic Resources**, and **Appendix L** for additional information about potential mitigation requirements for demolition of the Steam Plant building.



Source: CollinsWoerman, 2010

Sector	Use	Area (sq ft)
NW Sector	Housing - 1,351 units	1,214,262
	Office[1]	1,001,660
	Neighborhood Commercial[2]	30,000
	Neighborhood Services[3]	10,000
12.1 Acres	*Subtotal*	2,255,922
NE Sector	Housing - 856 units	782,628
	Office	0
	Neighborhood Commercial	18,000
	Neighborhood Services	10,000
5.7 Acres	*Subtotal*	810,628
SE Sector	Housing - 1,366 units	1,222,806
	Office	0
	Neighborhood Commercial	10,000
	Neighborhood Services	8,000
6.2 Acres	*Subtotal*	1,240,806
SW Sector	Housing - 1,124 units	997,284
	Office	200,000
	Neighborhood Commercial	12,000
	N'hood Services (existing)	21,971
10.8 Acres	*Subtotal*	1,231,255
Summary of NW, NE, SE & SW Sectors	Housing - 4,697 units	4,216,980
	Office	1,201,660
	Neighborhood Commercial	70,000
	Neighborhood Services	49,971
34.8 Acres	*Total*	5,538,611
East of Boren (EOB)	Housing - 303 units	279,720
	Office	0
	Neighborhood Commercial	18,000
	Neighborhood Services	0
1.8 Acres	*Subtotal*	297,720
Summary of All Sectors	Housing - 5,000 units	4,469,700
	Office	1,201,660
	Neighborhood Commercial	88,000
	Neighborhood Services	49,971
36.6 Acres	*Total*	5,836,331
Open Space for Public Use (5.5 acres)		239,765

Includes commons park, sector parks (one in each sector) and sector pocket parks; excludes open space at the City-owned Yesler Community Center.

[1]Office: Larger commercial uses (e.g. single-use offices and hotels)
[2]Neighborhood Commercial: Retail and small office uses
[3]Neighborhood Services: Social services, non-profits, etc.
[4]As of November 2009 in Livable South Downtown proposed zoning

Figure 2-22
Redevelopment Alternative 3, Higher Density

Yesler Terrace
Redevelopment EIS

This alternative shows the maximum number of high-rise buildings which could be accommodated on the site using the location criteria (See **Figure 2-18**). The NW Sector has 6 high-rise buildings (3 office/hotel and 3 residential) and is the most dense sector located adjacent to the high-rise zoning at Harborview Hospital. The remaining seven residential high-rise buildings and one mixed use building (office and housing) are located approximately proportionally in the remaining sectors of the site. Locations were chosen to create a greater amount of open space above 100 feet at the center of the site to compensate for the increased height, bulk and scale of development. This alternative shows some high-rise building configurations that are less than the maximum allowed height to demonstrate the maximum number of high-rise buildings that could be accommodated in this alternative and still meet the location criteria (See **Table 2-8)**.

Table 2-8
ALTERNATIVE 3
POTENTIAL MID-RISE AND HIGH RISE BUILDINGS[1,2]

Sector	Number of Mid-Rise Residential Buildings	Number of High- Rise Residential Buildings	Number of High-Rise Office/Hotel Buildings	Total Number of High-Rise Buildings
NW Sector	5	3 (max. 300'/ all three bldgs modeled at 280')	3 (240' max; three bldgs modeled at 190', 200' and 240'	**6**
NE Sector	2	2 (300' max./ both bldgs modeled at 280')	0	**2**
SE Sector	4	3 (240' max./ all three bldgs modeled at 220')	0	**3**
SW Sector	5	2 (240' max/ both bldgs modeled at 220')	1 (240' max/ modeled at 225'; half office/half housing)	**3**
East of Boren	3	0	0	**0**
Total Site	**19**	**10**	**4**	**14**

Source: CollinsWoerman, 2010.
[1] Mid-rise buildings are defined in this EIS as less than 100 feet and high-rise buildings as 100 feet or more.
[2] Both the maximum height and the height modeled in the capacity analysis of this alternative were analyzed in this EIS.

Following are descriptions of the specific components of this alternative.

Housing

The average housing density over the site under this alternative would be approximately 292 dwelling units/acre. The capacity model for this alternative assumes that the housing would be comprised of a combination of 6, 7 and 8-story mid-rise buildings (approximately 55 feet - 85 feet in height) and eleven 22 to 28-story high-rise buildings (a maximum of 300 feet in height north of Yesler Way and a maximum of 240 feet south of E Yesler Way). No low-rise buildings (4 stories or less) would be assumed in this alternative, but could be developed if market conditions warrant. High-rise residential buildings would be oriented and distributed throughout

the site to facilitate the long-term protection of views from public spaces and to control the near and distant viewshed from the buildings. Minimum spacing between high-rise buildings would be established to protect these views. Typical housing would be contained in single-use or mixed use buildings. Two-story ground–level housing units (with private open space for unit occupant use) could be provided in the base of some mid-rise and high-rise residential buildings in some locations. Some mixed use buildings could also include neighborhood commercial and neighborhood service uses located up to 3 stories above ground level.

Housing would be provided for extremely low (at or below 30 percent AMI) and very low income (at or below 50 percent AMI) households, as well as low income (at or below 80 percent AMI) and market rate households.

Office/Hotel

It is assumed that the office component (other than small offices in neighborhood commercial areas) of this alternative would be located in the NW Sector, adjacent to other intense non-housing uses offsite, such as Harborview Hospital and other medical uses to the north, and a small portion of the SW Sector of the site, adjacent to I-5. Single-use office buildings would be allowed in the NW Sector, and the northwest corner of the SW Sector, adjacent to E Yesler Way. Hotel use could also be located in the NW Sector as described above under Alternatives 1 and 2. Office buildings in the NW Sector could be designed as stand-alone buildings or clustered to provide a campus-type configuration with shared open space, parking and other facilities. The maximum height for office/hotel uses would be 240 feet. The capacity model for this alternative assumes office and hotel development in 4 high-rise buildings of 13 to 18 stories (140 ft. to 225 feet). The square footage of office development assumed in Alternative 3 is approximately 50 percent more than that of Alternative 1 and 20 percent more than Alternative 2, resulting in one additional high-rise as compared to Alternatives 1 and 2. Office/hotel development floor-area ratio (FAR) is estimated at approximately 6.7.

Neighborhood Commercial

Neighborhood commercial uses under this alternative would be the same as described under Alternative 1 and 2. Alternative 3 includes approximately 28,000 SF more neighborhood commercial use than Alternative 2 and 48,000 more neighborhood commercial use than Alternative 1 or 1A. Within this overall square footage, the East of Boren Sector includes 8,000 SF more neighborhood commercial use than Alternatives 1, 1A and 2.

Neighborhood Services

Neighborhood service uses under this alternative would be the same as described under Alternative 1.

Parks and Open Space

A 1.9-acre Commons Park would be provided in the core of Yesler Terrace, adjacent to the existing 1.4-acre City of Seattle parcel containing the Yesler Community Center, similar to Alternative 2. Sector parks and semi-private open space would also be provided, as described in Alternative 1.

Alternative 3 includes a total of 16.1 acres of parks and open space comprised of 6.9 acres of public open space (including the 1.4 acre Yesler Community Center and a 1.9 acre Commons

Park) and 9.2 acres of semi-private open space. The 1.4 acre steep slope and inaccessible area in the SW sector would be redeveloped. This alternative would provide more public and semi private open space than Alternatives 1 (1.4 acres), 1A (0.9 acres), or 2 (0.2 acres).

Access

It is assumed that site access would be provided as described under Alternative 2 (see **Figure 2-13**).

Parking

It is assumed that parking would be provided as described under Alternative 2.

Utilities

The sewer, water and stormwater control systems, including necessary replacements, are assumed to be similar to Alternative 2 (see Section 3.14, **Utilities**, for details).

Green Stormwater Infrastructure (GSI) facilities in the stormwater control system could include permeable pavement access roads, courtyards and private sidewalks, green roofs (more than Alternative 1 and 2), bioretention planters and swales. If the assumed extent of the green stormwater infrastructure is not feasible, then stormwater vaults/tanks serving individual parcels could be used.

As with Alternative 2, all electrical and communication lines would be placed underground. New natural gas mains and service lines would be provided onsite.

Alternative 4 – Existing L3 Zoning

Overall Development Concept

Under Alternative 4, the Lowrise-3 (L3) zoning designation would govern future redevelopment of the portion of the site west of Boren (West of Boren Sectors)[12] and assumes 1.5 million SF of residential development. Redevelopment in the East of Boren Sector would occur under existing zoning (MR and NC3), similar to Alternatives 1-3. It is assumed that three existing on-site buildings (the Jesse Epstein office building, the Steam Plant, and the City-owned Yesler Community Center) would be retained. It is also assumed that all new construction would conform to the proposed new multi-family (L3) zoning code changes being considered by the City (see **Figure 2-23**). Redevelopment under this alternative would include approximately:

- 1,523 dwelling units (1,219 units West of Boren and 304 units East of Boren);
- 5.2 acres of public open space (including the 1.4 acre Yesler Community Center and outdoor play area and a 1.7 acres Commons Park west of the existing Yesler Community Center), and 7.9 acres of semi-private open space; and,
- 1,840 parking spaces within/under buildings and surface parking stalls (approximately 50 percent of each type).

[12] For Alternative 4, Existing Zoning, draft code revisions for the L3 zone dated May 18, 2009 were used to project proposed development.

The intensity of development would be highest in the East of Boren Sector and lowest in the SW Sector. No street vacations are proposed under this alternative. Street frontage (sidewalk/landscaping) and limited utility improvements would be required to support proposed uses. Additional right-of-way on some streets (10th Avenue/10th Avenue S and S Washington Street) may be dedicated for increased width and to correct alignment.

SHA has determined that Alternative 4 does not meet the Proposal objectives, (see list of Objectives in **Section 2.4)**. This alternative would not redevelop the site into a mixed use neighborhood, as this alternative only includes residential uses. The opportunity to develop additional low income housing, as well as a wider range of mixed-income housing, adjacent to the Downtown Seattle core and other major employers and institutions would be lost. (The additional 962 housing units beyond the replacement of the existing 561 low income units would need to be market rate housing in order to contribute to the financial feasibility of this alternative.) No additional employment opportunities would be created by the provision of office, hotel or neighborhood commercial space.

Housing

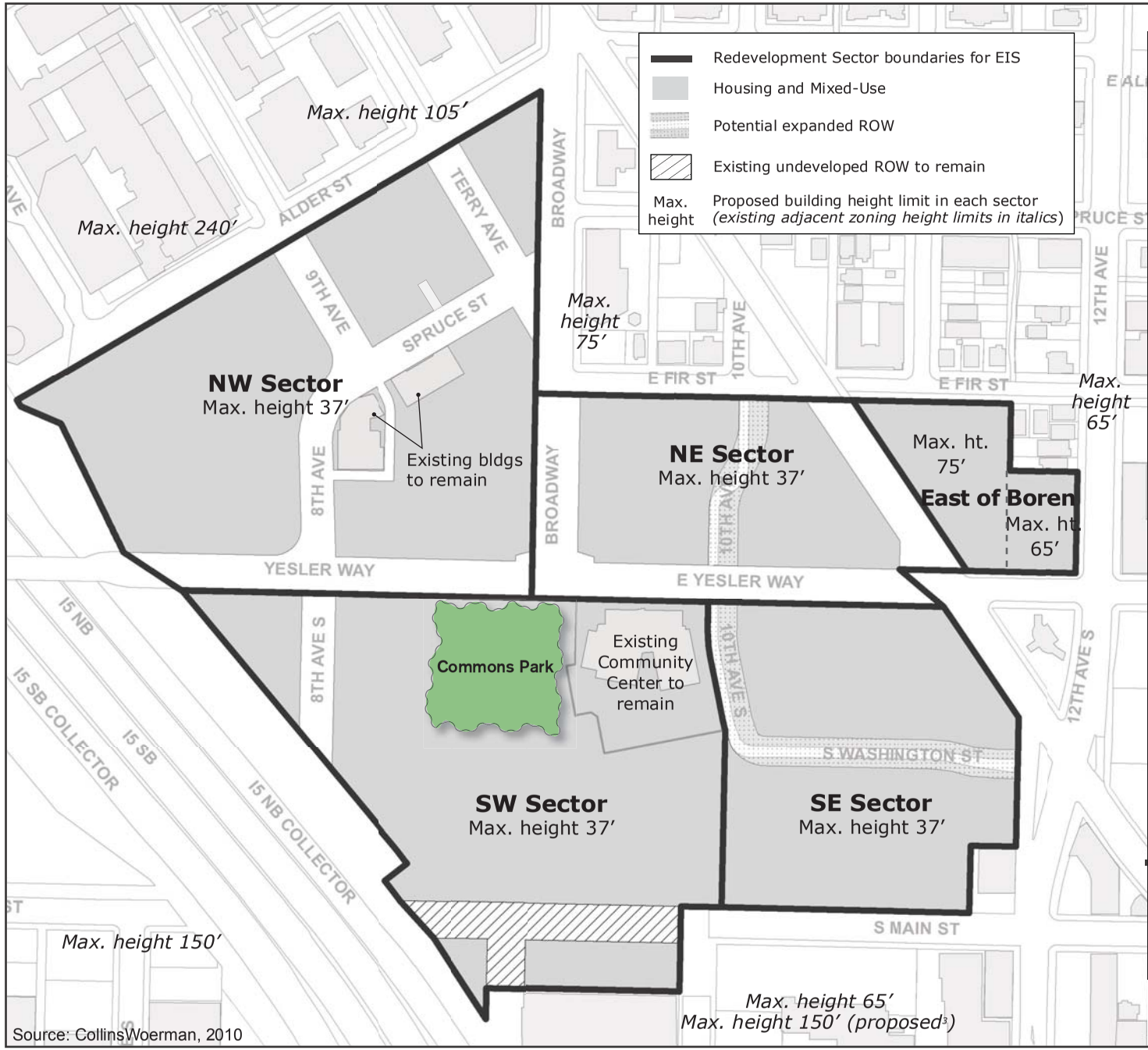
The average housing density under this alternative would be approximately 74 dwelling units/acre. The housing would be comprised of 4-story low-rise buildings (approximately 37 ft. - 42 ft. in height with sloped roofs). Typical housing would be single-use buildings. Two-story housing units could be provided at the base of the 4-story buildings to increase the number of ground-level units. These units would be narrower than flat units and would provide private open space for unit occupant use. Housing would be provided for low (at or below 80 percent AMI) and market rate households, however, SHA would likely continue to target extremely low income households (at or below 30 percent AMI). No additional housing units would be provided for very low or low income households beyond the replacement of the 561 existing low income housing units.

Office

The office component of this alternative would only be comprised of the existing Jesse Epstein building in the NW Sector, since new office uses are not permitted under L-3 zoning. Office development floor-area-ratio (FAR) would be approximately 2.0.

Neighborhood Commercial

No neighborhood commercial uses are assumed under this alternative within the West of Boren Sectors, as commercial uses are not allowed under Low-rise 3 zoning. Approximately 10,000 SF of ground-floor neighborhood commercial uses are proposed in the East of Boren Sector as required under existing zoning (Neighborhood Commercial (NC3P-65).



Source: CollinsWoerman, 2010

Sector	Use	Area (sq ft)
NW Sector	Housing - 449 units	422,500
	Office (existing Epstein Bldg)	20,259
	Neighborhood Commercial[1]	0
	N'hood Services (existing)[2]	8,467
12.1 Acres	*Subtotal*	451,226
NE Sector	Housing - 154 units	149,198
	Office	0
	Neighborhood Commercial	0
	Neighborhood Services	19,500
5.7 Acres	*Subtotal*	168,698
SE Sector	Housing - 317 units	296,942
	Office	0
	Neighborhood Commercial	0
	Neighborhood Services	0
6.2 Acres	*Subtotal*	296,942
SW Sector	Housing - 299 units	274,895
	Office	0
	Neighborhood Commercial	0
	N'hood Services (existing)	21,971
10.8 Acres	*Subtotal*	296,866
Summary of NW, NE, SE & SW Sectors	Housing - 1,219 units	1,143,535
	Office	20,259
	Neighborhood Commercial	0
	Neighborhood Services	49,938
34.8 Acres	*Total*	1,213,732
East of Boren (EOB)	Housing - 304 units	272,145
	Office	0
	Neighborhood Commercial	10,000
	Neighborhood Services	0
1.8 Acres	*Subtotal*	282,145
Summary of All Sectors	Housing - 1,523 units	1,415,680
	Office	20,259
	Neighborhood Commercial	10,000
	Neighborhood Services	49,938
36.6 Acres	*Total*	1,495,877
Open Space for Public Use (3.7 acres)		164,367

Includes commons park, sector parks (one in each sector) and sector pocket parks; excludes open space at the City-owned Yesler Community Center.

[1]Neighborhood Commercial: Retail and small office uses
[2]Neighborhood Services: Social services, non-profits, etc.
[3]As of November 2009 in Livable South Downtown proposed zoning

Figure 2-23
Redevelopment Alternative 4, Existing Zoning

Yesler Terrace
Redevelopment EIS

Neighborhood Services

No new neighborhood service uses are assumed under this alternative. The existing neighborhood services could be relocated into a single-use neighborhood services building near the Yesler Community Center or individually along or adjacent to primary or secondary streets.

Parks and Open Space

Similar to Alternative 1, a 1.7-acre Commons Park would be provided in the core of Yesler Terrace, adjacent to the existing 1.4-acre City of Seattle parcel containing the Yesler Community Center. Sector parks and semi-private open space would also be provided, as described in Alternative 1.

Alternative 4 includes a total of 14.5 acres of parks and open space comprised of 5.2 acres of public open space (including the 1.4 acre Yesler Community Center and a 1.7 acre Commons Park), 7.9 acres of semi-private open space, and the 1.4 acre steep slope and inaccessible area in the SW Sector which would remain. Alternative 4 provides less public and semi-private open space than Alternatives 1-3.

Access

The circulation concept for Alternative 4 is similar to Alternative 1, leaving all existing rights-of-way in their present locations (street configuration would remain but new sidewalk and landscaping would be provided). Additional right-of-way adjacent to 10th Avenue and 10th Avenue S, as well as Washington Street, would be dedicated to provide the minimum required right-of-way. Similar to Alternatives 1 and 1A, this alternative will also leave the existing unimproved rights-of-way in the southern portion of the site unimproved and would not require any street vacations (see **Figure 2-14**).

Parking

It is assumed that parking under this alternative would be provided as a combination of surface and structured parking at or below grade under buildings. Typically, structured parking would be provided below individual buildings and open space. Surface parking would be located adjacent to housing and accessed via private roads or drives which connect to streets. Parking for delivery vehicles would be accommodated off street adjacent to buildings. Designated delivery and drop off zones would be provided in the parking zone of the street right-of-ways. On-street parking in right-of-ways is controlled by the city and could be metered or time limited for primary use by visitors to the site.

Utilities

The sewer, water and stormwater control systems, including necessary replacements, are assumed to be similar to Alternative 1.

GSI facilities in the stormwater control system could include permeable pavement access roads, courtyards and private sidewalks, bioretention planters and swales. No green roofs are assumed under this alternative. If the assumed extent of the green stormwater infrastructure is not feasible, then stormwater vaults/tanks serving individual parcels could be used.

Some of the existing overhead electrical lines would be replaced. New natural gas service lines onsite would be provided.

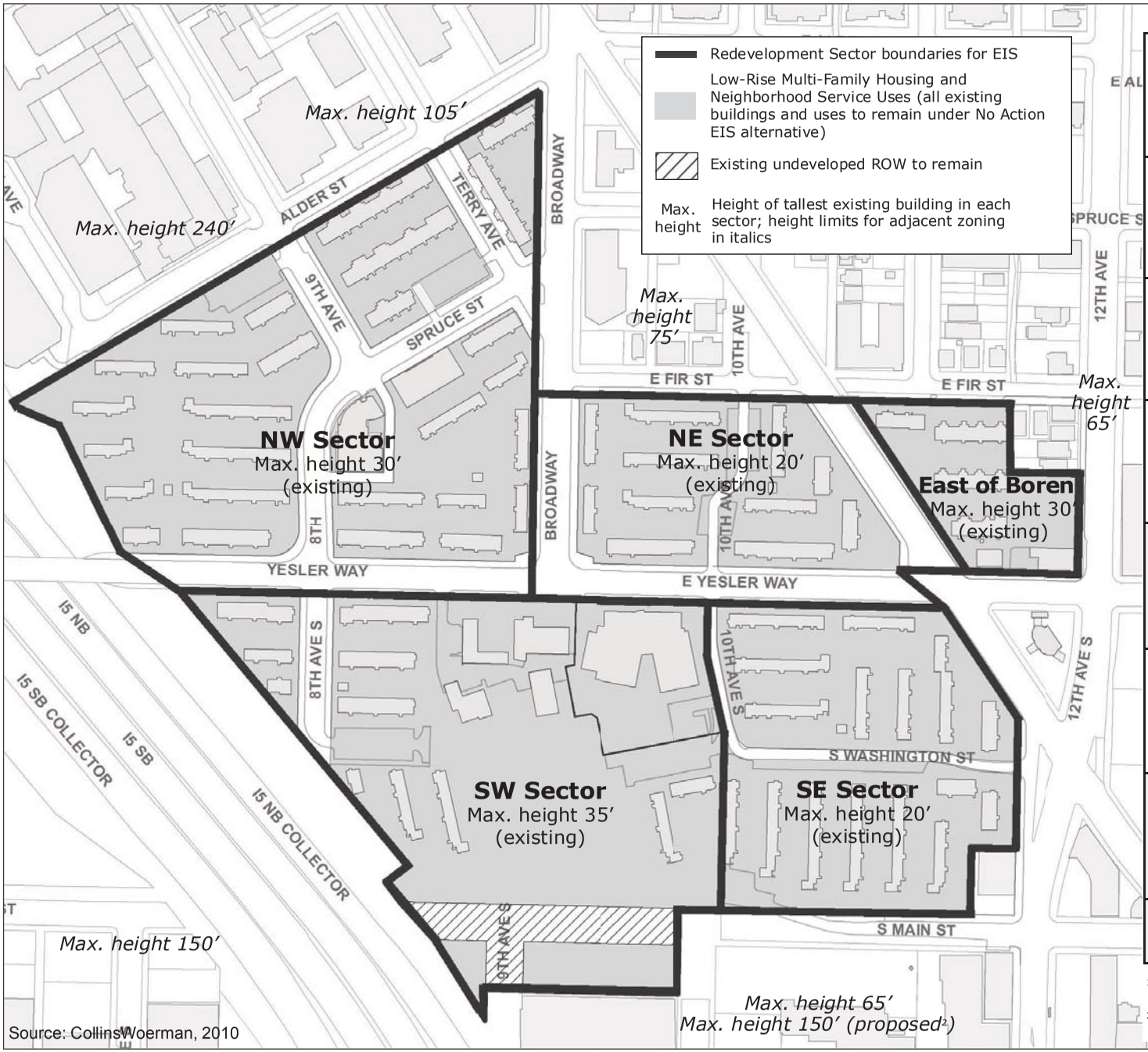
No Action Alternative

This alternative represents a continuation of the site in its present condition, including the East of Boren Sector (see **Section 2.6.2** of this Chapter for details). As under Alternative 4, the City of Seattle Lowrise 3 (L3) zoning designation would govern potential replacement of existing buildings in the West of Boren Sectors, and the existing MR and NC3 zoning would govern replacement of buildings in the East of Boren Sector.

The existing 561 low income public housing units would be repaired or replaced in the same location and same configuration as necessary, or on a programmed schedule by SHA. No additional housing units would be provided for very low or low income households. The existing on-site non-residential buildings and the neighborhood service uses within them would remain: the old community center and gym, the old administration building, the Head Start building, the SHA storage building, the Jesse Epstein building, the Steam Plant and the Yesler Community Center (see **Figure 2-24)**. The existing baseball field and the private and semi-public open space near the existing housing units would also remain.

Existing streets, utilities and other infrastructure would be repaired as necessary over time and would be built consistent with City of Seattle Code requirements. No stormwater improvements are assumed. Under the No Action Alternative, it is assumed that some of the water service lines onsite would be replaced and fire sprinkler services would be provided for existing buildings. Under the No Action Alternative, the private trunk sewer lines would need to be replaced at some point in the future.

SHA has determined that the No Action Alternative does not meet the Proposal objectives (see list of objectives in **Section 2.4)**. This alternative would not redevelop the site into a higher density, mixed use, mixed income neighborhood, nor would a vibrant, diverse, environmentally sustainable community integrating uses, activities and incomes be created. The opportunity to expand low income housing opportunities would be lost, as would the opportunity to develop additional low income housing adjacent to the Downtown Seattle core and other major employers and institutions. No additional employment opportunities would be created by the provision of office, hotel or neighborhood commercial space. The Yesler Terrace community would remain physically isolated by site design deficiencies, and would not be reconnected to surrounding neighborhoods. No improved or sustainable system of streets, parks and open spaces would be developed. Buildings would only be repaired or replaced as necessary, or on a programmed schedule. Only minor improvements to aging infrastructure would be made to ensure functional operations (See **Section 2.5.2**, Need). Prior to replacement or repair, buildings would remain in their current condition, including not meeting current fire, seismic, and other building code requirements.



Sector	Use	Area (sq ft)
NW Sector	Housing - 231 units	200,731
	Office (Epstein Bldg)	20,259
	Neighborhood Commercial	0
	N'hood Services (existing)[1]	8,467
12.1 Acres	*Subtotal*	229,457
NE Sector	Housing - 87 units	62,953
	Office	0
	Neighborhood Commercial	0
	Neighborhood Services	3,331
5.7 Acres	*Subtotal*	66,284
SE Sector	Housing - 118 units	101,944
	Office	0
	Neighborhood Commercial	0
	Neighborhood Services	0
6.2 Acres	*Subtotal*	101,944
SW Sector	Housing - 85 units	61,767
	Office	0
	Neighborhood Commercial	0
	N'hood Services (existing)	37,544
10.8 Acres	*Subtotal*	99,311
Summary of NW, NE, SE & SW Sectors	Housing - 521 units	427,395
	Office	20,259
	Neighborhood Commercial	0
	Neighborhood Services	49,342
34.8 Acres	*Total*	496,996
East of Boren (EOB)	Housing - 42 units	40,847
	Office	0
	Neighborhood Commercial	0
	Neighborhood Services	0
1.8 Acres	*Subtotal*	40,847
Summary of All Sectors	Housing - 563 units	468,242
	Office	20,259
	Neighborhood Commercial	0
	Neighborhood Services	49,342
36.6 Acres	*Total*	537,843
Open Space for Public Use (2.3 acres)		102,000

Includes ballfield, play areas, and P-Patches; excludes open space at the City-owned Yesler Community Center.

[1]Neighborhood Services include existing buildings such as the Yesler Community Center, Steam Plant, SHA management, etc.
[2]As of November 2009 in Livable South Downtown proposed zoning.

Figure 2-24
No Action Alternative

Yesler Terrace
Redevelopment EIS

2.9 SEPARATE ACTIONS/BACKGROUND PROJECTS

First Hill Streetcar Project

A new streetcar line, the First Hill Streetcar, was part of the mass transit system expansion that was approved by voters in November 2008. The new two-mile line will link First Hill employment centers, with connections in Capitol Hill and the International District. The City of Seattle is the SEPA Lead Agency for the First Hill Streetcar project, and in May 2010 the City Council identified the preferred route that would be analyzed pursuant to SEPA. The preferred route runs through the Yesler Terrace site, traveling north and south on Broadway and east and west on E Yesler Way (see **Figure 2-11 through Figure 2-14**). A streetcar stop would be located within the site, on E Yesler Way, immediately east of the Broadway/Yesler Way intersection. The City anticipates completing SEPA review by the third quarter of 2010, and Sound Transit is expected to vote on the project by the end of 2010. The new First Hill Streetcar line is scheduled to be operational by 2013/2014 (see Section 3.13, **Transportation**, for details).

City of Seattle Initiated Comprehensive Plan Amendment

In May 2010 the City of Seattle Department of Planning and Development initiated a proposed amendment to the Seattle Comprehensive Plan to address how the City wanted to conduct planning for large sites, called Master Planned Communities. The amendment would establish a City policy and also proposes to make the Yesler Terrace site subject to that policy. The text of the Plan would be amended to include the new policy, and the designation of the Yesler Terrace site on the Future Land Use Map in the Plan would change from the current Multi-Family Residential designation to a “Master Planned Community” designation.

The City of Seattle is the SEPA Lead Agency for the 2010-2011 annual Comprehensive Plan Amendments, including those described above for Master Planned Communities. These amendments will be considered by the City as part of its annual 2010-2011 Comprehensive Plan Amendment cycle. In July 2010, the Seattle City Council approved the docket of amendments to be considered in the 2010 - 2011 cycle, and included the Master Planned Communities amendment on the docket. The final decision on approval of amendments will be made by the City Council in March 2011.

The Yesler Terrace Redevelopment Draft EIS evaluates whether the Yesler Terrace Proposal is consistent with the City’s Comprehensive Plan policies, as they exist at the time of publication of the Draft EIS, while noting that changes are pending. The discussion in the EIS will provide information to help decision makers determine whether further amendments to those policies are needed or desirable to accompany the proposed rezone of the site, separate from the City-initiated amendments that are currently pending.

2.10 ALTERNATIVES ELIMINATED FROM DETAILED STUDY

Off-Site Alternatives

The SEPA Guidelines (Washington Administrative Code 197-11-440) require that certain projects involving rezones include analysis of whether alternative sites can meet project objectives. In considering off-site alternatives, SHA determined that there were no other sites that could meet the Proposal’s objectives. The purpose and need for the project is specifically to redevelop Yesler Terrace, given that the housing units on that site are at the end of their

useful life. Those housing units need to be replaced, and SHA believes that Yesler Terrace low income residents should be afforded the opportunity to remain in the neighborhood, at an improved Yesler Terrace site, in order to maximize access to transit, employment, and services.

In addition, the 36.6-acre Yesler Terrace site is the largest public housing site in the City of Seattle (with the exclusion of the three redeveloped HOPE VI communities), providing the second largest number of public housing units (New Holly includes 620 public housing units). No undeveloped sites of this size, particularly in proximity to the downtown area, are available within the City of Seattle to provide an alternative site for this project.

Neither SHA nor the City of Seattle own property of this acreage near the site to provide an alternative site for this project. SHA owns properties on more than 400 sites throughout the city, including 31 Low Income Public Housing communities, with housing spread among family communities with townhome units and medium- to large-sized high-rise apartment buildings. However, other large sites owned by SHA, such as High Point, New Holly and Rainier Vista, have already been redeveloped with new communities. Thus, there is no other SHA site that would be an alternative to the proposed Yesler Terrace Redevelopment.

In terms of off-site alternatives for the office/hotel component of the Proposal, Alternative 4 does not include these uses, and such development would necessarily occur off-site in other portions of the City zoned for that density. For example, zoning for Downtown currently allows office/hotel towers. Also, the City Council is considering revisions to the zoning for the South Downtown and South Lake Union areas of the City to allow new tower development in those areas. The City has conducted or is conducting its own environmental review of zoning changes in other areas of the City to address the impacts of new high-rise development. The office/hotel component of the Proposal, however, is necessary to contribute to the financial feasibility of the Proposal, and allows for additional on-site low income housing to be provided.

Alternatives to Non-Project Actions

The Yesler Terrace Redevelopment Proposal involves the non-project actions of an amendment to the City's Land Use Code to create a new zone, and a rezone of the property to that new zone. The Proposal may also involve additional City of Seattle Comprehensive Plan amendments, beyond those initiated by the City as part of the City's 2010-2011 annual amendment cycle.

The City and SHA considered alternatives to a Code amendment and new zone for the property, and concluded that none of the existing City Code mechanisms allow for a master-planned, mixed use phased development of the Yesler Terrace site. The existing Code mechanisms that were examined as alternatives include: Planned Community Development, Combined Lot, Major Phased Development, Major Institution Master Plans, and a contract rezone. The first four mechanisms are discussed in the chart below, and the fifth mechanism (a contract rezone) is discussed following the chart.

The first four mechanisms are not applicable to the Yesler Terrace proposal under current Code provisions:

Planned Community Development	Applies only to Downtown zone or when 20% of the area is adjacent to Downtown	Yesler Terrace is not within the area designated by the City as Downtown, and even if it were, only 20% of the site could qualify, thus undermining a master-planned approach
Combined Lot	Applies only to certain Downtown zones	Yesler Terrace is not within a Downtown zone
Major Phased Development	Applies only to Commercial and Industrial zones, and only non-residential development is allowed. Less flexibility for timing of build out. SEPA review differs from approach under a Planned Action Ordinance.	Yesler Terrace proposal objectives call for a mixed use community; residential use is essential, along with flexibility to vary the phasing and project components in response to market demand. The Planned Action Ordinance approach allows greater use of EIS for subsequent projects.
Major Institution Master Plans	Applies only to educational and medical institutions	Not suitable for mix of uses at Yesler Terrace

An existing City Code mechanism that could apply is a contract rezone. This mechanism is typically used for specific projects on individual parcels, rather than master-planned areas. Under a contract rezone, the zone designation of the individual parcel is changed, and the conditions on future development are applied through a Property Use and Development Agreement.

A contract rezone is not considered appropriate for the Yesler Terrace proposal because individual parcels and specific projects have not yet been identified, and existing zone designations do not necessarily match the proposed mix of uses and heights on various parts of the site. Rather than parcel-by-parcel zoning to reflect differences between and within the sectors, a single zone designation is sought with the conditions for future development specified through the Land Use Code text amendment that would create the new zone, and through the Planned Action Ordinance.

2.11 BENEFITS and DISADVANTAGES of DEFERRING IMPLEMENTATION OF THE PROPOSAL

The benefits of deferring the Proposal include deferral of:

- Potential impacts from redevelopment on the transportation network, including increased congestion and delay on area streets;

- Potential impacts from redevelopment on public services providers, including the City Fire and Police Departments, Parks and Public Utilities Departments and Seattle School District due to demand for fire and police services, parks and street maintenance and schools from new residents, employees and visitors to the site;
- Potential impacts from redevelopment on existing views from certain surrounding areas;
- Potential impacts from redevelopment on the air quality and noise environments onsite and in the surrounding area; and
- Disruptions and relocation of existing residents will occur on a smaller scale.

The disadvantages of deferring the Proposal include deferral of:

- The potential opportunity to integrate SHA housing as a component of a new environmentally sustainable, economically-diverse community with a mix of housing, employment, business and recreation opportunities.
- The potential opportunity to optimize density and land uses on a large, contiguous parcel near downtown Seattle;
- The potential opportunity to improve pedestrian experiences, walkability, parks and open space opportunities for the community;
- The potential opportunity to replace aging utilities experiencing problems;
- The potential opportunity to increase the quantity of affordable and low income housing;
- The potential opportunity to leverage the synergies associated with the streetcar station and route;
- The potential opportunity to reconnect the grid and the community with adjacent neighborhoods;
- The potential opportunity to locate neighborhood services and goods within walking distance of households; and
- The potential opportunity to replace sub-standard housing that does not meet current safety, health, fire and building code standards.

Chapter 3 - AFFECTED ENVIRONMENT, IMPACTS, ALTERNATIVES, MITIGATION MEASURES, and SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

CHAPTER 3

AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

This chapter describes the affected environment, probable significant impacts of the Proposed Actions and alternatives, relevant mitigation measures and significant unavoidable adverse impacts. The elements of the environment were determined based on the EIS Scoping process. For each element of the environment, impacts are discussed for Alternatives 1, 1A, 2, 3, 4 and the No Action Alternative.

3.1 EARTH

This section describes the existing topography, soils/geology and geologic hazard conditions on the Yesler Terrace site and in the site vicinity, and evaluates potential earth-related impacts from redevelopment under the EIS alternatives. This section is based on the October 2010, *Earth Technical Report* prepared by Landau Associates (see **Appendix D**).

3.1.1 Affected Environment

Information on the Yesler Terrace site and area earth-related conditions is based on a review of existing reports, published geologic mapping, historic information, as well as site-specific subsurface explorations and reconnaissance activities performed in support of this Draft EIS analysis. Additional information about data sources is provided in **Appendix D**.

Topography

The topography of the Yesler Terrace site generally slopes downward from north to south. Portions of the NE and SE Sectors slope to the east/southeast toward Boren Avenue and 12th Avenue S, and portions of the NW and SW Sectors slope to the west/southwest toward the WSDOT right-of-way that slopes westerly down to a retaining wall adjacent to I-5. The East of Boren Sector slopes downward generally to the southeast and east.

The site has an elevation change of approximately 150 feet from its highest point near the Harborview Medical Center complex to its lowest point located south of the S Main Street right-of-way and adjacent to the Pacific Rim Center building located on S Jackson Street. Numerous rockeries and small retaining walls are present across the site which result in moderately graded yards and open spaces punctuated by steep grade steps.

The southern portion of the SW Sector and the off-site area south of the SE Sector is characterized by slopes that exceed 30 percent grade (see Figures 3-4 and 3-5 in **Appendix D**).

Soils and Geology

This section briefly describes the existing soils and geologic conditions on the Yesler Terrace site and in the site vicinity. Additional information on these geologic conditions and a description of the specific conditions in each sector of the site is provided in **Appendix D**.

The existing topography, surficial geology and hydrogeology in the Yesler Terrace site vicinity has been shaped by various glacial deposits derived from the advance and retreat of the Vashon Ice Sheet approximately 13,000-15,000 years ago. Typical descriptions of the soils and geologic units encountered at or in the vicinity of the Yesler Terrace site are presented below ordered from the most shallow (youngest) to the deepest (oldest) deposits.

Surficial Geology/Soils

The surficial geology of the Yesler Terrace site is mapped as Vashon glacial till, with common occurrences of minor unmapped, local Vashon outwash and fill deposits. Near the western and southern border of the site, pre-Olympia fine-grained soils (silt and clay with sand partings and interbeds) are mapped.

Analysis of soil boring logs from previous onsite subsurface explorations as well as logs from subsurface explorations performed for this Draft EIS analysis, indicate differences from the mapped conditions. Near-surface soil conditions encountered in the NW, NE and EOB Sectors are generally consistent with the mapped geology. In the SW and SE Sectors, the boring logs indicate that the near-surface soils are less dense than what is indicated by mapped geology. According to the soil boring logs, the pre-Columbia fine-grained soils mapped along the south and west border of the site appear to be Lawton Clay, and are referred to as such throughout this section.

Geologic Units

The following geologic units are expected to underlay the site:

Fill/Modified Land

The term “modified land” is used to describe surficial geologic conditions that have been “modified” by human activities such as, but not limited to, cutting, filling, grading, and leveling. Fill material at the site is likely composed of glacial soils or alluvium that has been relocated from various locations and may consist of clay, silt, sand, and/or gravel. Dumped rock, construction debris, demolition rubble, abandoned foundations and utility services, and boulders may also be present. Minor illegal dumping of trash has occurred in the southern portion of the SW Sector; total accumulation of trash is estimated to be relatively small and could be removed as part of clearing and grading activities in the area. Locally, some efforts at compaction may have been made during placement of these fills, whereas in other areas limited efforts at compaction may have been made. Consequently, the relative density of the fill could vary widely and specific engineering properties of the fill materials could be very different from location to location. Fill material is likely to be encountered onsite behind rockeries, basement walls, or other areas where below-grade construction has occurred.

Landslide Deposits

Landslide deposits typically consist of intermixed debris from nearby soil units transported downslope as landslides, slumps, and earth flows. At the site, landslide deposits would likely consist of a mixture of overlying materials (fill/modified land and debris) and Vashon glacial till and outwash, plus any incorporated soil from the underlying Lawton Clay; some organic debris may be embedded in the slide debris.

The subsurface explorations performed in the steep slope/landslide area in the SW Sector onsite identified landslide deposits in that location, likely associated with the Jackson Street Regrade. These deposits primarily include loose, wet granular soils that appear to be derived predominantly from outwash materials above the Lawton Clay, plus a thin, weakened zone of soft, wet clay at the top of the Lawton Clay unit.

Vashon Recessional Outwash

Vashon Recessional Outwash deposits are geologic units that have not been overridden by glacial ice and are usually medium dense, ranging in composition from silty fine sand to clean coarse gravel with occasional cobbles and boulders. This unit is typically permeable and well drained, although it may be wet where water flow is retarded by less permeable underlying soils, such as around closed depressions in the surface of underlying glacial till. It may also exhibit local layers that are silty or clayey, and which may also contribute to perched groundwater. Where present at the site (generally north of the SHA Ballfield), recessional outwash may exist at depths of up to about 20 feet below ground surface (BGS).

Vashon Glacial Till

Glacial till typically consists of a heterogeneous mix of gravelly sand with scattered cobbles and boulders in a clay/silt matrix deposited beneath glacial ice. Glacial till typically exhibits high shear strength and low compressibility characteristics, as well as a low permeability that makes it generally unfavorable for infiltration of stormwater. Pockets and interbeds of coarse material within glacial till may yield significant quantities of groundwater when exposed in excavations. The uppermost several feet may be weathered and are generally less dense than deeper, unweathered till. Vashon glacial till would be expected to be present in the area generally north of the SHA Ballfield and is typically about 5 to 30 feet thick; in the SW Sector it may be thinner or not present at all in some locations.

Vashon Advance Outwash

Advance outwash is present at depth throughout the site and in the site vicinity. Glacially overridden advance outwash typically consists of dense to very dense, silty fine sand to coarse gravel with cobbles and occasional boulders or where not overlain by glacial till, it can be weathered to a medium dense condition and may be difficult to distinguish from recessional outwash. The unit is highly permeable and, where underlain by low permeability soils (such as Lawton Clay), the unit can contain zones of perched groundwater.

Lawton Clay

Lawton Clay is glacially-overridden, lake-deposited silty clay that predates the other surficial geologic units at the site. It is typically very stiff to hard and has very low compressibility characteristics. Current and previous subsurface explorations indicate that sand partings, joints, and slickensides (locally smooth and partially polished crack surfaces) are common in this geologic unit. These features are generally recognized as relicts of stress-relief following ice unloading during the last glacial retreat; however, these features may have contributed somewhat to the landslides documented in the SE and SW Sectors of the site following the Jackson Street Regrade. The intact strength of the clay is quite high, although the strength along local partings, joints, and slickensides may be much lower. This clay unit retards the downward migration of groundwater and has the potential to cause instability in overlying soil and likely contributed to widespread slope movements along the southern portion of the site following the Jackson Street Regrade. This geologic unit underlies the entire site.

Geologic Hazards

The City of Seattle defines and identifies geologically hazardous areas in its Environmental Critical Areas Ordinance (SMC 25.09) and has developed a Geographic Information System (GIS) mapping database of the geologically hazardous areas in the City.

A description of geologic hazards at the Yesler Terrace site is provided below.

Steep Slope Hazards

Steep Slope Areas are generally defined by the City as those areas that rise at an inclination of 40 percent (2.5Horizontal:1Vertical) or more with a vertical change in elevation of at least 10 feet. Several small Steep Slope Areas are mapped by the City in and near the NW and NE Sectors of the site; however, field investigation reveals that these areas are typically related to small rockeries or retaining walls and appear to have been misidentified as Steep Slope Areas on City maps. The City has identified several Steep Slope Areas in the SW Sector and adjacent to the S. Main Street ROW, immediately south of the SE Sector. These steep slope areas were created by prior grading onsite for the Jackson Street Regrade project in the early 1900s and subsequent landsliding. The locations of these areas largely coincide with the Known and Potential Slide Areas discussed in the following section. The area of steep slopes present within the boundary of the site is approximately 0.6 acres. A portion of the easternmost Steep Slope Area in the SE Sector is retained by a cantilevered soldier pile wall along the west boundary of the offsite 1-story deli at the corner of 12th Ave S and S Main Street and does not meet the City's definition of a steep slope.

Landslide Hazards

According to the City, Landslide Hazard Areas are defined as areas that may be prone to landslides and/or subsidence that could include movement of soil, fill, rock or other geologic strata. Specific Landslide Hazard Areas may include, but are not limited to:

> Any area with a combination of slopes greater than 15 percent, impermeable soils (typically silt and clay) frequently interbedded with granular soils (predominantly sand and gravel); and springs or groundwater seepage, and/or

Any area that has shown movement during the Holocene Epoch (from 10,000 years ago to present) or is underlain by mass wastage debris of that epoch.

A large portion of the southern half of the SW Sector, including the area to the south of the prominent downward slope-break located south of the SHA Ballfield onsite, is mapped by the City as both a Known Slide Area and a Potential Slide Area (see **Figure 3.1-1** and **3.1-2**). Additionally, certain areas south of the SE Sector, along S Main Street, are mapped as Known and Potential Slide Areas. These areas were affected by widespread landslide activity following the Jackson Street Regrade project in the early 1900s (see **Appendix D** for additional information on landslide hazards in the SW and SE Sectors).

One other Known Slide Area is mapped by the City near the intersection of S Washington Street and 10th Avenue S. This slide was relatively small in scale, appears to have resulted from improper construction, and does not appear to be related to the large slide area to the south. No other Known or Potential Slide Areas are mapped at the Yesler Terrace site.

Erosion Hazards

Erosion Hazard Areas are defined by the City as those areas containing soils that may experience severe to very severe erosion from construction activity. The susceptibility to erosion is generally a function of soil type, topography, groundwater seepage or surface runoff, and the built environment. According to the *King County Area Soil Survey* (1973), the Yesler Terrace site is in an urban environment where the erosion hazard is considered to be low; however, certain soil types at the Yesler Terrace site may be susceptible to erosion when disturbed by construction, particularly on slopes exceeding 15 percent, which are relatively common at the site. When unvegetated and/or disturbed, glacial till, fill materials, and landslide debris are all considered severe to very severe erosion hazards on slopes exceeding 15 percent.

Seismic Hazards

Seismic Hazard Areas are generally defined as those areas subject to severe risk of earthquake damage as a result of ground shaking, ground rupture, soil liquefaction, or tsunamis. Ground shaking can occur at large distances from the earthquake source, ground rupture only occurs along the active fault trace, liquefaction requires a certain combination of soil and groundwater conditions at the site, and tsunamis can occur far from a fault rupture or massive landslide in a water body.

Ground Shaking and Ground Motion Amplification

The entire Puget Sound region lies within a seismically active area, and moderate to high levels of ground shaking are typical during seismic events. Ground motion amplification can occur due to soft soil conditions. However, this is not a significant risk at the site, because these soils are generally not present.

The U.S. Geological Survey and other researchers continue to evaluate the presence and potential effects of fault systems in the Pacific Northwest that could affect seismic hazard assessments in the Seattle area (see **Appendix D** for details).

Data Source: *http://web1.seattle.gov/dpd/maps/dpdgis.aspx*, 2010.
Active Layers: Parcels; Known Slide Areas

Figure 3.1-1
Known Slide Areas

Yesler Terrace
Redevelopment EIS

Data Source: *http://web1.seattle.gov/dpd/maps/dpdgis.aspx*, 2010.
Active Layers: Parcels; Potential Slide

Figure 3.1-2
Potential Slide Areas

Yesler Terrace
Redevelopment EIS

Ground Rupture

The Puget Sound region contains numerous fault zones, and the northern edge of the Seattle Fault Zone is located about one-third mile south of the southernmost part of the Yesler Terrace site (see Figure 4 in **Appendix D**). Geologic evidence unearthed on Bainbridge Island suggests that the most recent earthquake to rupture the ground surface occurred about 1,100 years ago with about 20 feet of permanent vertical displacement at that location. Future ground rupture could occur within the Seattle Fault Zone; however, the actual risk at the Yesler Terrace site posed by such ground rupture is considered to be relatively low given that the return period for large earthquakes on the fault that may rupture the ground surface is on the order of thousands of years.

Liquefaction

When shaken by an earthquake, certain loose, saturated soil deposits lose strength and temporarily behave as if they were liquid. This phenomenon is known as liquefaction. While pockets of loose, saturated fill or recessional outwash could potentially be present at some isolated site locations, the Yesler Terrace site is not mapped as a potential liquefaction hazard area, and the subsurface conditions reviewed for this Draft EIS do not suggest that liquefaction would be a significant or widespread risk at the site.

Tsunamis

Tsunamis are earthquake-generated waves that occur in open water bodies. Due to the location and elevation of the Yesler Terrace site, the site would not be affected by a tsunami in Elliott Bay.

Groundwater

The primarily shallow groundwater system at the Yesler Terrace site largely consists of perched, unconfined groundwater found at depths greater than 15 feet BGS, above the Vashon glacial till and outwash geologic units. Accumulations of perched groundwater above the Lawton Clay (at depths much greater than 15 feet BGS) may be more substantial than those above the Vashon glacial till, due to the very low permeability characteristics and poor drainage of this geologic unit. There are no known uses of groundwater (from domestic or industrial wells) at the site or in the site vicinity. The site is not considered a significant aquifer recharge area (CARA) on City or King County critical area maps.

Subsurface explorations indicate the groundwater beneath the site generally flows to the south, with portions flowing to the southeast and southwest.

3.1.2 Impacts

This section evaluates the potential impacts that the existing earth environment at the site may have on redevelopment under the EIS alternatives, as well as how the EIS alternatives could affect the earth environment at the site during construction and long-term operation of the Yesler Terrace redevelopment.

With respect to soils and geologic hazards and impacts, there would generally be little difference between the types and levels of potential impacts associated with each of the

redevelopment alternatives (Alternatives 1-4); differences in impacts among these alternatives would primarily relate to the relative intensity of development. All of the EIS alternatives are expected to have some level of initial and ongoing, phased redevelopment activities over the buildout period. Each of the alternatives would include similar types of construction activities, such as demolition; clearing and grading; placing and compacting structural fill; excavating for utilities and foundations; and installing foundations. Each of the alternatives would also include similar forms of new roadway and utility development and parks and open space, although the amounts of these features would vary. Therefore, the impacts discussion below generally pertains to all of the redevelopment alternatives (Alternatives 1-4).

Construction

Construction impacts are short-term impacts that could occur during the construction phase of site redevelopment, as described below. In general, before construction is allowed in or immediately adjacent to mapped critical areas, detailed geotechnical studies must be conducted as part of the permit process to address specific standards relating to site geology and soils, seismic hazards, and facility design.

Grading

Alternatives 1-4 would require grading for construction of utilities, parking structures and foundations. For purposes of this Draft EIS, a preliminary grading concept was formulated. Specific grading plans for redevelopment would be developed as part of the future design and permit process**.** **Table 3.1-1** shows the relative amount of grading that is estimated to be required under each alternative. Under all alternatives, the amount of cut would exceed the amount of fill. Excavated soil would either be reused onsite as structural fill (if determined to be suitable for that purpose), or transported offsite to an appropriate disposal location.

Table 3.1-1
YESLER TERRACE GRADING ACTIVITIES BY ALTERNATIVE

	Alternative					
	1	1A	2	3	4	No Action
Cut	465,000	465,000	745,000	730,000	158,000	0
Fill	57,000	57,000	108,000	88,000	84,000	0

Source: SvR Design Co., 2010.

Unlike Alternatives 1 and 1A, Alternatives 2, 3 and 4 assume a portion of the steep slope/slide prone area along the southern portion of the site would be graded and redeveloped with new building construction. Construction measures and other slope stabilization design and other construction measures would be implemented to address potential impacts associated with development in this area.

Temporary Excavations

Temporary excavations would be required for the installation of future structures and infrastructure, including parking under buildings (currently assumed to range from about one to six levels), elevator pits, new/upgraded underground utilities, roadways, earth retention structures, etc. Without mitigation, these excavations could have a potentially adverse effect on

immediately adjacent existing and future structures (i.e., structures within a distance equal to about the depth of the excavation), utilities, and other improvements. However, standard construction measures, such as use of properly designed and installed temporary excavation shoring systems, and properly constructed open excavations, would reduce the potential for such adverse impacts.

Construction Dewatering

Temporary excavation dewatering may be required to control groundwater flow into certain excavations, particularly during the winter and spring months. The process of excavation dewatering could cause some ground settlement and potentially damage adjacent utilities and structures, although the presence of glacially-overridden soils at various depths would tend to limit this potential impact. For the majority of the relatively shallow excavations, temporary dewatering would likely be limited in scope and could be completed with conventional methods, such as grading to sumps and pumping. Deeper excavations, especially those extending to within about 10 feet of the top of the Lawton Clay contact or founded in Lawton Clay, could require more extensive temporary dewatering design and implementation efforts. Dewatering would also be required for redevelopment in the vicinity of the steep slope/slide-prone areas in the southern portion of the site.

Potential impacts associated with temporary excavation dewatering would depend on the required drawdown of the water table at a specific location and depth. Site-specific investigations and analyses during the design and permitting process would determine the structures that could require or be influenced by temporary excavation dewatering. Measures that would be implemented to control the potential impact of excavation dewatering would include: site-specific design and control of dewatering systems (potentially including flow control), minimizing the extent and duration of dewatering, and monitoring for settlement.

Extracted groundwater could contain high turbidity (and potentially certain chemical constituents), which could necessitate special handling, treatment, and/or disposal methods. As necessary, monitoring would be conducted to assess the quality of dewatering discharges and treatment applied to comply with applicable state and local requirements.

Placement of Structural Fill

Alternatives 1-4 would require various amounts of site grading and placement of structural fill associated with construction/modification of access roads, installation of utilities, construction of earth retention structures, local raising of site grades, etc. Structural fill and backfill material placed as part of future site improvements would be densely compacted, and the process of densely compacting fill could cause ground vibrations in the immediate vicinity of the construction work. However, placement of structural fill would not typically be expected to cause significant settlement/ground subsidence that could impact existing or future structures (onsite or offsite) in the immediate area of the fill.

Alternatives 2 and 3 would require placement of structural fill to modify site grades within or adjacent to the steep slope/slide-prone area of the site, would undertake site-specific geotechnical investigations and slope stability analyses, and would implement appropriate design and construction of earth retention structures, fill slopes, and drainage and erosion control measures to properly stabilize the area. Adjacent structures/surfaces could be monitored during construction to verify that no adverse ground movement occurs.

Foundations

Based on the presence of generally competent soil conditions over most of the site, along with the intent to provide one or more below-grade structured parking levels under buildings, it is anticipated that foundation support for most structures would likely be provided by conventional spread footings and mat foundations, although drilled shaft foundations could be used for some of the high-rise buildings at certain locations. Specific features of building foundations would be determined during the design phase. Foundation construction would typically require temporary excavation shoring and could require excavation dewatering (see the discussion on Dewatering and Temporary Excavations above for details).

Conventional Spread and Mat Foundations

Construction of conventional spread footings and mat foundations would use standard construction methods and equipment, and would not be expected to result in any significant noise, vibration, or settlement impacts. Excavated soil would either be reused onsite as structural fill (if determined to be suitable for that purpose), or transported offsite to an appropriate disposal location.

The size and depth of building foundations would vary across the site and would be determined as part of the site-specific design of individual structures. The specific design of the foundations would depend on various factors, including the building loads, elevation of the lowest parking level, and site-specific soil and groundwater conditions.

Drilled Shafts

Drilled shafts could potentially be used for foundation support of certain buildings. Construction of drilled shafts could be impacted by caving soils, soil heave, and large obstructions. The installation of drilled shafts generally would not produce significant vibrations; however, installation of temporary casing can produce ground vibrations and localized ground settlement around the shaft construction area. Drilled shafts would create relatively large volumes of spoils and could require dewatering. Casing could be installed to control caving of soils and monitoring of the adjacent ground surface could occur during drilling of the foundation shafts.

Erosion Hazards

The Yesler Terrace site is located in an urban environment where the erosion hazard is relatively low. However, when unvegetated and/or disturbed during clearing and grading activities, there would be severe to very severe erosion hazard potential on the glacial till, fill materials, and landslide debris present at the site on slopes exceeding 15 percent. Site grading and construction associated with redevelopment under the EIS alternatives could cause erosion of exposed soil and soil stockpiles, which could potentially result in on-site and off-site transport of sediment. Proper use of temporary erosion and sedimentation control measures and Best Management Practices required by City regulations would be implemented during construction of future site improvements to reduce the potential for erosion-related impacts.

Geologic Hazard Areas

Geologic hazard impacts are discussed below in terms of how existing geologic conditions at the site could affect the Yesler Terrace redevelopment alternatives.

Steep Slopes

Redevelopment of Yesler Terrace would occur in steep slope areas onsite, particularly under Alternatives 2 and 3. SHA has submitted documentation to the Seattle Department of Planning and Development (DPD) to request relief from the prohibition of developing on steep slope areas onsite per SMC 25.09.180, because these slopes were created by prior grading onsite for the Jackson Street Regrade and subsequent landsliding (please **see Appendix D**, Attachments 2 and 3 for details). If the Seattle DPD grants SHA's request, then steep slope development restrictions would not apply to redevelopment at the Yesler Terrace site. Potential impacts associated with redevelopment within and near the existing steep slope areas are discussed below under Landslide Hazards.

Landslide Hazards

As discussed in **Section 3.1.1**, a large portion of the southern half of the SW Sector and site areas along the southern margin of the SE Sector (along S Main Street) are mapped by the City as both Known and Potential Slide Areas. There is a potential for additional slope movement in this area of the site, which could be triggered by: a seismic event; an increase in water levels caused by extended rainfall events or changes in drainage conditions; and/or grading or construction activities conducted in a manner that destabilizes the existing slopes.

Site redevelopment activities adjacent to or within the steep slope/slide-prone areas along the southern portion of the site would comply with the applicable DPD requirements for construction in landslide-prone critical areas, including SMC 25.09.080 requirements for complete stabilization of all portions of a site that would be disturbed or affected by the proposed redevelopment.

Site-specific investigations and analyses of redevelopment planned adjacent to or within the steep slope/slide-prone areas would be completed during the design and permit approval process to identify appropriate methods to stabilize slopes and prevent potential landslides. Design and construction of building foundations, earth retention structures, cut and fill slopes, and drainage and erosion control measures would include features to stabilize and protect these areas. Drainage provisions would likely include measures to collect and route both groundwater and surface water runoff away from slide-prone areas for discharge to appropriate downslope locations. Existing drainage tunnels below the slide area would also be protected and enhanced to the extent practicable.

Some movement of certain other permanent slopes (existing or new) could potentially occur during earthquake shaking, and site-specific investigations and analyses would be performed in these areas, as necessary, in order to determine appropriate design mitigation measures.

Seismic Hazards

Ground Shaking

The entire Puget Sound region lies within a seismically active area, with the potential for moderate to high levels of ground shaking. Structures at the site would likely be founded on dense to very dense, glacially overridden soils, medium dense to dense recessional outwash, or on very stiff to hard, glacially overridden silt and clay. The potential for ground shaking during a seismic event and appropriate seismic design features would be considered during the design and permit process for future site improvements. Seismic design would use the most recent version of the International Building Code (IBC), which contains provisions to address life safety issues and incorporates data obtained from recent seismic events.

Ground Rupture

The northern edge of the Seattle Fault Zone is located about one-third mile south of the southernmost part of the Yesler Terrace site. Future ground rupture could potentially occur within the Seattle Fault Zone; however, the actual risk at the Yesler Terrace site posed by such ground rupture is considered to be relatively low given that the return period for large earthquakes on the Seattle Fault that may rupture the ground surface is on the order of thousands of years. Consequently, designs to address ground rupture would not likely be a substantial part of the site-specific seismic design for future site improvements. Seismic design would incorporate the most recent design codes and generally accepted engineering standards and practices to reduce the potential for ground rupture impacts.

Groundwater

As previously discussed, the primary shallow groundwater system beneath the Yesler Terrace site consists of perched, unconfined groundwater present at various depths (typically greater than 15 feet BGS) across the site. There are no known uses of groundwater (from domestic or industrial wells) at the site or in the site vicinity, and site redevelopment would not include installation/use of any new water supply wells. As a result, there would be no associated impacts to groundwater.

The site is not considered a significant aquifer recharge area (CARA) on City or King County critical area maps.. Low impact development stormwater approaches at appropriate locations at the site would tend to recharge groundwater. Accordingly, no significant overall loss of recharge to the shallow aquifer would be anticipated with the assumed redevelopment.

While temporary excavation dewatering would likely be required for certain structures, the effect on groundwater would be temporary and localized (see the Construction Dewatering section above). Foundations associated with future structures at the site could potentially have some localized impacts on groundwater movement; however, groundwater would divert around relatively impervious foundation zones and these structures would not likely impact the regional groundwater flow system at the Yesler Terrace site.

Operation

Following redevelopment, the site would be covered with impervious surfaces (i.e. buildings, roadways, and sidewalks) and landscaping. A permanent stormwater control system would be

installed and maintained, in accordance with City of Seattle regulations (see Section 3.3, **Water Resources**, and **Appendix F** for further information). As a result, no earth-related impacts (i.e. landslide and erosion impacts) would be anticipated during operation of the Yesler Terrace Redevelopment.

No Action Alternative

This alternative represents a continuation of the site in its present condition, including the East of Boren Sector (see the previous description of existing earth-related conditions). No new building construction and their associated impacts would occur. It is assumed that remodeling and replacement of existing buildings would take place as necessary, or on a programmed schedule by SHA. Minor grading activities associated with site improvements, existing streets, utilities and other infrastructure would be repaired/replaced, as necessary, over time and would be built consistent with City of Seattle Code requirements. As such, potential earth-related impacts during construction and operation of the development under the No Action Alternative would be minimal.

Cumulative Impacts

No significant cumulative earth-related impacts would be anticipated as a result of redevelopment of the Yesler Terrace site, together with other proposed projects in the area (i.e. the Seattle University MIMP, King County Youth Detention Facility and the First Hill Streetcar projects). Similar to Yesler Terrace, these projects would be required to adhere to all applicable regulations to prevent earth-related impacts.

3.1.3 Mitigation Measures

The following required/proposed and other possible mitigation measures would address potential impacts to geologic conditions resulting from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

Appropriate foundation support systems would be determined during the design and permitting of specific infrastructure and building projects.

Site-specific seismic analyses would be conducted during design and permitting, in accordance with City of Seattle Municipal Code requirements.

The design of infrastructure and buildings would incorporate seismic provisions of the current version of the International Building Code.

Site-specific analyses of development planned adjacent to or within the steep slope/slide-prone areas in the southern portion of the site would be conducted during the design and permitting. These analyses would identify appropriate methods of slope stabilization and other measures to prevent potential landslide impacts (see **Appendix D** for details).

The existing drainage tunnels below the slide area in the southern portion of the site would be protected during construction or improved with appropriately designed new

infrastructure. Drainage provisions would include measures to collect and route both groundwater and surface water runoff away from slide-prone areas for discharge to appropriate downslope locations.

During construction, a temporary erosion and sedimentation control plan (TESCP) and Best Management Practices would be implemented to control erosion. These measures would be consistent with City of Seattle regulations, and could include the following:

- Limit areas of exposure;
- Schedule earthwork during drier times of the year;
- Retain existing vegetation where possible;
- Seed or plant appropriate vegetation on exposed areas as soon as earthwork is completed;
- Route surface water through temporary drainage channels around and away from disturbed soils or exposed slopes;
- Intercept and drain water from any surface seeps, if encountered;
- Use silt fences, temporary sedimentation ponds, or other suitable sedimentation control devices to collect and retain possible eroded material;
- Cover exposed soil stockpiles and exposed slopes with plastic sheeting, as appropriate;
- Use straw mulch and erosion control matting to stabilize graded areas and reduce erosion and runoff impacts to slopes, where appropriate; and,
- Temporarily cease work under certain, limited circumstances, if weather conditions warrant.
- Rock pads or truck washing stations to limit excess soil materials from entering the right-of-way.

Temporary shoring systems would be installed to address the potential for impacts associated with construction excavations. The design and construction of excavation shoring systems would include an evaluation of nearby adjacent structures and utilities (e.g., the I-5 retaining wall located along the west side of the site, adjacent building foundations, existing drainage tunnels, etc.), and incorporate measures to limit impacts to these structures/utilities.

Site-specific investigations and analyses would be conducted during the design and permitting process in order to identify appropriate measures to address the potential need for and impacts of excavation dewatering. These measures could include site-specific design and control of dewatering systems, minimizing the extent and duration of dewatering, and monitoring for settlement.

As necessary, groundwater discharged during construction could be monitored to assess the water quality and need for treatment, to comply with applicable state and local requirements (see Section 3.6, **Environmental Health**, for details).

Fill from grading activities would be designed to prevent settlement impacts to adjacent structures. As appropriate, monitoring could be conducted during construction to verify that no significant settlement occurs.

Excavated soil not reused onsite as structural fill (if determined to be suitable for that purpose), would be transported offsite and disposed of at an appropriate disposal location in accordance with all applicable local, state and federal regulations.

Foundation construction impacts could be mitigated by proper design and construction of temporary excavation shoring and dewatering systems. Ground elevation surveys could be conducted in conjunction with pre- and post-construction inspections and photographic surveys of structures or facilities located near foundation construction activities.

A permanent stormwater control system would be installed and maintained, in accordance with City of Seattle regulations (see Section 3.3, **Water Resources**, and **Appendix F** for further information).

Other Possible Mitigation Measures

The following measures could be employed to address potential impacts during drilled shaft installation of deep foundation support of structures:

- Casings could be installed to control caving of soils during drilled shaft installation for deep foundation support of structures;
- Vibration monitoring and ground elevation surveys could be conducted near construction activities;
- Spoils generated during drilled shaft installation could be disposed of in accordance with applicable local, state, and federal requirements.

3.1.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.2 AIR QUALITY

This section describes the air quality conditions on the Yesler Terrace site and in the site vicinity. Potential impacts to air quality from redevelopment under the EIS alternatives are evaluated. This section is based on the *Air Quality Technical Report* prepared by ENVIRON (September 2010). The full report is included as **Appendix E** to this Draft EIS.

3.2.1 Affected Environment

Air quality is generally assessed in terms of whether concentrations of air pollutants are higher or lower than ambient air quality standards established to protect human health and welfare with a margin of safety. Three agencies have jurisdiction over ambient air quality in the project area: the U.S. Environmental Protection Agency (EPA), the Washington Department of Ecology (Ecology), and the Puget Sound Clean Air Agency (PSCAA). These agencies have established regulations that govern both the concentrations of pollutants in the outdoor air and contaminant emissions from air pollution sources. These agencies establish regulations that govern both the concentrations of pollutants in the ambient air, and rates of contaminant emissions from air pollution sources.[1] Although their regulations are similar in stringency, each agency has established its own standards. Unless the state or local jurisdiction has adopted more stringent standards, the EPA standards apply. Applicable local, state, and federal ambient air quality standards for federally designated "criteria" pollutants are displayed in **Table 3.2-1**. These standards are intended to protect human health with a margin of safety, including sensitive individuals like the old, the chronically ill, and the very young.

To track air quality conditions, Ecology and PSCAA maintain a network of monitoring stations throughout the Puget Sound region. These stations are typically located where air quality problems may occur, and so are usually in or near urban areas or close to specific large air pollution sources. Other stations are used to indicate regional air pollution levels. Based on monitoring information collected over a period of years, the state (Ecology) and federal agencies such as the EPA designate regions as being "attainment" or "nonattainment" areas for particular air pollutants called criteria pollutants under the federal Clean Air Act: ozone, particulate matter (PM), carbon monoxide (CO), nitrogen oxides, sulfur dioxide, and lead. Attainment status is therefore a measure of whether air quality in an area complies with the National Ambient Air Quality Standard (NAAQS) established for a particular air pollutant. Regions that were once designated nonattainment that have since attained the standard are considered "maintenance" areas. The project area is considered an attainment area for all monitored air pollutants except CO and ozone. Much of the region is considered a maintenance area for both the CO and ozone NAAQSs (based on historical issues with these standards). This suggests air quality is generally good in the vicinity of the project, although challenges exist with recent and more stringent air quality standards, such as for nitrogen dioxide (NO_2) and a pending future short-term ozone standard. **Table 3.2-1** presents the ambient air quality standards for criteria pollutants. Several air pollutants and the respective air quality standards are discussed in greater detail below.

[1] Ambient air is defined as air outdoors of buildings to which the public has access.

Table 3.2-1
APPLICABLE AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Terms of Compliance [(a)]	Concentration
Total Suspended Particulate (TSP) Annual Average (μg/m^3) 24-Hour Average (μg/m^3) WA State only; no federal standard	Geometric mean not to exceed Not to be exceeded more than once per year	60 μg/m^3 150 μg/m^3
Inhalable Particulate Matter (PM10) 24-Hour Average (μg/m^3)	The 3 year average of the 98th percentile of the daily concentrations must not exceed	150 μg/m^3
Fine Particulate Matter (PM2.5) Annual Average (μg/m^3) 24-Hour Average (μg/m^3)	The 3-year annual average of daily concentrations must not exceed The 3-year average of the 98th percentile of daily concentrations must not exceed	15 μg/m^3 35 μg/m^3
Sulfur Dioxide (SO_2) [(b)] 1-Hour Average (ppm)	3-year avg. of 99th percentile of daily max 1-hour averages must not exceed	0.075 ppm
Carbon Monoxide (CO) 8-Hour Average (ppm) 1-Hour Average (ppm)	The 8-hour average must not exceed more than once per year The 1-hour average must not exceed more than once per year	9 ppm 35 ppm
Ozone (O_3) 8-Hour Average (ppm)	The 3-year average of the 4th highest daily maximum 8-hour average must not exceed	0.075 ppm
Nitrogen Dioxide (NO_2) Annual Average (ppm) 1-Hour Average (ppm) (Adopted 2/2010; Effective 4/2010)	The annual mean of 1-hour averages must not exceed 3-year avg. of 98th percentile of daily max 1-hour averages must not exceed	0.053 ppm 0.1 ppm
Lead (Pb) Quarterly Average (μg/m^3) Rolling 3-month Average	The quarterly average (by calendar) must not exceed Rolling 3-month average not to exceed	1.5 μg/m^3 0.15 μg/m^3

Note: μg/m^3 = micrograms per cubic meter; ppm = parts per million
(a) All limits are federal *and* state air quality standards except as noted. All indicated limits represent "primary" air quality standards intended to protect human health.
(b) Washington State applies both annual and 24-hour limits for SO_2. There is also a federal 0.5 ppm 3-hour average "secondary" standard for SO_2 to protect welfare.

Source: ENVIRON International Corporation, 2010.

Once a nonattainment area achieves compliance with the National Ambient Air Quality Standards (NAAQSs), the area is considered an air quality "maintenance" area.

Toxic Air Pollutants (TAPs)

In addition to the so called "criteria" air pollutants for which health-protective air quality standards have been set, fuel combustion sources of all sorts emit a number of known or suspected toxic air pollutants that are toxic at very low concentrations. Such toxic air pollutants (TAPs) may be directly harmful due to their chemistry and/or cause cancer or non-cancer effects, such as asthma, respiratory symptoms or decreases in lung function with long-term exposure, especially for vulnerable populations such as children, the elderly, pregnant women, and those with serious health problems. Although there are not any specific health-related air quality standards for such pollutants, EPA, Ecology, PSCAA, and other states have established guideline/screening levels for a variety of TAPs that can be used in assessing the relative potential of adverse impacts from such pollutants. TAPs were considered in the Yesler Terrace site suitability analysis at the request of SHA.

Several studies conducted in the Puget Sound region measured or estimated levels of TAPs in various locations of the urban area, and some have attempted to evaluate the varying levels of risks to health from exposure to these substances.[2] For example, a common method of assessing potential risk is to estimate the likelihood of increases in cancer due to a lifetime of exposure (usually assumed to be 70 years) to a given contaminant. Some guideline levels for assessing such potential risk are based on an increased risk of one additional cancer among one million people. Other guidelines for acceptable thresholds of risk of increases in cancer from hazardous substances range from 10 in a million (for an individual project) to 100 in a million (for cumulative effects).[3]

Ecology and PSCAA have adopted this same sort of conservative screening approach for TAPs using guidelines called Acceptable Source Impact Levels (ASILs) that assume life-long exposure as a means for projecting potential risk. ASILs are intended for use during permit review of proposed new or modified stationary emission sources. In these processes ASILs are considered based on the incremental changes in pollutant concentrations expected to occur due to proposed projects (as opposed to absolute concentrations). ASILs are not intended for use in evaluating mobile emission sources such as those considered as part of the review for the Yesler Terrace Redevelopment.

The ASILs for TAPs do not really pertain to the proposed Yesler Terrace redevelopment for the following reasons: (1) ASILs apply during permitting review for stationary emission sources and are not intended to be used to consider the mobile emission sources considered in the site suitability review for this project, and (2) ASILs are intended to be used to consider the potential risks associated with incremental increases in pollutant concentrations in the air and not the total concentrations as estimated in this assessment. Nonetheless, the ASILs were considered in this assessment as rough benchmarks for assessing potential risk from vehicle sources in the vicinity of the Yesler Terrace site, as some studies conducted in the Puget Sound regional have attempted to evaluate the varying levels of health risk from exposure to these substances.

ASILs and other guidelines used for reviewing potential impacts related to TAPs are based on estimated health impact thresholds derived through review of available scientific studies of

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[2] See, for example, *Final Report: Puget Sound Air Toxics Evaluation*, October 2003, PSCAA in conjunction with Ecology.

[3] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, June 10, 2010.

potential health effects associated with the substances involved. Unlike the ambient air quality standards for criteria air pollutants that are adopted after rigorous scientific review, screening guidelines like ASILs for TAPs are adopted based on much less thorough evaluations.

The ASILs referred to in this assessment are also fundamentally different than the ambient air quality standards adopted to protect human health and welfare with a margin of safety. The ambient standards (i.e., the NAAQSs shown in **Table 3.2-1**) are designed to protect against known or suspected short-term acute and long-term chronic health effects due to exposure over certain periods of time. Thus, the NAAQSs are based on protecting even the most sensitive populations from exposure over periods ranging from 1 hour to 1 year.

In contrast, ASILs are based on estimates of the possible risk of additional incidence of cancer in a population with constant exposure over 70 years. So instead of standards based on relatively well-defined dose-responses, the TAPs guidelines are based on potential risk associated with long-term, constant exposure. Consequently, the TAPs guidelines are not given the same weight during the emission source review processes, and such guidelines do not have the force of law.

While measurements of the levels of TAPs in the ambient air as well as estimated emission inventories indicate there are toxic substances throughout the Puget Sound urban area, the health implications of these pollutants are uncertain due to the lack of specific information regarding potential long-term effects to people. It would therefore be premature to try to draw specific conclusions regarding any increased risk due to general exposure to typical urban air, and no such conclusions are considered here except through general comparisons to the current guideline levels.

Based on previous experience, a set of five TAPs generally associated with transportation emission sources were considered in the Yesler Terrace site suitability analysis. The selected TAPs were acetaldehyde, benzene, formaldehyde, 1,3 butadiene, and diesel engine exhaust particulate matter (DPM), each as measured against their respective ASILs. For convenience, all of these pollutants are referred to as TAPs. The TAPs considered and their respective guideline impact levels are presented in **Table 3.2-2**. These TAPs guideline levels are similar to the ambient air quality standards presented in **Table 3.2-1**, but instead of being maximum acceptable concentrations believed to protect human health based on the stated averaging periods (from 1 hour to 1 year), the ASILs shown are based on the annual average concentration that with 70 years of exposure would be expected to result in one additional incidence of cancer in an exposed population of one million people.

Table 3.2-2
SELECTED TOXIC AIR POLLUTANT GUIDELINE IMPACT SCREENING LEVELS

Toxic Air Pollutant	WA ASIL Annual Average ($\mu g/m^3$)
Acetaldehyde	0.37000
Benzene	0.03450
Formaldehyde	0.16700
1,3 Butadiene	0.00588
Diesel Engine Exhaust Particulate Matter (DPM)	0.00330
Note: Acceptable Source Impact Levels (ASILs) represent guideline screening levels intended to be used during permitting processes for stationary air pollution emission sources. ASILs do *not* apply to mobile port sources and are not required to be considered during environmental reviews. These levels are considered for discussion purposes only.	

Source: WAC 173-460-150 (as updated May 20, 2009).

Air Quality Conformity Review

Special air quality rules pertain in areas that are designated as nonattainment or maintenance for one or more air pollutants. These rules pertain to CO sources in the project study area by virtue of the region being a CO maintenance area.

Transportation Conformity

The air quality conformity rules pertain to transportation projects and to development projects that include substantial "transportation components" that have the potential to affect the regional transportation system. Transportation conformity review is triggered when a transportation project or a transportation component of a development project would affect the operation of or require structural changes to either a state-controlled facility (i.e., a highway) or a "regionally significant arterial." Review of the LOS analysis for the Yesler Terrace project revealed that project-related traffic would not have either of these effects. Therefore the project does not trigger an air quality transportation conformity review, and this issue is not addressed further.

General Air Quality Conformity of a Proposed Federal Action

Proposed actions and plans in nonattainment and maintenance areas that require an approval or permit from a federal agency are subject to review under the "general" air quality conformity rule. This rule is intended to prevent a project or action from causing any new violations of an ambient air quality standard or from worsening any existing problem by extending the time it takes to attain the standard. General conformity reviews are limited to the pollutant(s) for which an area is designated as nonattainment or maintenance. For the Yesler Terrace project, any consideration of emissions in relation to the general conformity requirements would be limited to CO.

Very importantly, the emissions subject to review under the general conformity rule must be subject to *continuing* control of the reviewing federal agency that issues the approval or permit. Because neither the construction phase emissions nor the operational emissions of the Yesler Terrace facilities would be subject to continuing control of any federal agency, the general

conformity review requirements do not pertain to this project in spite of the fact that it involves funding and approval from the US Department of Housing and Urban Development (HUD). For this reason, general conformity is not addressed further.

Existing Conditions

Carbon Monoxide (CO)

Carbon monoxide (CO) is the product of incomplete combustion. It is generated by transportation sources and other fuel-burning activities, such as residential space heating, especially heating with solid fuels like coal or wood. Carbon monoxide is usually the pollutant used as an indicator of transportation source air pollution because it is the pollutant emitted in the greatest quantity for which short-term health standards exist. The impacts of CO are usually localized near the source(s), with the highest ambient concentrations usually occurring near congested roadways and intersections during wintertime periods of air stagnation. CO concentrations typically diminish within a short distance of roads.

The Yesler Terrace site is located within the former Puget Sound region CO nonattainment area (established in 1991) that encompassed a large portion of the Everett-Seattle-Tacoma urban area. Because no monitoring stations had recorded violations of the CO standards in many years, in 1997 EPA redesignated the Central Puget Sound region as attainment for CO. The former nonattainment area remains an air quality maintenance area for CO, but there have been no measured violations of the standards in many years, and the former CO problem is thought to have been resolved.

Ozone

Ozone is a highly reactive form of oxygen created by sunlight-activated chemical transformations of nitrogen oxides and volatile organic compounds (hydrocarbons) in the atmosphere. Ozone problems tend to be regional in nature because the atmospheric chemical reactions that produce ozone occur over a period of time, and because during the delay between emission and ozone formation, ozone precursors can be transported far from their sources. Transportation sources including large marine vessels, locomotives, and trucks and other vehicles are some of the sources that produce ozone precursors.

In the past, due to violations of the federal ozone standard, the Puget Sound region was designated as nonattainment for ozone based on the 1-hour standard in effect at that time. In 1997, the EPA determined that the Puget Sound ozone nonattainment area had attained the public health-based NAAQS for ozone. At that time EPA redesignated the Puget Sound region as attainment for ozone and approved the associated air quality maintenance plan. In 2005, EPA revoked the 1-hour ozone standard in most areas of the U.S., including the Puget Sound region. This action ended the maintenance status of this region including the Yesler Terrace project study area. At the same time, however, the EPA adopted a new more stringent 8-hour average ozone standard that has since been made even more stringent.

Based on ozone measurements over the last few years, the Puget Sound region seems to again be on the brink of becoming nonattainment for ozone based on measured violations of the current 8-hour average standard (**Table 3.2-1**). The ozone precursors (volatile organic compounds – VOCs – and oxides of nitrogen – NOx) are therefore important air pollutants in this region that will be considered as future air pollution control strategies are developed. Under

current air quality plans and policies, the potential future nonattainment status for ozone has no direct implications for the proposed redevelopment of Yesler Terrace.

Inhalable Particulate Matter – PM_{10} and $PM_{2.5}$

Particulate matter (PM) air pollution is comprised of particles either emitted directly into the air (e.g. dust) or formed when hot gases cool and condense. Such air pollution is generated primarily by industrial activities and operations, fuel combustion sources like residential wood burning, gasoline and especially diesel-fueled motor vehicle engines and tires, as well as other, more minor sources. Federal, state, and local regulations set limits for particle concentrations in the air (i.e., weight per unit volume) based on the size of the particles and the related potential threat to health.

At present, there are health-based standards for inhalable coarse particles less than about 10 micrometers (microns) in diameter (PM_{10}) and inhalable fine particles less than about 2.5 microns in diameter $PM_{2.5}$. The latter (and even smaller "ultrafine" particles) are thought to represent the most dangerous size fractions of airborne particulate matter because such small particles (e.g., a typical human hair is about 100 microns in diameter) can be breathed deeply into the lungs. In addition, such particles are often associated with toxic substances, harmful in their own right, which can absorb to particulate matter then be carried into the respiratory system.

With the revocation of the federal annual standard for PM_{10} in October 2006, the focus of ambient air monitoring and control efforts related to particle air pollution in the Puget Sound region has been almost entirely on fine particulate matter ($PM_{2.5}$).

Based on particulate matter measurements over the last few years EPA in 2009 established a $PM_{2.5}$ nonattainment area in Tacoma.[4] There are no other particulate matter nonattainment areas in the Puget Sound region.

The $PM_{2.5}$ monitoring stations nearest the Yesler Terrace site are at Beacon Hill and the corner of Olive Street and Boren Avenue in downtown Seattle. Measured concentrations in recent years at these locations indicate that maximum recorded 24-hour average values at both stations remain below the standard. At Beacon Hill, recorded values reach up to 85 percent of the 35-$\mu g/m^3$ standard, but are less than 66 percent of the standard at Olive and Boren. Since 2007, the annual 98th percentiles of measured 24-hour values were less than 20 $\mu g/m^3$ at the Beacon Hill station; annual averages were less than 8 $\mu g/m^3$. These values indicate $PM_{2.5}$ concentrations in the vicinity of the project site likely comply with $PM_{2.5}$ ambient air quality standards.[5]

Sulfur Dioxide (SO_2)

Sulfur dioxide (SO_2) is a colorless, corrosive gas produced by burning fuels containing sulfur like coal and oil, and by industrial processes such as smelters, paper mills, power plants and steel manufacturing plants. In general, SO_2 levels are well below federal standards. Over the past decade, the Puget Sound area has experienced a significant decrease in SO_2 from sources

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[4] The proposed nonattainment area is called the Wapato Hills-Puyallup River Valley area. See information and maps at: http://www.ecy.wa.gov/programs/air/Nonattainment/Nonattainment.htm.

[5] EPA, AQS Data Mart Direct Interface. Accessed August 2010.

such as pulp mills, cement plants, and smelters. Additionally, levels of sulfur in diesel and gasoline fuels are decreasing due to federal regulations set by the EPA.

Existing industrial uses in the area include port vessels in transit and electrical generation while moored, other large industry near the Duwamish area, and numerous diesel-fueled vehicles traveling area roadways that contribute to ambient background concentrations of SO_2. The nearest SO_2 monitoring station is located at Beacon Hill, which is about 2.25 miles south and slightly east of the Yesler Terrace site. Measured concentrations at this location indicate that background concentrations of this pollutant in the site vicinity are low, about 10 percent of the 1-hour, 24-hour, and annual standards.

Nitrogen Oxides (NOx)

The sum of nitric oxide (NO) and nitrogen dioxide (NO_2) is commonly called nitrogen oxides or NOx. While EPA's NAAQS covers this entire family, NO_2 is the component of greatest interest and this pollutant is used as the indicator for the larger group of nitrogen oxides. An annual average standard for NO_2 has been in effect for many years.

In February 2010, EPA adopted a new 1-hour standard for NO_2 that became effective in April 2010. NO_2 has been measured at the PSCAA Beacon Hill monitoring station since early 2007, and in that period, hourly levels comparable with the 1-hour NAAQS (i.e., based on the 98th percentile of the measured hourly concentrations) have been no more than 39 percent of the level allowed by the NAQSS.[6] These data from a monitoring location approximately 1,900 feet from I-5 suggest that vehicle-related NO_2 concentrations on the Yesler Terrace site adjacent to I-5 (portions within 150 feet) and other major roads are probably higher than at Beacon Hill, but still less than the levels allowed by the ambient air quality standard.

Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Studies also indicate a connection between breathing elevated short-term NO_2 concentrations, and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma. NO_2 exposure is of particular concern for susceptible individuals, including people with asthma asthmatics, children, and the elderly.[7]

EPA and the Puget Sound Clean Air Agency are in the process of taking steps to implement the new NO_2 standard. Part of this effort will likely include additional monitoring at "near roadway" locations because NO_2 concentrations near roadways can be appreciably higher than those measured at typical monitoring locations. Near-roadway (within about 50 meters) concentrations of NO_2 have been measured at levels approximately 30 to 100 percent higher than concentrations away from roadways.[8] So, individuals who spend time on or near major roadways can be exposed to short-term NO_2 concentrations considerably higher than measured by the current monitoring network. Approximately 16 percent of U.S. housing units are located within 300 feet of a major highway, railroad, or airport (representing approximately 48 million people).[9]

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[6] Based on analysis by ENVIRON of data from air graphing tool at http://airgraphing.pscleanair.org/ .
[7] http://www.epa.gov/air/nitrogenoxides/health.html.
[8] Note that such measurements have not been conducted in the Puget Sound Region.
[9] Ibid.

A recent study conducted by a University of Washington graduate student, Stephanie Wong,, supervised by Professor Joel Kaufman, included collection of ambient concentrations of NO_2 on and near the Yesler Terrace site.[10] Due to the method of sampling, data from this study cannot be used to consider the issue of specific NO_2 concentrations comparable with the ambient air quality standards.[11] However, the Wong sampling result does provide an indication of the relative concentrations across the Yesler Terrace site, and these data suggest NO_2 concentrations are highest in the SW Sector of the site, presumably due to the proximity to both I-5 and Jackson Street.[12] While these measurement data are not directly comparable with the air quality dispersion modeling results discussed later, these UW study data are generally consistent with findings of the modeling regarding the relative air pollution concentrations across the site.

3.2.3 Impacts

Redevelopment of the site under the EIS alternatives could result in air quality and odor impacts over the assumed 20-year buildout period. Air emissions during the construction phase would be intermittent and phased over time. Operational air quality emissions would generally result from added traffic associated with the Yesler Terrace Redevelopment. The air quality impact analysis includes an impact assessment of project-related traffic emissions and a site suitability analysis that considers pollutant concentrations resulting from vehicle emissions on the nearby I-5 freeway and major surface streets in the area.

Impacts Common to Alternatives 1-4

Construction

Under Alternatives 1-4, redevelopment of the Yesler Terrace site would include the demolition of most existing buildings and construction of new buildings and other infrastructure improvements. Construction would include extensive grading and excavation for building foundations as well as removal of existing roadways and grading and paving of new on-site roadways. Such activities could result in temporary, localized increases in particulate concentrations due to emissions from construction-related sources. For example, dust from construction activities such as excavation, grading, sloping and filling would contribute to ambient concentrations of suspended particulate matter. Construction contractor(s) would be required to comply with PSCAA regulations requiring that reasonable precautions be taken to minimize dust emissions.

Demolition of existing structures would require the removal and disposal of building materials that could possibly contain asbestos and lead based paint. Demolition contractors would therefore be required to comply with EPA and PSCAA regulations related to the safe removal and disposal of any asbestos-containing materials.

Construction would require the use of heavy trucks, excavators, graders, and pavers along with a range of smaller equipment such as generators, pumps, and compressors. Emissions from existing traffic sources near the project area would likely outweigh any degradation of local air

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[10] Wong, Stephanie. 2010.
[11] This study used passive samplers exposed for two weeks at a time, so the collected data cannot be converted to represent short-term concentrations comparable with the 1-hour NO_2 standard.
[12] Wong, Stephanie. 2010. Figures 11 and 17 depicting NO2 concentrations at sampling locations.

quality resulting from construction equipment emissions. Nonetheless, emissions from such sources and especially from diesel-fueled engines are coming under increasing scrutiny because of their suspected risk to human health. Specific dose/response effects are unknown, but long-term exposure to excessive amounts of diesel emissions is now understood to represent a human health risk, especially to sensitive individuals like the chronically ill, the elderly and the very young. Hence, although there is little or no danger of such emissions resulting in pollutant concentrations that would exceed an applicable ambient air quality standard, pollution control agencies are now urging that emissions from diesel equipment be minimized to the extent practicable in order to reduce potential health risks. By taking steps such as minimizing on-site diesel engine idling, construction-related diesel emissions would not likely substantially affect air quality on the project site or in the site vicinity.

Although some construction phases would cause odors, particularly during paving operations using tar and asphalt, any odors related to construction would be short-term. Construction contractor(s) would have to comply with PSCAA regulations that prohibit the emission of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property.

Construction equipment and material hauling can affect traffic flow in a project area if construction vehicles travel during peak periods or other heavy-traffic hours of the day and pass through congested areas. Material hauling would likely be limited to daytime off-peak hours.

With implementation of the controls required for the various aspects of construction activities and consistent use of best management practices to minimize on-site emissions, construction of the proposed project would not be expected to significantly affect air quality.

Operational Impacts

Off-Site Traffic

The primary emissions-generating activity associated with the Yesler Terrace redevelopment under Alternatives 1-4 would be traffic traveling to and from the site. Therefore, the analysis of potential air quality impacts related to the redevelopment alternatives focuses on off-site traffic and is based on consideration of ambient concentrations of CO that could occur under worst-case conditions near congested intersections.

In accord with EPA guidance, the three most congested signalized intersections that would be affected by project traffic were selected and CO was modeled for the afternoon peak commute period. The intersections were selected from among all the intersections evaluated in the traffic impact analysis based on the overall level of peak-hour congestion and the anticipated effect of project-related traffic. Based on a review of these data three intersections were selected for analysis as described in the next section.

EPA suggests modeling the most congested intersections that would be directly affected by a project to the degree that the level of service (LOS) would be degraded to a LOS "D" or worse due to a project. Based on traffic data provided by Heffron Transportation, the PM peak traffic conditions are worse than AM peak conditions. In addition, intersection performance with redevelopment Alternative 3 would be generally worse than the other alternatives. Consequently, the intersection selection ranking considered PM peak period traffic conditions at signalized intersections in 2030 under Alternative 3.

The two intersections with the highest delay and with the greatest potential for air quality impacts selected for air quality review were as follows:

- James Street at 6th Avenue
- Rainier Avenue South at South Dearborn Street

The locations of the selected intersections are depicted in **Figure 3.2-1**. Refer to **Appendix E** or the level of service analysis in Section 3.13, **Transportation**, for additional information regarding these intersections.

The results of the air quality modeling analysis for the Yesler Terrace project are presented in **Table 3.2-3.** As shown, the model-predicted CO concentrations under existing and future scenarios both with and without the project are much less than the 35 ppm 1-hour ambient air quality standard and the 9 ppm 8 hour standard. These results are attributable to the general trends in reduced CO in the region over the years which are primarily due to emission control requirements that have led to cleaner vehicles and fuels.

Table 3.2-3
ESTIMATED CO CONCENTRATIONS AT MOST PROJECT-AFFECTED INTERSECTIONS (ppm)

Intersection	Averaging Period	2010 Existing Concentration	2030 Alternatives	
			WITHOUT Project	WITH Project Alternative 3
6th Ave / James St	1-hour	8.0	7.8	7.9
	8-hour	6.4	6.2	6.3
Rainier Ave S/ S Dearborn St	1-hour	7.3	6.3	6.3
	8-hour	5.8	5.0	5.0

Note that the 8-hour concentrations were calculated from model-computed 1-hour concentration using a 0.7 persistence factor to account for probable changes in traffic and meteorological conditions over an 8-hour period.

Ambient Air Quality Standards: 1-hour 35 parts per million (ppm), 8-hour 9 ppm

Source: ENVIRON International Corporation, 2010.

Based on this assessment, project traffic related to Alternative 3 would not result in any significant air quality impacts. Because Alternative 3 represents the alternative with the highest density of development and the most related traffic, the other project redevelopment alternatives would result in even lower levels of air quality affects at signalized intersections in the area and also would not result in significant air quality impacts.

Source: *ENVIRON,* 2010.

Figure 3.2-1
Roadways and Intersections Considered in Air Quality Analyses

Yesler Terrace Redevelopment EIS

Site Suitability Assessment

A site suitability review to consider existing and future air pollutant concentrations in, on and near the project site was conducted using air quality dispersion modeling to evaluate emissions from I-5 and other major roadways in the area. The review considered both criteria air pollutants and TAPs concentrations on the Yesler Terrace site, and each is discussed further below. Additional details on the tools and assumptions of the modeling are described in **Appendix E**.

The site suitability review of the Yesler Terrace project considered emissions from vehicles on major roadways near the Yesler Terrace site, including about a 1-mile section of I-5, between James Street and South Dearborn Street. The roadways considered are depicted in **Figure 3.2-1**. See **Appendix E** for the roadway volumes and speeds used to determine emissions.

Vehicle emissions from I-5 were estimated based on composite emission rates representing all the various components of the freeway in the vicinity of the Yesler Terrace site. That is, the northbound freeway includes the mainline, the collector-distributor lanes, and the northbound express lanes, and the southbound freeway includes the mainline, the collector-distributor lanes, and the southbound express lanes. To estimate emissions from all these freeway lanes, emission rates were generated that varied by weighted-average speed, and then calculated a composite emission rate based on the vehicle classification and state registration profiles. Emission factors were not adjusted to reflect the fact that fewer diesel vehicle trucks travel on I-5 during weekends, and as such, the analysis likely overestimates diesel-related pollutant emissions. Refer to **Appendix E** for additional information regarding the traffic volumes and speeds considered in the analysis.

The western edge of the site, excluding the southern tip which is nearly level to I-5, stands roughly 30 feet above I-5's northbound lanes. This 30 foot change in elevation helps reduce exposure to I-5 traffic emissions on portions of the site.

Criteria Air Pollutants

The modeling results for criteria air pollutants are presented in **Table 3.2-4**. As shown, estimated existing (2010) and future (2030 with project) concentrations of all criteria pollutants emitted by vehicles in the project vicinity are less than the levels allowed by the respective health-based ambient air quality standards (NAAQSs). Most pollutant concentrations are far less than the standards. The exception to this statement is 1-hour NO_2, for which as much as 99 percent of the level of the standard is consumed by vehicle related emissions (see two highlighted cells in **Table 3.2-4**).

Note that these model-calculated concentrations of air pollutants do not consider background concentrations of pollutants from any other sources in the area. For that reason, overall concentrations of some pollutants (e.g., $PM_{2.5}$ and NO_2) may be understated, while others (e.g., CO) are probably more than adequately represented by the vehicle emission sources considered.

Modeling used receptor locations at numerous elevations above ground level in order to consider the effects of heights of multi-story buildings in either enhancing or decreasing pollutant concentrations. As shown in **Table 3.2-4**, pollutant concentrations are higher between the ground-floor levels and the fifth floor, and lower above the fifth floor. The highest model-

estimated concentrations sometimes occur on the fifth floor, but are always lower on the 10th and 20th floors.

Table 3.2-4
DISPERSION MODELING RESULTS: CRITERIA AIR POLLUTANTS ($\mu g/m^3$)

Pollutants and Standards [a]			Existing/2010 Concentrations at Various Elevations					2030 Alt 3
Criteria Pollutant	Averaging Period	NAAQS	1st Floor	2nd Floor	5th Floor	10th Floor	20th Floor	1st Floor
SO_2	Annual	52	0.11	0.11	0.07	0.05	0.04	0.1
	24-HR	262	0.29	0.32	0.26	0.16	0.12	0.4
	3-HR	1,310	0.88	0.87	0.91	0.57	0.34	1.1
	1-HR	1,050	1.78	1.70	1.80	1.18	0.79	1.1
CO	8-HR	10,000	3,447	3,620	3,892	1,528	961	2,264
	1-HR	40,000	7,792	8,246	9,290	4,863	2,847	5,635
PM_{25}	Annual	15	0.9	1.0	0.8	0.4	0.3	0.3
	24-HR	35	1.6	1.6	1.7	0.8	0.6	0.5
PM_{10}	24-HR	150	2.3	2.4	2.6	1.2	0.9	0.8
NO_2	Annual	100	16	16	14	8	7	4
	1-HR	188	157	168	186	89	40	42
Model-Calculated Concentration as Percentage of NAAQSs								
SO_2	Annual		<1%	<1%	<1%	<1%	<1%	<1%
	24-HR		<1%	<1%	<1%	<1%	<1%	<1%
	3-HR		<1%	<1%	<1%	<1%	<1%	<1%
	1-HR		<1%	<1%	<1%	<1%	<1%	<1%
CO	8-HR		34%	36%	39%	15%	10%	23%
	1-HR		19%	21%	23%	12%	7%	14%
PM_{25}	Annual		6.1%	6.4%	5.3%	2.8%	2.3%	2.1%
	24-HR		4.6%	4.7%	4.8%	2.4%	1.7%	1.5%
PM_{10}	24-HR		1.6%	1.6%	2%	<1%	<1%	<1%
NO_2	Annual		16%	16%	14%	8.0%	7.1%	4.3%
	1-HR		84%	89%	99%	47%	21%	22%

All concentrations reported as micrograms per cubic meter ($\mu g/m^3$)

[a] The data presented in this table are for criteria air pollutants as defined by EPA. The applicable health-based ambient air quality standards vary by averaging periods ranging from 1 hour to 1 year average concentrations. Some NAAQSs are based on additional statistical metrics. The NAAQSs are presented here in terms of $\mu g/m^3$ equivalents of the values shown in **Table 3.2-1,** where the standards are more fully described.

Source: ENVIRON International Corporation, 2010.

The site suitability review for criteria air pollutants indicates that for most air pollutants associated with vehicular transportation sources, existing and future conditions across the Yesler Terrace site are and would remain good. Existing and projected future concentrations of all pollutants except short-term NO_2 are far below the level of the respective NAAQSs, to the degree that even with the addition of background concentrations from other sources, all criteria pollutants except NO_2 are, and will almost certainly remain, well below the NAAQSs. For that reason, on-site concentrations of these pollutants should not raise concerns about the suitability of the site for the proposed project uses.

Model-calculated 1-hour concentrations of NO_2 under existing conditions reach from 84 to 99 percent of the health-based NAAQS, depending on elevation above the ground. At these levels, the addition of background concentrations from other sources could be causing existing levels that exceed the NAAQS on some portions of the project site. Such high levels are most likely to be occurring nearest the freeway and on the southern part of the Yesler Terrace site (i.e., near S Jackson Street). Somewhat elevated concentrations of NO_2 are also probably occurring in the southwestern area of the site. Levels exceeding the current 1-hour NO_2 NAAQS could represent a health threat to any people who are being exposed. However, it is worth noting that any locations in Seattle in similar proximity to I-5 are likely exposed to very similar levels of air pollution from vehicular sources. And as is anticipated at the Yesler Terrace site, concentrations of vehicle-related air pollution at all such affected locations are expected to decrease in the future as emission control requirements continue to mandate reductions. With these reductions, modeling for 2030 indicates short-term concentrations would be far below the level allowed by the health standard across the entire project site and throughout the modeling domain.

Toxic Air Pollutants (TAPs)

The dispersion modeling results for selected TAPs are presented in **Table 3.2-5**. As shown, estimated existing (2010) and future (2030 with project Alternative 3) concentrations of all TAPs from traffic sources except acetaldehyde exceed the respective ASILS.

Table 3.2-5
DISPERSION MODELING RESULTS: TAPS ($\mu g/m^3$)

TAP	WA ASIL	Existing/2010 Concentrations at Various Elevations					2030 Alt 3
		1st Floor	2nd Floor	5th Floor	10th Floor	20th Floor	1st Floor
1,3 Butadiene	0.00588	0.0758	0.0759	0.0664	0.0357	0.0288	0.0606
Acetaldehyde	0.37000	0.1510	0.1514	0.1323	0.0712	0.0573	0.1326
Benzene	0.03450	0.9900	0.9915	0.8679	0.4657	0.3756	0.1326
Formaldehyde	0.16700	0.2986	0.2993	0.8679	0.1411	0.1133	0.2683
DPM	0.00330	0.9215	0.9607	0.7944	0.4202	0.3424	0.3176
Model-Calculated Concentration as Multiplier of ASILs							
1,3 Butadiene		13	13	11	6	5	10
Acetaldehyde		0.4	0.4	0.4	0.2	0.2	0.4
Benzene		29	29	25	13	11	4
Formaldehyde		1.8	1.8	5.2	0.8	0.7	1.6
DPM		279	291	241	127	104	96
All model-calculated concentrations and the WA ASILs are reported as annual averages in terms of micrograms per cubic meter ($\mu g/m^3$).							

Source: ENVIRON International Corporation, 2010.

Model-estimated existing concentrations of TAPs generally exceed the ASILs, usually by a wide margin, with just a couple exceptions (i.e. existing and future concentrations of acetaldehyde at all elevations and formaldehyde on the 10th and 20th floor elevations). Projected TAPs concentrations in 2030 with buildout of Alternative 3 are lower than existing concentrations. Emissions of TAPs are projected to be lower in the future due to expected continuing reductions in vehicle engine emissions rates. Because all emissions considered were from vehicles, future emissions and resulting concentrations are lower than existing conditions.

Concentrations of diesel particulate matter (DPM) are worthy of note in that they exceed the guideline ASIL by a very large margin – because this ASIL is very low. As shown, modeling indicates vehicle emissions from I-5 result in existing DPM emissions exceeding the ASIL in all but a small portion of the modeling domain. Except in these areas, modeling suggests existing DPM concentrations exceed the ASIL in the rest of the modeling domain – due only to emissions from the traffic sources considered in this modeling. This analysis therefore indicates that the entire urban area of Seattle or any other city with similar traffic sources is probably exposed to DPM concentrations that exceed the ASIL.

Modeling of 2030 conditions with buildout under Alternative 3 indicates DPM concentrations on the project site would continue to exceed the ASIL, due to emissions primarily from I-5. Modeling also suggests that in spite reductions in vehicle DPM emission rates from the limited traffic sources considered in this analysis, DPM concentrations would continue to exceed the ASIL in the majority of the modeling domain.

The analysis of TAPs concentrations associated with roadways in the vicinity of the project site suggests that emissions from traffic sources affect large areas nearby to the degree that there is a potentially elevated health risk in long-term residency near busy roads. The focus of this review was the Yesler Terrace site, but the sorts of emissions and resulting concentrations of air toxics occurs everywhere there are large numbers of vehicles or other sources burning fuels.

No Action Alternative

This alternative would essentially represent a continuation of the site in its present condition, including the East of Boren Sector (see the previous description of existing air quality-related conditions). It is assumed that remodeling and replacement of existing buildings would take place as necessary, or on a programmed schedule by SHA. Existing streets, utilities and other infrastructure would be repaired/replaced, as necessary, over time. Construction activities would be required to comply with all relevant federal, state and local air quality rules, and no significant air quality-related impacts would be anticipated. Off-site traffic conditions would remain similar to existing conditions, and no operational-related air quality impacts would be expected.

3.2.3 Mitigation Measures

The following required/proposed and other possible mitigation measures would address potential air quality impacts resulting from construction activities associated with the Yesler Terrace Redevelopment. No significant operational air quality impacts were identified and therefore, no operational mitigation measures are proposed.

Required/Proposed Mitigation Measures

Construction contractors would be required to comply with all relevant federal, state and local air quality rules.

Other Possible Mitigation Measures

In addition, implementation of best management practices would reduce emissions related to the construction phase of the project. Possible management practices for reducing the potential for air quality impacts during construction include measures for reducing both exhaust emissions and fugitive dust. The Washington Associated General Contractors brochure *Guide*

to Handling Fugitive Dust from Construction Projects and the PSCAA suggest a number of methods for controlling dust and reducing the potential exposure of people to emissions from diesel equipment. A list of some of the possible control measures that could be implemented to reduce potential air quality impacts from construction activities follows:

- Use only equipment and trucks that are maintained in optimal operational condition.
- Require all off-road equipment to have emission reduction equipment (e.g., require participation in Puget Sound Region Diesel Solutions, a program designed to reduce air pollution from diesel, by project sponsors and contractors).
- Use car-pooling or other trip-reduction strategies for construction workers.
- Implement restrictions on construction truck and other vehicle idling (e.g., limit idling to a maximum of 5 minutes).
- Spray exposed soil with water or other suppressant to reduce emissions of PM and deposition of particulate matter.
- Pave or use gravel on staging areas and roads that would be exposed for long periods.
- Cover all trucks transporting materials, wetting materials in trucks, or providing adequate freeboard (space from the top of the material to the top of the truck bed), to reduce PM emissions and deposition during transport.
- Provide wheel washers to remove particulate matter that would otherwise be carried off site by vehicles to decrease deposition of particulate matter on area roadways.
- Cover dirt, gravel, and debris piles as needed to reduce dust and wind blown debris.
- Stage construction to minimize overall transportation system congestion and delays to reduce regional emissions of pollutants during construction.

3.2.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.3 WATER RESOURCES

The following section describes existing water resources on and in the vicinity of the Yesler Terrace Redevelopment site, potential impacts to water resources from future redevelopment under the EIS Alternatives, and measures to mitigate redevelopment-related impacts to water resources. This section is based on the September 2010 *Yesler Terrace Redevelopment Earth Technical Report* prepared by Landau Associates, the September 2010 *Yesler Terrace Redevelopment Surface Water Technical Report* prepared by SvR Design Company, and the September 2010 *Yesler Terrace Redevelopment Public Utilities Technical Report* prepared by SvR Design Company; the full texts of these reports are contained in **Appendices D**, **F** and **O**, respectively, to this Draft EIS.

3.3.1 Affected Environment

Surface Water

The approximately 36.6-acre Yesler Terrace Redevelopment site is located on the south side of First Hill. The site has an elevation change of 150 feet from its highest point (approximate elevation 320 feet) to its lowest point (approximate elevation 173 feet). There are no streams located within or adjacent to the site. A seep and two potential wetlands are located in the southern portion of the site. Additional analysis will be conducted early fall 2010 to determine whether these features meet the criteria to be considered wetlands (see Section 3.4, **Plants and Animals**, for details). No other wetlands are located adjacent to the site.

Flooding events associated with excessive rainfall are uncommon on the site and in the site vicinity due to the topography. When flooding does occur, it is typically localized ponding associated with unmaintained catch basins.

The site presently contains a combination of both private and public stormwater conveyance facilities. The primary public system for the conveyance of stormwater onsite is the combined sewer system (a pipe that conveys both sanitary sewer and stormwater). The stormwater runoff within the site is collected and conveyed to the public combined sewer system within the site by a series of concrete-lined swales, catch basins, inlets, downspout lines, and private stormwater conveyance lines. The public combined sewer system leaves the site at four separate locations and is further described below.

Conveyance Basins

The West Conveyance Basin serves approximately 11.9 acres of the Yesler Terrace site and drains to a 24-inch public combined sewer main located at the end of 8th Avenue S, south of E Yesler Way. From this location it travels under I-5 and connects to the combined sewer system at Main Street and 7th Avenue. From there, it eventually connects to the King County Metro Sewer Connecticut trunk line (see Figures 2.1-1 and Figure 2.1-2 in **Appendix F** for illustrations of the existing West Conveyance Basin).

The East Conveyance Basin serves approximately 24.7 acres of the Yesler Terrace site and is located east of 9th Avenue. The East Conveyance Basin flows to the south and east where it leaves the site through one of three combined sewer mains (along E Yesler Way, S Washington Street, and Main Street). From there, it connects to the 30-inch wide by 45-inch tall elliptical

Rainier Avenue combined sewer system that flows south and connects to the King County Metro Sewer Hanford trunk line (see Figures 2.1-1 and Figure 2.1-2 in **Appendix F** for illustrations of the existing East Conveyance Basin).

Both the East and West Conveyance Basins eventually connect to the King County Metro system for final treatment and disposal at the West Point treatment plant prior to discharge to Puget Sound. Per the July 2010 *Combined Sewer Overflow Control Program 2009 Annual Report* by King County Wastewater Treatment Division, when large storm events occur and flows exceed the capacity of the conveyance system pipes, flows are discharged into the adjacent water body instead of being conveyed to the treatment plant. These combined sewer overflows (CSOs) may occur at some of the 38 county CSO locations or the 88 City of Seattle CSO locations. The Yesler Terrace site contributes flow to two county CSOs; the Rainier Avenue CSO adjacent to Lake Washington and the Connecticut Street CSO adjacent to Elliot Bay.

A preliminary analysis was performed for Seattle Public Utilities (SPU) on July 15, 2009, to evaluate the capacity of the City of Seattle downstream combined sewer system with higher density redevelopment at the Yesler Terrace site, similar to under EIS Alternative 2. SPU's preliminary analysis for both the East and West Conveyance Basins determined that the downstream systems may have limited capacity to handle the proposed redevelopment at a few locations and CSOs may occur during heavy rainfall events. For the purposes of determining flow control requirements for the project, it was assumed that both the East and West Basins drain to a capacity-constrained combined sewer system and stormwater flow control and/or green stormwater infrastructure (GSI) for stormwater runoff could be required. For a full discussion of off-site combined sewer capacity, see the *Yesler Terrace Redevelopment Public Utilities Technical Report* in **Appendix O**.

Offsite Flows

Offsite runoff from approximately 20 acres north of the site is collected and conveyed through the East Basin via 12-inch combined sewer mains in 9th Avenue, SHA-owned property onsite, Broadway and E Yesler Way. Offsite flows from the Harborview Medical Center buildings and Alder Street are conveyed through the West Basin via the 12-inch public stormwater drainage main that runs along the west side of the NW Sector.

Private Stormwater Facilities

The existing private stormwater control system on the Yesler Terrace site was installed in the early 1940s with the construction of the Yesler Terrace housing complex. The system includes catch basins, inlets, building roof downspouts and conveyance pipes ranging from 6 to 12 inches in diameter. Private stormwater conveyance lines connect to the public combined sewer system. In the late 1990s, SHA replaced or repaired the side sewer connections from the buildings to the main side sewer lines. Included in this work was the replacement of many downspout connections to side sewer lines. SHA maintenance staff reported that the new downspout connections are in good condition, but several of the catch basins located on the site are filled with debris or are not located at low points causing ponding. There are no private flow control structures or water quality treatment facilities located within SHA-owned property onsite.

Public Stormwater Facilities

The existing public stormwater conveyance system onsite consists of catch basins and inlets located along the public streets to collect stormwater runoff and convey stormwater through pipes to the public combined sewer system. City records report that some of the public system was installed with the construction of the streets in the late 1890s to early 1900s and some of the structures do not meet current City standards.

There are two separate public combined sewer systems onsite resulting in a west drainage basin (West Conveyance Basin) and an east drainage basin (East Conveyance Basin) (see the above section on Conveyance Basins and **Appendix F** for details). A portion of a dedicated 12-inch public stormwater drainage main runs through the western side of the NW Sector. This pipe was installed during construction of I-5 along the west edge of the site. The same pipe converts to a combined sewer main immediately north of E Yesler Way. There are no publicly-owned flow control structures or stormwater quality treatment facilities located within the public stormwater facilities on the site. Existing private and public stormwater conveyance systems are shown in Figures 2.1-3a and 2.1-3b in **Appendix F**.

Groundwater

There are no known active uses of groundwater, industrial or domestic, on the site. Nor are there any signs of groundwater problems or reported problems with groundwater. The primary shallow groundwater system at the Yesler Terrace site consists of perched, unconfined groundwater present at variable depths across the site. Isolated areas of perched groundwater are likely to be encountered on top of the glacial till, as well as in pockets within the glacial till. Several drainage tunnels were constructed, including in the southern portion of the Yesler Terrace site, from the 1910s to 1930s in an effort to dewater soils in the vicinity of the site after the S Jackson Street Regrade (see Section 3.1, **Earth,** and **Appendix D** for details).

An investigation of the permeability of on-site soils has not been completed at this time. For purposes of stormwater modeling for this EIS, a conservative assumption has been made that there is no infiltration into native soils.

3.3.2 Impacts

This section evaluates potential impacts to water resources during construction and operation of the Yesler Terrace Redevelopment. Operational impacts are presented at full buildout when maximum impacts to stormwater runoff would occur due to the increased amounts of new and replaced impervious surface areas (i.e. building roofs, sidewalks and parking areas), relative to existing conditions.

Construction

On-site Water Resources

Under Alternatives 2 and 3, the southern portion of the site where the seep and two potential wetlands are located would be graded and redeveloped, resulting in the fill of these potential wetlands. If it is determined that wetlands are located onsite, and fill of these wetlands is required, the project would comply with applicable requirements (i.e. the City of Seattle critical areas ordinance). Under Alternatives 1, 1A and 4, the area where the two potential wetlands

are located would not be redeveloped, and no impacts to these wetlands would occur (see Section 3.4, **Plants and Animals**, for details).

Water Quality

Construction activities associated with redevelopment under Alternatives 1 through 4 could impact stormwater quality and downstream resources. Varying levels of clearing and grading would be required for the alternatives (see Section 3.1, **Earth**, and Section 3.4, **Plants and Animals**, for details). Exposed soils would increase the risk of erosion and sediment transport. Potential for erosion and sediment transport during construction would be greatly increased during wet weather. In accordance with the City of Seattle Drainage Code, a Large Project Construction Stormwater Control Plan would be prepared and implemented for the proposed redevelopment. The Construction Stormwater Control Plan would include Best Management Practices (BMPs) to provide water quality treatment and protect downstream resources.

Construction under Alternatives 2 and 3 would be more likely to adversely affect water quality, since these alternatives would have the greatest removal of existing impervious surface and earthwork of the redevelopment alternatives. The primary risk to water quality during construction would be from sediments carried in stormwater from erodible soils, as described above. Pollution from concrete work and construction machinery, as well as accidental spills (i.e. of vehicle fuel and oil) could also have impacts on water quality. As described above, temporary water quality treatment facilities would be constructed onsite in accordance with the City of Seattle Drainage Code, and would include BMPs to limit water quality impacts. With the proper use of BMPs and effective accidental spill response planning, significant impacts to water quality and downstream resources would not be expected.

Flow Control

During construction, temporary stormwater retention/detention facilities would be provided for all of the alternatives. Flow control structures within these facilities would be constructed in accordance with the City of Seattle Drainage Code and would include BMPs to limit adverse impacts to downstream resources.

Operation

Grading/Redevelopment

In general, the site would be graded to maintain the existing drainage basins and promote drainage away from future buildings in the Yesler Terrace Redevelopment. Most roadways that would be constructed with full-street improvements would be graded to one side so that stormwater runoff would flow into bioretention cells or bioretention planters for stormwater flow control (see **Appendix D** for details on the proposed grading). Following redevelopment, impervious surfaces would increase relative to existing conditions (from approximately 58 percent impervious surfaces under existing conditions to approximately 73 percent impervious surfaces under the redevelopment alternatives; see Table 4.2-5 in **Appendix F** for breakdowns of the impervious surface area under each alternative).

Permanent Stormwater Control System

Permanent stormwater control systems would be installed to serve the Yesler Terrace Redevelopment. The stormwater control systems would consist of both public and private infrastructure and would be designed and constructed in accordance with the City of Seattle Drainage Code. While a specific stormwater system design for the Yesler Terrace site has not yet been established, a preliminary stormwater control plan and certain assumptions have been formulated regarding the likely features and configuration of the stormwater system for purposes of analysis in this EIS. The final stormwater control system plan would be prepared as part of the future construction and redevelopment permit process.

Per the City of Seattle Stormwater Code, proposed stormwater flow controls at the site would meet the Peak Control Standard. This standard limits 2-year stormwater release rates to 0.15 cubic feet per second per acre (cfs/ac) and 25-year stormwater release rates to 0.4 cfs/ac. Because the Yesler Terrace Redevelopment would replace more than 2,000 SF of impervious surface area onsite, the project would use green stormwater infrastructure (GSI) for flow control and water quality treatment, to the maximum extent feasible (MEF), as required by the City's Drainage Code (a summary of the City's specific flow control requirements is provided in **Appendix F**).

For the purposes of this EIS, bioretention cells, bioretention planters and permeable pavement are assumed as the GSI facilities. Bioretention cells are depressions for the retention/detention of stormwater with gently sloping sides. Bioretention cells would be used in site locations where proposed grades would slope at less than 5 percent. Bioretention planters are similar to bioretention cells, but with vertical sides. Bioretention planters would be used on steeper terrain and in locations where horizontal space is limited onsite. Permeable pavement is designed to retain/detain stormwater in the pavement sub-base. Permeable pavement would be used on the private access roads, driveways and surface parking areas where proposed grades would slope at less than 5 percent. By using GSI, the peak stormwater discharge to the combined sewer system under Alternatives 1 - 4 would decrease from current conditions. **Table 3.3-1** presents estimated stormwater release rates for existing conditions. Estimated stormwater release rates are provided for each of the redevelopment alternatives in the summary tables later in this section.

Table 3.3-1
SITE COVERAGE AND ESTIMATED STORMWATER RELEASE RATES – EXISTING CONDITIONS

Basin	Total Area (ac)[1]	Impervious (ac)	Pervious (ac)	Estimated Current Release 2 Year (cfs)	Estimated Current Release 25 Year (cfs)
West Basin	12.0	7.6	4.4	3.49	8.01
East Basin	28.2	17.2	11.0	8.00	18.47

Source: SvR Design Company, 2010.

Based on the site coverage assumptions (i.e. pervious, impervious and green roof), stormwater runoff rates for each alternative were estimated using the MGSFlood continuous hydrologic model (see Tables 4.2-1 through 4.2-4 in **Appendix F** for the site coverage assumptions).

Water quality treatment of stormwater runoff is not required for the Yesler Terrace Redevelopment by the City of Seattle Drainage Code, since the site discharges to the existing combined sewer system, which already provides treatment at the West Point treatment plant. However, GSI features would provide some water quality treatment nonetheless.

Right-of-Way Improvements

The general policy of the City of Seattle is to separate stormwater and sanitary sewer conveyance systems where projects require significant right-of-way improvements. Therefore, it is assumed that where full street improvements would occur (i.e. under Alternatives 2 and 3), the Yesler Terrace Redevelopment would provide a separated stormwater drainage system to the end of 8th Avenue S for the West Basin and at S Main Street for the East Basin before connecting to the existing combined sewer system. For streets where partial street improvements would be provided, a separated system may not be provided, but existing combined sewer mains would be replaced, as needed, to provide capacity for estimated stormwater flows.

It is assumed that full street improvements would include sidewalks, planter areas and GSI bioretention cells and bioretention planters, curb and gutter, and roadway and parking lanes. Half street improvements would include street improvements for only the half of the right-of-way adjacent to the site.

Groundwater

Temporary excavation dewatering may be required to control groundwater flow into certain excavations during construction, particularly during the winter and spring months.

Groundwater extracted during dewatering could contain high turbidity (and potentially certain chemical constituents), which could necessitate special handling, treatment, and/or disposal methods. As necessary, monitoring would be conducted to assess the quality of dewatering discharges and treatment to comply with applicable state and local requirements (see Section 3.1, **Earth**, and **Appendix D** for details).

There are no known active uses of groundwater, industrial or domestic, on the site. Therefore, redevelopment of the site would not impact the active uses of groundwater.

The existing drainage tunnels located in the southern portion of the site would be protected with proposed redevelopment.

Following is a discussion of the specific impacts on water resources and assumed stormwater control systems under each alternative.

Alternative 1

Under Alternative 1, the permanent stormwater control system for the privately-owned portions of the site would include catch basins, inlets, GSI flow control facilities, downspouts, footing drains and private stormwater conveyance pipes that would collect and convey stormwater runoff to the existing combined sewer system. GSI flow control would be provided by bioretention cells, bioretention planters and permeable pavements. A summary of the peak release rates by the on-site sectors and the GSI required release rates to meet the City's Drainage Code under Alternative 1 are presented in **Table 3.3-2**.

Table 3.3-2
PEAK STORMWATER RELEASE RATES & GSI FACILITIES PER SECTOR – ALTERNATIVE 1

	Bioreten-tion Bottom Area (sf)	Permeable Pavement Area (sf)	Estimated Current Release – 2 Year (cfs)	Code Required Release Rate - 2 Year (cfs)*	GSI Controlled Release Rate - 2 Year (cfs)	Estimated Current Release – 25 Year (cfs)	Code Required Release Rate - 25 Year (cfs)*	GSI Controlled Release Rate - 25 Year (cfs)
Alternative 1								
NW Sector (W)	7,725	5,800		1.19	0.75		3.16	2.87
NW Sector (E)	3,280	0		0.45	0.31		1.20	1.17
NE Sector (E)	5,275	0		0.63	0.43		1.68	1.60
SE Sector (E)	7,690	0		1.07	0.67		2.85	2.76
SW Sector (W)	3,825	0		0.65	0.33		1.72	1.59
SW Sector (E)	3,025	0		0.70	0.37		1.87	1.84
EOB Sector	2,290	0		0.30	0.20		0.79	0.72
Total (W)	11,550	5,800	3.49	1.83	**1.09**	8.01	4.89	**4.46**
Total (E)	21,560	0	8.00	3.15	**1.97**	18.47	8.40	**8.09**

Source: SvR Design Company, 2010.
(W) West Basin, drains to combined sewer under I-5.
(E) East Basin, drains to combined sewer.
* Code required release rate is 0.15 cfs/ac for the 2-year storm event and 0.4 cfs/ac for the 25-year storm event.

The permanent stormwater control system for public rights-of-way improvements under Alternative 1 would include catch basins, inlets, green roofs (20 percent of the roofs are assumed to be "green" vegetated roofs) and GSI flow control facilities that would collect and convey stormwater runoff to the existing combined sewer system. GSI flow control would be provided by bioretention cells, bioretention planters, and permeable pavements By using GSI, the peak stormwater discharge to the combined sewer system in Alternative 1 would decrease from current conditions and could help reduce CSOs during heavy rainfall events (see **Table 3.2-2**). The majority of street improvements under this alternative would be limited to sidewalk/planter strip replacement only. Due to the high sewer flows generated by off-site uses, increased sewer usage from higher population density under this alternative, and the streetcar alignment on E Yesler Way and Broadway, combined sewer flows are proposed to be conveyed to 8th Avenue S (see **Appendix O** for details). A combined sewer main and stormwater drainage main would also be installed along S Main Street and parallel to I-5 between E Yesler Way and 8th Avenue under Alternative 1 (see **Appendix F** for additional information).

NW Sector

The East Conveyance Basin portion of the sector would drain to the existing combined sewer mains in Terry Avenue and Broadway. A portion of the East Basin in this sector would be redirected to the West Conveyance Basin due to a segment of combined sewer main that would be abandoned in this sector (see **Appendix O** for more information on this combined sewer).

The area that would be redirected includes Alder Street between 9th Avenue and Broadway, Spruce Street, 9th Avenue and the block immediately north of Spruce Street. The West Basin portion of the sector would drain to the existing combined sewer main in 8th Avenue and the new public stormwater drainage main that would run parallel to I-5 between E Yesler Way and 8th Avenue. The West Basin portion of Alder Street and the offsite flows from Harborview would continue to drain to the existing public storm drainage main that runs along the west side of the sector parallel to I-5. Adjacent off-site sidewalk improvements in Broadway would continue to drain to the existing combined sewer main in Broadway.

NE Sector

This entire sector is part of the East Basin and would drain to the existing combined sewer mains in Broadway and E Yesler Way. The adjacent off-site sidewalk improvements on E Fir Street would continue to drain to the existing combined sewer main there.

SE Sector

This entire sector is part of the East Basin. Portions of the sector would flow to the new public stormwater drainage main in S Main Street. The remainder of the sector would drain to the existing combined sewer systems in E Yesler Way and S Washington Street. Adjacent off-site sidewalk improvements on Boren Avenue S and 12th Avenue S would continue to drain to the existing combined sewer main in 12th Avenue S.

SW Sector

The West Basin portion of the sector would drain to the existing combined sewer main in 8th Avenue S and the new public stormwater drainage main parallel to I-5. The East Basin portion of the sector would drain to the new public stormwater drainage main in S Main Street.

East of Boren Sector

This entire sector is part of the East Basin and would drain to the existing combined sewer main in Boren Avenue. Adjacent off-site sidewalk improvements on E Fir Street would continue to drain to the existing combined sewer main there. Adjacent off-site sidewalk improvements on 12th Avenue and E Yesler Way would continue to drain to the existing combined sewer main in E Yesler Way.

(See Figure 4.2-1 in **Appendix F** for an illustration of the permanent stormwater control system under Alternative 1.)

Alternative 1A

The stormwater control system under Alternative 1A would be similar to under Alternative 1, since runoff would be controlled by the City's Peak Flow Standard and the street/parcel layout would be similar to Alternative 1. The only difference in impervious surface area between these alternatives would occur in the NW Sector where there would be less building area under Alternative 1A. The area of GSI facilities required for Alternative 1A would be slightly less than Alternative 1 due to the reduced amount of impervious surface area in this sector. The result of this difference would be a less than 10 percent reduction in GSI facilities (see **Table 3.3-2** for a summary of sector peak flow rates and GSI required release rates to meet the City's Drainage Code). Similar to Alternative 1, by using GSI, the peak stormwater discharge to the combined

sewer system under Alternative 1A would decrease from current conditions which could help reduce CSOs during heavy rainfall events.

(See Figure 4.2-1 in **Appendix F** for an illustration of the permanent stormwater control system under Alternative 1A.)

Alternative 2

Under Alternative 2, the permanent stormwater control system for privately-owned portions of the site would include catch basins, inlets, GSI flow control facilities, green roofs (30 percent of the roofs are assumed to be green), downspouts, footing drains and private stormwater conveyance pipes that would collect and convey stormwater runoff to the proposed public stormwater drainage system. GSI flow control would be provided by bioretention cells, bioretention planters and permeable pavements. Similar to Alternatives 1 and 1A, by using GSI, the peak stormwater discharge to the combined sewer system in Alternative 2 would decrease from current conditions which could help reduce CSOs during heavy rainfall events (see **Table 3.3-3**). All existing on-site utilities would be removed or abandoned in place. A summary of sector peak release rates and GSI required release rates to meet the City's Drainage Code under Alternative 2 is presented in **Table 3.3-3**.

The permanent stormwater control system for public rights-of-way improvements under Alternative 2 would include: full right–of- way improvements, catch basins, inlets, and GSI flow control facilities that would collect and convey stormwater runoff to the new public stormwater drainage mains. GSI flow control would be provided by bioretention cells and bioretention planters. For stormwater conveyance, it is assumed that the stormwater runoff from each full/half improvement right-of-way segment would be equal to the 25-year Peak Flow Standard release rate. For the sidewalk only improvement segments, it is assumed that runoff would be equal to the unmitigated runoff from that segment (see **Appendix F** for details).

The new public stormwater drainage mains would connect to the combined sewer system at two locations. The 12-inch public stormwater drainage main connection to the 24-inch existing combined sewer main for the West Basin would occur at the south end of 8th Avenue S. The 12-inch public stormwater drainage main connection for the East Basin, to the replaced 12-inch combined sewer main, would occur at approximately the intersection of S Main Street and 12th Avenue S.

Table 3.3-3
PEAK STORMWATER RELEASE RATES AND GSI FACILITIES PER SECTOR – ALTERNATIVE 2

	Bioreten -tion Bottom Area (sf)	Permeable Pavement Area (sf)	Estimated Current Release – 2 Year (cfs)	Code Required Release Rate - 2 Year (cfs)*	GSI Controlled Release - 2 Year (cfs)	Estimated Current Release – 25 Year (cfs)	Code Required Release Rate - 25 Year (cfs)*	GSI Controlled Release - 25 Year (cfs)
Alternative 2								
NW Sector (W)	10,210	5,700		1.94	1.61		5.17	4.74
NW Sector (E)	225	0		0.02	0.02		0.05	0.05
NE Sector (E)	4,350	2,000		0.63	0.41		1.68	1.56
SE Sector (E)	6,865	0		1.08	0.65		2.89	2.80
SW Sector (W)	3,900	0		0.75	0.52		2.01	1.69
SW Sector (E)	3,200	0		0.82	0.35		2.18	1.58
EOB Sector	1,765	0		0.30	0.22		0.79	0.74
Total (W)	14,110	5,700	3.49	2.69	**2.13**	8.01	7.18	**6.44**
Total (E)	16,405	2,000	8.00	2.85	**1.65**	18.47	7.59	**6.73**

Source: SvR Design Company, 2010.
(W) West Basin, drains to combined sewer under I-5.
(E) East Basin, drains to combined sewer.
* Code-required release rate is 0.15 cfs/ac for the 2-year storm event and 0.4 cfs/ac for the 25-year storm event.

NW Sector

The entire East Basin portion of this sector would be redirected to the West Basin. Both East and West Basin portions of the sector would drain to the new public stormwater drainage mains in 9th Avenue, E Fir Street and parallel to I-5 between E Yesler Way and 9th Avenue. The portion of Alder Street west of 9th Avenue, as well as the offsite flows from Harborview, would continue to drain to the existing public storm drainage main that runs along the west side of the sector parallel to I-5. The portion of Alder Street between 9th Avenue and Broadway Avenue would be redirected to the new public stormwater drainage main in 9th Avenue. Adjacent off-site street improvements in Broadway would continue to drain to the existing combined sewer main in Broadway.

NE Sector

This entire sector is part of the East Basin. The portion of Broadway within the site and E Yesler Way from 10th Avenue to Boren Avenue would continue to drain to the existing combined sewer main in E Yesler Way. All other portions of this sector would flow to the new public stormwater drainage main in 10th Avenue. The adjacent off-site street improvements on E Fir Street would continue to drain to the existing combined sewer main there.

SE Sector

This entire sector is part of the East Basin. Portions of the site would flow to the new public stormwater drainage mains in 10th Avenue S and S Main Street. Adjacent off-site street improvements on Boren Avenue S and 12th Avenue S would continue to drain to the existing combined sewer main in 12th Avenue S.

SW Sector

The West Basin portion of the sector would drain to the new public stormwater drainage mains in 9th Avenue S and S Washington Street. A portion of the East Basin corresponding with S Washington Street would be redirected to the West Basin. The East Basin portion of the sector would drain to new public stormwater drainage mains in 10th Avenue S and S Main Street.

East of Boren Sector

This entire sector is part of the East Basin and would flow to the existing combined sewer main in Boren Avenue. Adjacent off-site street improvements on E Fir Street would continue to drain to the existing combined sewer main there. Adjacent off-site street improvements on 12th Avenue and E Yesler Way would continue to drain to the existing combined sewer main in E Yesler Way. (See Figure 4.2-2 in **Appendix F** for an illustration of the permanent stormwater control system under Alternative 2.)

Alternative 3

The stormwater control system under Alternative 3 would be similar to under Alternative 2, since runoff would be controlled by the City's Peak Flow Standard and street/parcel layout, full right-of-way improvements, would be similar to Alternative 2. The area of GSI facilities required for Alternative 3 would be slightly higher than Alternative 2 due to the increase in impervious surface areas. Similar to Alternatives 1, 1A and 2, by using GSI, the peak stormwater discharge to the combined sewer system under Alternative 3 would decrease from current conditions which could help reduce CSOs during heavy rainfall events (see **Table 3.3-4**). The increase in impervious surface would be partially offset by the increased percentage of green roof (50 percent of roofs are assumed to be green) under this alternative. A summary of sector peak release rates and GSI required release rates to meet the City's Drainage Code is presented in **Table 3.3-4**.

Table 3.3-4
PEAK STORMWATER RELEASE RATES AND GSI FACILITIES PER SECTOR – ALTERNATIVE 3

	Bioreten-tion Bottom Area (sf)	Permeable Pavement Area (sf)	Estimated Current Release – 2 Year (cfs)	Code Required Release Rate - 2 Year (cfs)*	GSI Controlled Release - 2 Year (cfs)	Estimated Current Release – 25 Year (cfs)	Code Required Release Rate - 25 Year (cfs)*	GSI Controlled Release - 25 Year (cfs)
Alternative 3								
NW Sector (W)	11,310	6,450		1.94	1.26		5.17	4.76
NW Sector (E)	225	0		0.02	0.02		0.05	0.05
NE Sector (E)	4,215	2,000		0.63	0.39		1.68	1.53
SE Sector (E)	7,115	0		1.08	0.64		2.89	2.67
SW Sector (W)	4,250	0		0.75	0.40		2.01	1.77
SW Sector (E)	3,200	0		0.82	0.35		2.18	1.57
EOB Sector	1,940	0		0.30	0.18		0.79	0.78
Total (W)	15,560	6,450	3.49	2.69	**1.66**	8.01	7.18	**6.53**
Total (E)	16,695	2,000	8.00	2.85	**1.58**	18.47	7.59	**6.60**

Source: SvR Design Company, 2010.
(W) West Basin, drains to combined sewer under I-5.
(E) East Basin, drains to combined sewer.
* Code required release rate is 0.15 cfs/ac for the 2-year storm event and 0.4 cfs/ac for the 25-year storm event.

(See Figure 4.2-2 in **Appendix F** for an illustration of the permanent stormwater control system under Alternative 3.)

Alternative 4

The permanent stormwater control system under Alternative 4 would be similar to Alternative 1. Due to the increased amount of impervious surface area created by surface parking, the area of GSI facilities required under this alternative would be much larger than those under Alternative 1. The increased amount of surface parking would create the opportunity to use more permeable pavement. Similar to Alternatives 1 through 3, by using GSI, the peak stormwater discharge to the combined sewer system in Alternative 4 would decrease from current conditions which could help reduce CSOs during heavy rainfall events (see **Table 3.3-5**). A summary of sector peak release rates and GSI required release rates to meet the City's Drainage Code is presented in **Table 3.3-5**.

Table 3.3-5
PEAK STORMWATER RELEASE RATES AND GSI FACILITIES PER SECTOR – ALTERNATIVE 4

	Bioreten-tion Bottom Area (sf)	Permeable Pavement Area (sf)	Estimated Current Release – 2 Year (cfs)	Code Required Release Rate - 2 Year (cfs)*	GSI Controlled Release - 2 Year (cfs)	Estimate d Current Release – 25 Year (cfs)	Code Required Release Rate - 25 Year (cfs)*	GSI Controlled Release - 25 Year (cfs)
Alternative 4								
Sector NW (W)	3,775	34,000		1.16	0.91		3.10	2.41
NW Sector (E)	1,425	11,600		0.46	0.40		1.22	1.09
NE Sector (E)	3,475	13,700		0.64	0.47		1.71	1.43
SE Sector (E)	3,815	28,400		1.07	0.72		2.84	2.26
SW Sector (W)	2,325	11,500		0.63	0.34		1.68	1.19
SW Sector (E)	2,400	16,200		0.75	0.45		1.99	1.55
EOB Sector	2,290	0		0.30	0.20		0.79	0.78
Total (W)	6,100	45,500	3.49	1.79	**1.25**	8.01	4.78	**3.60**
Total (E)	13,405	69,900	8.00	3.21	**2.24**	18.47	8.56	**7.11**

Source: SvR Design Company, 2010.
(W) West Basin, drains to combined sewer under I-5.
(E) East Basin, drains to combined sewer.
* Code required release rate is 0.15 cfs/ac for the 2-year storm event and 0.4 cfs/ac for the 25-year storm event.

(See Figure 4.2-1 in **Appendix F** for an illustration of the permanent stormwater control system under Alternative 4.)

No Action Alternative

The No Action Alternative represents the lowest level of site redevelopment and infrastructure improvements of the EIS alternatives, and would result in the least changes to the existing stormwater collection and combined sewer systems. This alternative assumes that only portions of existing sidewalks, public and private, would be repaired. Therefore, the No Action Alternative would generally maintain existing impervious surface areas.

It is assumed under the No Action Alternative that buildings would be repaired and replaced if necessary, as necessary or on a programmed schedule by SHA. Based on assumed levels of sidewalk replacement (60 percent of existing sidewalks within the privately-owned portions of the site and 30 percent of existing sidewalks in the public rights-of-way), most areas would trigger stormwater flow control facilities or GSI to the MEF requirements.

Cumulative Impacts

Added demands on the combined sewer systems in the Yesler Terrace site vicinity would be generated by planned adjacent upstream redevelopment (i.e. the King County Youth Detention Facility and Seattle University MIMP Expansion projects). It is assumed that necessary improvements (including flow control), extensions or connections to the existing combined sewer system associated with each of these projects would be designed and constructed in compliance with the City's Drainage Code, similar to Yesler Terrace. As a result, no significant cumulative impacts on water resources would be anticipated from these projects, in combination with the Yesler Terrace Redevelopment.

Planning for the First Hill Streetcar is under way by the Seattle Department of Transportation. The current preferred alternative routes the streetcar south along Broadway and east along E Yesler Way through the Yesler Terrace site. This alignment would affect the horizontal layout of underground utilities, future connection to existing utilities and the location of GSI facilities.

3.3.3 Mitigation Measures

The following required/proposed and other possible mitigation measures would address potential impacts to water resources resulting from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

Construction

Temporary erosion and sedimentation control measures and BMPs would be utilized during construction in accordance with the City of Seattle Drainage Code (see **Appendix F** for a list of specific BMPs that could be used).

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and implemented as required by the City's Drainage Code.

Construction entrances, wheel washes, street cleaning, and other BMPs would be used to prevent tracking of soils beyond the project limits.

BMPs for concrete work would include the following:

- Cement trucks wash water would not be disposed of onsite, but would be returned to the off-site batch plant for recycling as process water; and,
- New concrete work would be covered and protected from rainfall until cured.

The generation of dissolved zinc and copper would be minimized through prohibitions on the use of unsealed external copper and galvanized metal, except where required by Code and/or necessary for public safety and/or where no feasible alternative exists. Zinc and copper source controls would extend to rooftops, which would be constructed of inert materials so that roof runoff would bypass water quality treatment facilities.

Measures to control any impacts of excavation dewatering on groundwater could include: site-specific design and careful control of dewatering systems, minimizing the extent and duration of dewatering, and reinfiltration of extracted groundwater (see **Appendix D** for details).

If it is determined that wetlands are located onsite and impacts to these wetlands is necessary for redevelopment, the project would comply with applicable requirements (i.e. in the City of Seattle critical areas ordinance; see Section 3.4, **Plants and Animals**, for details).

Operation

A hydraulic analysis of the stormwater drainage and wastewater systems would be completed during the design phase of the Yesler Terrace Redevelopment to determine necessary improvements to the City's and site's drainage and wastewater infrastructure. Improvements could include: additional GSI and stormwater flow control facilities onsite, and/or upsizing of downstream combined sewer pipes.

The design and construction of the permanent stormwater control system, including conveyance and GSI flow control facilities, would be in accordance with the City's Drainage Code.

The Yesler Terrace Redevelopment would mitigate for the increases in impervious surface area and at the minimum provide flow control for stormwater runoff. The flow control facilities would reduce the peak stormwater discharge from the site relative to existing conditions and could help reduce CSOs, which can occur during heavy rainfall events.

A Stormwater Operation and Maintenance Plan would be prepared for both public and private stormwater systems.

Other Possible Mitigation Measures

Specialized products, such as Chitosan or Electrocoagulation (sediment coagulation agents), and other water quality treatment systems could be used during construction if warranted and approved by the City.

3.3.4 Significant Unavoidable Adverse Impacts

No significant unavoidable impacts would be expected.

3.4 PLANTS AND ANIMALS

This section describes existing plant and animal species and habitat on and in the vicinity of the Yesler Terrace site. Potential impacts to these resources associated with construction and operation of the Yesler Terrace Redevelopment are also analyzed. This section is based on the *Plants and Animals Technical Report for the Yesler Terrace Redevelopment* prepared by Landau Associates (October 2010) which is provided in **Appendix G**.

3.4.1 Affected Environment

Methodology

Following is a description of the methodology used for the plants and animals analysis in this Draft EIS (see **Appendix G** for additional detail).

Background information reviewed for the analysis includes: U.S. Geological Survey (USGS) topographic map; U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory map; Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) database (WDFW 2010); WDFW SalmonScape (WDFW 2010); Washington Department of Natural Resources (WDNR) Natural Heritage Program data (WDNR website 2009); National Oceanic and Atmospheric Administration (NOAA) Fisheries ESA Salmon Listings; USFWS Listed and Proposed Endangered and Threatened Species and Critical Habitat; Candidate Species and Species of Concern in King County; King County iMap; Seattle Department of Transportation (SDOT) slide records; City of Seattle Urban Forest Management Plan (2007), City of Seattle DPD GIS (2007), and, *Wildlife-Habitat Relationships in Oregon and Washington* by Johnson and O'Neil (2001) (see **Appendix G** for detail).

A site reconnaissance was conducted in May 2010, to document existing plant and animal-related conditions. During this site visit, vegetation and evidence of wildlife habitat on and adjacent to the site was recorded. The results of this site visit are summarized later in this section and described in detail in **Appendix G.**

A *Tree Evaluation* was completed on June 10, 2010, by certified arborists, in consultation with the lead Landscape Planner for Seattle Department of Transportation. The evaluation identified "exceptional trees" onsite, as defined in the City Director's Rule 16-2008. The evaluation also defined the term "valuable trees" and identified these trees onsite. "Valuable trees" is not a term that is included in the City's tree preservation regulations, nor do City regulations require that such trees be retained. However, "valuable trees" have been defined and assessed in this Draft EIS analysis in order to further describe the condition of the onsite trees and their potential to be preserved. According to the tree evaluation, a "valuable tree" is defined as a tree that meets one or more of the following criteria (see Attachment 3 to **Appendix G**):

- Moderate preservation value or better, and is not designated as an exceptional tree (per the City of Seattle regulations).
- A preservation value lower than moderate, but should be preserved, because it is adjacent to an exceptional tree or a tree that has a preservation value of moderate or better and removing the tree could harm the tree intended for preservation during construction activities.

SMC 25.11.090 establishes that "exceptional trees" and trees over two feet in diameter that are removed must be replaced by trees that have a mature canopy cover at least equal to the canopy cover prior to tree removal. An exception to this requirement exists if the tree is determined to be hazardous, unhealthy, or is relocated to another suitable planting site approved by the City. The tree evaluation done for this EIS assumes that any tree that is not an "exceptional tree" could be removed and/or replaced with the proposed development (as described in **Section 3.4.2** below). Removal and replacement of "exceptional" or "valuable" trees would be evaluated on a case-by-case basis. The results of the tree evaluation are summarized later in this section and described in detail in **Appendix G**.

An onsite wetland delineation was performed in June 2010, in accordance with Washington Department of Ecology's (Ecology's) *Washington State Wetlands Identification Manual* (1997), *the Army Corps of Engineers Wetland Delineation Manua*l (1987) and the *Interim Regional Supplement to the Army Corps of Engineers Wetland Delineation Manual* (2009). These methodologies require the use of three wetland parameters when determining the presence or absence of wetlands. Generally, all three parameters – wetland hydrology, hydric soils and hydrophytic vegetation – must be present for an area to meet the wetland criteria. Potential onsite wetlands were preliminarily identified and classified using the *Washington State Wetland Rating System for Western Washington* and the City of Seattle's wetland ratings system. The results of this wetland delineation and recommendations for further study are summarized later in this section and described in detail in **Appendix G**.

Regulatory Environment

Various City, State and Federal regulations regarding plants, animals and their habitat would apply to the Yesler Terrace Redevelopment. City regulations that pertain to plants, animals and their habitat include SMC 25.11 and SMC 25.09, which provide for the protection of exceptional trees and critical areas (including Fish and Wildlife Habitat Conservation Areas and Wetlands), respectively, as well as the SEPA Policy on Plants and Animals in SMC 25.05.675.N. Applicable State regulations include the Water Pollution Control Policy, which extends to the protection of wildlife related to water resources of the State. At the federal level, the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), and Executive Order 13112, Invasive Species, pertain to the protection of plants, animals and their habitat. A complete description and analysis of these plans, policies and regulations is provided in Section 3.9, **Relationship to Plans, Policies and Regulations**, and in **Appendix G**.

Existing Conditions

This section describes the existing plants, animals and habitat resources on and in the vicinity of the Yesler Terrace site. Conditions are assumed to be consistent across all sectors of the site, unless otherwise noted below.

Plants

The site is located in a highly urbanized area of the City of Seattle and the plants that are currently present on the site are typical of urban environments. Approximately 58 percent of the site is comprised of built areas including building footprints, streets, sidewalks, parking and hardscaped open space. The remaining approximately 42 percent of the site is comprised of vegetated areas including landscaped and natural open space areas (see **Table 3.4-1**).

Table 3.4-1
YESLER TERRACE EXISTING SITE BREAKDOWN (PERCENTAGE)

	NW Sector	NE Sector	SE Sector	SW Sector	EOB Sector	TOTAL SITE
Built Areas[1]	66	70	56	44	49	58
Vegetated Areas[2]	34	30	44	56	51	42

Source: CollinsWoerman, 2010.
[1] Built areas include building footprints, streets, sidewalks, parking and hardscaped open space.
[2] Vegetated areas include landscaped and natural open space areas.

The vegetation located on the Yesler Terrace site is typical of an urbanized, developed site. A large part of the site vegetation is lawn that is comprised of plant species such as: Kentucky fescue (*Festuca arundinacea*), Kentucky bluegrass (*Poa pratensis*), orchard grass (*Dactylis glomerata*), English plantain (*Plantago lanceolata*), common dandelion (*Taraxacum officinale*), and crabgrass (*Digitaria* spp.). Other landscaping on the site includes ornamental trees, shrubs, and groundcovers. P-patch gardens are also present onsite. A common shrub and invasive species that occurs in the southern portion of the site is Himalayan blackberry (*Rubus armeniacus*).

The *Tree Evaluation* (2010) identified 410 trees onsite, with tree canopy covering approximately 22 percent of the site area. The City's Urban Forest Management Plan (2007) establishes citywide goals for tree canopy preservation. The Plan has not been adopted by the City, but Resolution No. 31138 states that the City supports many of the findings, conclusions and recommendations in the Plan (City of Seattle, 2009). The Yesler Terrace site currently meets the Plan's goals of 20 percent canopy cover for multi-family zoned sites and 15 percent canopy cover for commercial and mixed use zoned sites.

Of the 410 trees identified on the site, 22 meet the criteria of "exceptional" trees (as defined by the City's Director's Rule 16-2008). The 22 exceptional trees are identified on **Figure 3.4-1**. An additional 105 trees were identified as "valuable" (as defined for this DEIS analysis). The remaining 283 trees have below a moderate preservation value and are either unhealthy or hazardous. Detailed information about all of the onsite trees is provided in the *Tree Survey* in **Appendix G**.

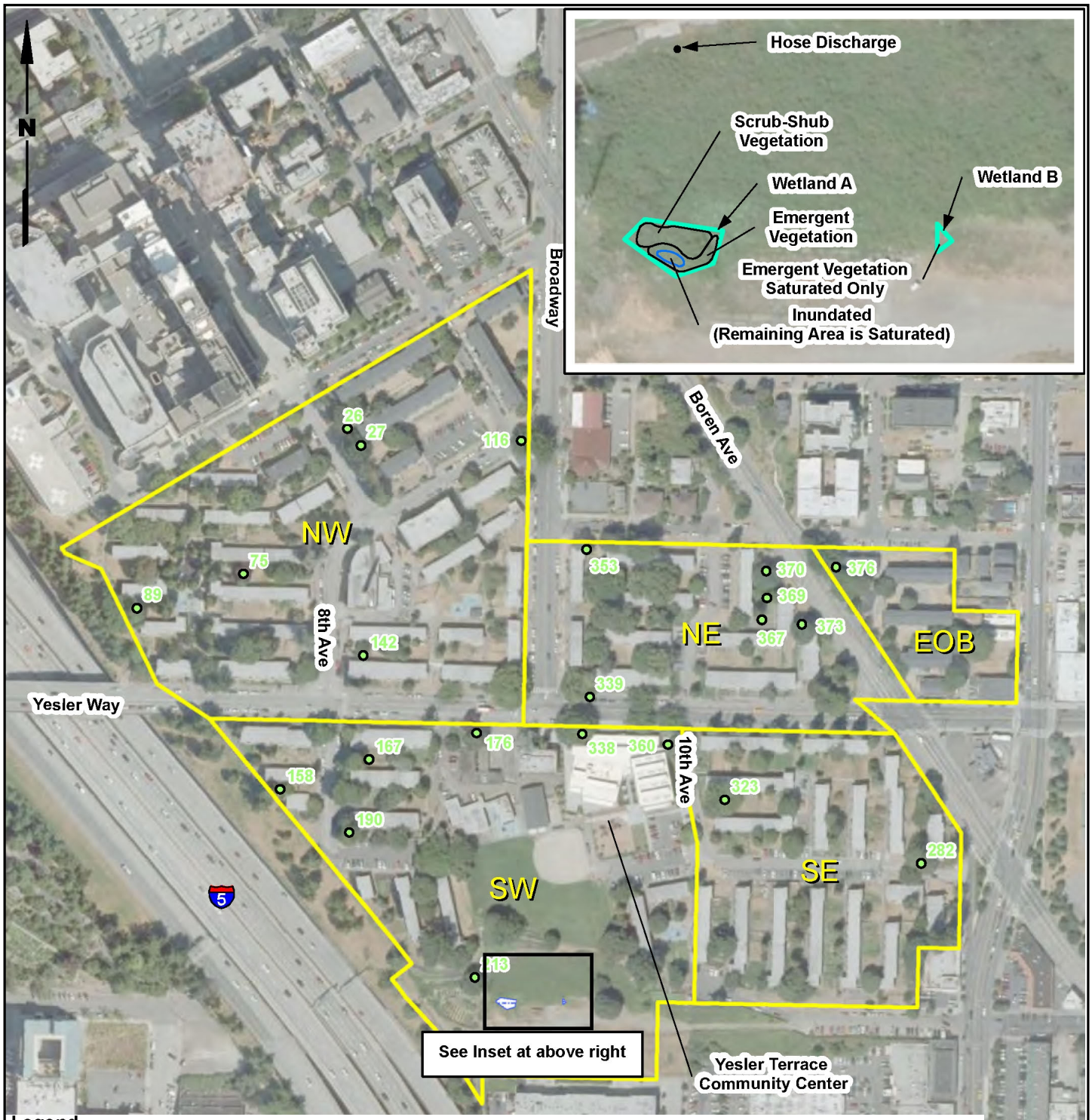
No federally endangered or threatened plant species or critical habitat, as defined by City, State or Federal regulations, are located on or in the vicinity of the site.

Habitat

General Habitat

Habitat on the site is classified as Urban and Mixed Environs[1]. More specifically, the project site is a medium-density zone within the Urban and Mixed Environ, and characterized as having 30 to 59 percent impervious soil cover resulting in 41 to 70 percent of ground available for plants.

[1] Johnson and O'Neil. *Wildlife-Habitat Relationships in Oregon and Washington,* 2001.



Legend

Tree Tag for Exceptional Trees

NW Sectors

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
2. EOB = East of Boren

0 300 600

Scale in Feet

Data Source: King County; Bing Maps Aerial

Source: *King County; Bing Maps Aerial; Landau Associates,* 2010.

Figure 3.4-1
Wetlands & Exceptional Trees

Yesler Terrace Redevelopment EIS

Vegetation characteristic in this zone is typically non-native species, and native plant represent only a limited range of the natural diversity of the area. Characteristics of this zone are manicured lawns, trimmed hedges, and topped trees. The site, as observed in the field, consists of urban residential and institutional development. Residential areas consist of landscaped areas and several community gardens. Individual residential gardens were observed in all sectors of the site.

No streams or waterways are located on or adjacent to the site. The nearest waterway to the site is Puget Sound, located approximately 0.6 miles west of the site.

No critical habitat listed under the ESA, or protected habitat as defined by City, State or Federal regulations, is located on the site. The closest critical habitat to the site is present in Lake Washington and Lake Union (both located more than 1.5 miles from the site).

Neither the Washington Department of Natural Resources nor the Washington Department of Fish and Wildlife Priority Habitat and Species database identifies any priority habitat in the site vicinity; the closest WDFW priority habitat is located approximately 1,500 feet south of the site (and south of I-90), which is identified as a biodiversity area and corridor.

Wetlands

No wetlands have been previously mapped on the site (per the National Wetlands Inventory map and King County iMap). However, two potential wetlands were identified on the site during the May and June 2010 site reconnaissance conducted for this EIS analysis.

At the time of the May 2010 field reconnaissance, a potential seep was identified at the top of the steep slope in the SW Sector. Two potential wetland areas were identified at the base of the slope in the vicinity of the potential seep, and wetland delineations were completed in June 2010 (see **Figure 3.4-1**). The seep was determined to be an uncapped irrigation line extending upslope from the southwest. The irrigation line has been discharging water and locally saturating the slope for an undetermined length of time. During the delineation, a shutoff valve was installed on the irrigation line. Because it could not immediately be determined that the irrigation line was the sole source of potential wetland hydrology, a preliminary delineation of the potential wetlands (Wetlands A and B) was completed based on existing conditions at the time of the site visit. A subsequent delineation effort will occur in fall 2010 when hydraulic conditions have stabilized. Below is a preliminary description of the two potential wetlands:

- Wetland A appears to be a 645 SF, Category IV palustrine emergent wetland immediately downslope of the irrigation pipe.

- Wetland B appears to be a 38 SF, Category IV palustrine emergent wetland located east of Wetland A. Hydrology from Wetland B was observed to originate from the base of the slope, but is not likely influenced by the irrigation line, based on distance from the irrigation line.

Both potential wetlands appear to be slope wetlands and provide low habitat functions. In accordance with SMC 25.09.160, if Wetland A and Wetland B are confirmed as Category IV wetlands, no buffers would be required; however, other compensation for any impacts to these wetlands would be necessary and could include:

- Constructing a wetland of equal function to the lost wetland function;

- Planting an area of native vegetation equal to or greater in size than the area of the developed wetland, and removal of invasive species in the area to be planted;

- Constructing a bioengineered/infiltration facility, such as a bioretention cell or bioretention plant, that replicates the hydrologic and/or water quality benefit of the developed wetland; or,

- Constructing a green roof or roof garden that replicates the hydrologic and/or water quality benefit of the developed wetland.

The Army Corps of Engineers may also require compensation for any wetland impacts under the Clean Water Act (CWA), if the potential wetlands are determined to be "waters of the U.S." pursuant to the CWA.

Animals

Wildlife observed on the Yesler Terrace site is consistent with other highly urbanized sites in the City and are listed in **Table 3.4-2**.

The species presented in **Table 3.4-2** were observed feeding, foraging, and/or resting at the site. The list above may not be all inclusive of species present in all sectors at any given time during the year.

Bird nest sites were observed in buildings in the NW Sector where holes under the building eaves appear to provide nesting cavities. These nests are likely used by sparrow, swallow and/or finch species.

Table 3.4-2
ANIMALS OBSERVED ON THE YESLER TERRACE SITE

Category	Common Name	Scientific Name	Sector In Which Observed
Birds	American crow	*Corvus brachyrhynchos*	All
	House sparrow	*Passer domesticus*	All
	Rock dove	*Columba livia*	NW, NE, SE, EOB
	European starling	*Sturnus vulgaris*	All
	House finch	*Carpodacus mexicanus*	NW
	Glaucous-winged gull	*Larus glaucescens*	NW, SW
	Barn swallow	*Hirundo rustica*	SW
	Tree swallow	*Tachycineta bicolor*	NE
	Hummingbird[1]	*Trochilidae*	NW
	Raptor[1]	N/A	SW
Mammals	Grey squirrel	*Sciurus carolinensis*	NE, SW
	Norway rat	*Rattus norvegicus*	SW

Source: Landau Associates, 2010.
Note: Observations were made on May 19, 2010; 8:15 to 10:45 AM.
[1] Positive identification of individual to species not able to be determined during field reconnaissance.

No federally endangered or threatened animal species or critical habitat, as defined by City, State or Federal regulations, are located on or in the vicinity of the site. The closest suitable

habitat for known threatened or endangered species are Puget Sound, Lake Washington and Lake Union, all located at least 0.6 miles from the site.

3.4.2 Impacts

This section describes potential impacts to plants, animals and habitat during construction and operation of the Yesler Terrace Redevelopment under Alternatives 1 through 4. With respect to plants, animals and habitat, there would generally be little difference between the types and levels of potential impacts associated with each of the redevelopment alternatives; differences in impacts among the redevelopment alternatives would primarily relate to the relative intensity of development. All of the EIS alternatives are expected to have some level of initial and ongoing, phased redevelopment activities over the buildout period. Each of the alternatives would include similar types of construction and operating activities. Similar forms of new roadways, utilities and parks and open space would be included in the alternatives, although the amounts and locations of these features would vary. Therefore, the impacts discussion below generally pertains to all of the redevelopment alternatives (Alternatives 1-4), unless otherwise noted. The No Action Alternative is described at the end of this section.

For purposes of this Draft EIS analysis, impacts have been analyzed in regards to both the maximum development allowed by the proposed new zoning and certain redevelopment assumptions formulated for a "capacity model" development scenario (see **Section 2.8.3** for details). Both the maximum zoning and capacity model assume the same number, footprint and distribution of buildings across the site under each alternative; the differences between the maximum zoning and capacity model are limited to differences in building height assumptions. In regards to this analysis of impacts to plants, animals and habitat, impacts would be assumed to be similar under both the proposed new zoning and capacity model since the area of disturbance would be similar (i.e., building footprints, roadways, parks and open space areas). The assumptions in the model are not intended to represent a definitive redevelopment plan for the site, but are used instead as a basis for assessing potential impacts and informing selection of building locations. These assumptions are used to evaluate the relative impacts of the proposed redevelopment on plants, animals and habitat on and in the vicinity of the site under each alternative. The specific type, number, height, location and design of the onsite buildings and parks/open space areas would be determined as part of future specific redevelopment applications submitted by SHA and/or other developers.

Plants

Construction

Vegetated Areas

Under Alternatives 1-4, the amount of vegetated area onsite would be expected to decrease and the amount of built environment would be expected to increase, relative to existing conditions (see **Table 3.4-3**). The percentage of built versus vegetated areas would generally be consistent for all of the alternatives as differences among the alternatives would generally relate to building heights and not building footprints.

Table 3.4-3
YESLER TERRACE POST-DEVELOPMENT SITE BREAKDOWN (PERCENTAGE)

	Alternative					
	1	1A	2	3	4	No Action
Built Areas[1]	73	73	73	73	74	58
Vegetated Areas[2]	27	27	27	27	26	42

Source: CollinsWoerman, 2010.
[1] Built areas include building footprints, streets, sidewalks, parking and hardscaped open space.
[2] Vegetated areas include landscaped and natural open space areas.

Exceptional Trees

As shown in **Table 3.4-4**, construction activities assumed under Alternatives 1-4 would result in impacts to some of the 22 "exceptional"[2] trees located onsite. The most exceptional trees would potentially be retained under Alternative 1 and 1A; the most would potentially be removed under Alternative 3. During the future site design and permitting process, an assessment would be conducted to determine the actual number and species of exceptional trees that would be required to be removed, and appropriate mitigation for this tree removal, per SMC 25.11 and Director's Rule 16-2008.

Table 3.4-4
YESLER TERRACE ESTIMATED EXCEPTIONAL TREE IMPACTS UNDER EIS ALTERNATIVES

		Alt. 1 and 1A		Alt. 2		Alt. 3		Alt. 4	
	Existing Conditions	Retain	Remove	Retain	Remove	Retain	Remove	Retain	Remove
Exceptional Trees[1]	22	15	7	12	10	10	12	12	10

Source: Landau Associates, 2010.

Valuable Trees

As described in **Section 3.4.1**, further evaluation of onsite trees was conducted to identify "valuable trees" for this Draft EIS analysis (see **Section 3.4.1** for a definition of this term). The evaluation identified 105 "valuable trees" onsite. As shown in **Table 3.4-5**, the most valuable trees would potentially be retained under Alternatives 1 and 1A; the most would potentially be removed under Alternative 3. During the future site design and permitting process, an assessment would be conducted to determine the actual number, species and mitigation (if any) for valuable trees that would be required to be removed.

[2] This refers to "exceptional trees" as defined in the City of Seattle's Director's Rule 16-2008 (see **Appendix G** for details).

Table 3.4-5
YESLER TERRACE ESTIMATED VALUABLE TREE IMPACTS UNDER EIS ALTERNATIVES

		Alt. 1 and 1A		Alt. 2		Alt. 3		Alt. 4	
	Existing Conditions	Retain	Remove	Retain	Remove	Retain	Remove	Retain	Remove
Valuable Trees	105	56	49	50	55	48	57	64	41

Source: Landau Associates, 2010.

Other Trees

Of the 410 trees identified onsite, approximately 283 did not meet the criteria for "exceptional" or "valuable" trees; therefore, as part of redevelopment, it is assumed these trees would be removed.

Tree Canopy

As trees are removed to accommodate redevelopment on the site, the amount of tree canopy on the site would also decrease. As shown in **Table 3.4-6**, the amount of assumed tree canopy to remain would be lowest under Alternative 3 and highest under Alternative 4. This remaining canopy cover only includes existing trees identified as "exceptional" or "valuable". The 283 trees identified during the *Tree Survey* that did not fall into these two categories would be assumed to be removed under Redevelopment Alternatives 1-4, as they are unhealthy or hazardous.

The estimated canopy cover also does not include additional street trees or other trees planted onsite as part of the redevelopment, including trees required to be planted as mitigation for tree removal. The addition of the new landscaping and trees provided as mitigation for tree removal would increase tree canopy coverage and to support Seattle's 30-year goal of 20 percent coverage for all sites zoned as multi-family residential or 15 percent coverage for all sites zoned commercial/mixed use.

Although the No Action Alternative assumes that all existing trees would be retained, a significant number of trees could be removed as a result of further decline of unhealthy trees and/or intentional removal in order to ensure the health and safety of the public. This would potentially decrease the amount of tree canopy area under the No Action Alternative over time.

Table 3.4-6
REMAINING TREE CANOPY AREA BY ALTERNATIVE (SF)

Sector	No Action[1]	Alt 1 & 1A[2]	Alt 2[2]	Alt 3[2]	Alt 4[2]
NW	114,632	13,990	15,256	15,177	28,060
NE	65,587	20,229	20,233	15,574	18,769
SE	62,285	17,550	12,684	11,025	14,320
SW	86,387	25,031	24,266	22,187	25,170
EOB	24,911	4,260	4,379	4,321	4,376
Total	**353,802**	**81,060**	**76,818**	**68,284**	**90,695**
Coverage of Total Project Area	**22.2%**	**5.1%**	**4.8%**	**4.3%**	**5.7%**

Source: Landau Associates, 2010.

[1] Canopy coverage is based on all existing trees within the project area, regardless of their condition. However, under the No Action Alternative, approximately 283 of 410 of the trees (70 percent) could be removed over time to ensure the health and safety to the public, as they are hazardous or unhealthy and would likely be removed over time to ensure health and safety to the public. Removal of these hazardous or unhealthy trees, could reduce the overall tree canopy coverage to 106,140 SF or 6.2 percent.

[2] Remaining canopy coverage only includes existing valuable and exceptional trees as hazardous or unhealthy trees would be removed as part of redevelopment.

In compliance with the Federal Executive Order 13112 - Invasive species, existing invasive species, such as the Himalayan blackberry located in the SW Sector, would be removed. Construction, design and landscaping would be implemented in such a way to reduce or preclude introduction of invasive species on the site in the future.

Operation

The existing P-patch community gardens, primarily located in the SW Sector would be displaced under Alternatives 1-4. The private yards utilized by residents to plant gardens would also be displaced. New P-patch Community Gardens could be provided at both the Commons Park, within each of the Sector Parks and in rooftop gardens to offset the loss of the existing P-patches onsite. Residents could also apply for space at the existing P-Patch located in the vicinity of the site near the intersection of 14th Avenue and E Fir Street (See Section 3.15.1.1, **Public Services - Parks** for details).

There would be no significant operational impacts to plant species at the site with redevelopment under Alternatives 1-4.

Animals

Construction

Existing animal species at the site have adapted to a highly urbanized environment. Construction impacts due to habitat removal would result in their relocation to other locations

onsite or to adjacent sites until construction activities were completed and new landscaping installed.

Noise impacts due to construction activities could temporarily cause animals to relocate; however, once construction activities were completed, animals would likely return to the site.

Potential nesting sites observed in buildings in the NW Sector could be protected under the MBTA. Removal of inactive nests of any migratory birds would not be accomplished prior to consultation with the USFWS office with local jurisdiction. A permit may or may not be required for removal of inactive nests (see Section 2.3.2 in **Appendix G** for details). It is proposed that the nesting cavities of any migratory birds would be removed after birds have fledged. As a result, no significant impacts to migratory birds would be anticipated with construction activities associated with Alternatives 1-4.

Stormwater management would be implemented during construction to prevent polluted water from entering the stormwater system during the construction phase (see Section 3.3, **Water Resources**, for details). Therefore, construction activities would not impact the ESA-listed species in Puget Sound and/or its tributaries.

Operation

The reduction in vegetated area that is proposed under Alternatives 1-4 would result in a small reduction of potential habitat for animals and, therefore, could result in fewer animals at the site; however, due to the small reduction and the general ability for animals in this area to adapt to urban environments, this impact is not considered significant.

As under existing conditions, it is anticipated that all stormwater would be conveyed to the West Point Treatment Facility via the City's combined sewer system and King County Metro system where it would be treated prior to discharge to Puget Sound and/or its tributaries During large storm events, stormwater flows exceed the capacity of the downstream conveyance pipe system and flows are discharged untreated to adjacent water bodies instead of being conveyed to the treatment plant. The Yesler Terrace site contributes to two combined sewer overflows (CSOs) adjacent to Lake Washington and Elliott Bay. A hydraulic analysis of the stormwater drainage and wastewater systems would be completed during the design phase of the Yesler Terrace Redevelopment to determine necessary improvement to the City's and site's drainage and wastewater infrastructure (see Section 3.3, **Water Resources**, and **Appendix O** for details). Therefore, the proposed redevelopment would not be expected to impact the ESA-listed species in these waterways.

Habitat

Construction

Under Alternatives 2 and 3, the southern portion of the SW Sector where the seep and two potential wetlands are located would be graded and redeveloped, resulting in the potential wetlands being filled. If it is determined that the potential wetlands in the SW Sector are wetlands, applicable regulations would require wetland mitigation to offset, in part, habitat functions adversely impacted by Alternatives 2 and 3 (see Section 3.4.3, **Mitigation**, for detail). The invasive Himalayan blackberries that occur in this portion of the site would also be removed under these alternatives.

Under Alternatives 1 and 4, the area where the two potential wetlands are located would not be redeveloped, and no impacts to these wetlands would occur.

No significant impacts to onsite or offsite habitat would be anticipated with redevelopment under Alternatives 1-4.

Operation

As under existing conditions, it is anticipated that all stormwater would be conveyed to the West Point Treatment Facility via the City's stormwater system where it would be treated prior to discharge to Puget Sound and/or its tributaries. During large storm events, CSOs into Elliott Bay and Lake Washington may occur. A hydraulic analysis would be completed during the design phase of the Yesler Terrace Redevelopment to determine appropriate mitigation measures to address these CSOs (see Section 3.3, **Water Resources**, and **Appendix O** for details). Therefore, the proposed redevelopment would not be expected to impact the critical habitat provided in these waterways.

No Action Alternative

The No Action Alternative assumes that the Yesler Terrace site would continue in its current condition; repairing, remodeling, and replacement of existing buildings and infrastructure would occur as necessary. Under the No Action Alternative construction impacts to habitat, plants, and animals would be similar to those described in Alternatives 1-4, due to repair, remodeling, and replacement activities; however, these impacts would likely occur at much lower intensity.

During periods where no repair, remodeling, and replacement would be taking place, plants, animals and habitat onsite would continue as under existing conditions.

Cumulative Impacts

This section describes the cumulative impacts of the proposed Yesler Terrace redevelopment in combination with other foreseeable offsite actions in the site vicinity (including the First Hill Streetcar, King County Youth Detention Facility and the Seattle University Major Institution Master Plan projects).

Impacts to plants and animals associated with the above-mentioned offsite actions could include the removal of exceptional trees and animal habitat on those respective sites. However, due to the existing highly urbanized nature of these sites significant cumulative impacts would not be anticipated.

Although the First Hill Streetcar Project is proposed to run through the Yesler Terrace site, it would be within the Broadway and E Yesler Way rights-of-way. Potential impacts of this project on plants and animals would be limited to the possible removal of two exceptional trees along Yesler Way and an increase in urban activity and noise and associated impact on animals. The potential impacts to the exceptional trees would be determined upon final design of the Streetcar Project which would be analyzed separate from this EIS. The discussion and calculations provided in **Section 3.4.2** regarding the impacts to exceptional trees from the Yesler Terrace Redevelopment do not include the potential removal of the two exceptional trees to accommodate the First Hill Streetcar Project; thus, if the Streetcar Project removes these two trees, that would be a cumulative impact with the Yesler Terrace Redevelopment. These

potential impacts would not be significant, because the site is already highly urbanized and animals in the site vicinity are adapted to the urban environment.

3.4.3 Mitigation Measures

The following required/proposed and other possible mitigation measures would address potential impacts to plants, animals and habitat resulting from the Yesler Terrace Redevelopment.

Required/Proposed Mitigation Measures

- If it is determined that wetlands are located onsite, and fill of these wetlands is required, the project would comply with applicable wetland, buffer and other requirements in the City of Seattle critical areas ordinance. Mitigation for habitat loss for Category IV wetlands could include:
    - Constructing a wetland of equal function to the lost wetland function;
    - Planting an area of native vegetation equal to or greater in size than the area of the developed wetland, and removal of invasive species in the area to be planted;
    - Constructing a bioengineered/infiltration facility, such as a bioretention cell or bioretention plant, that replicates the hydrologic and/or water quality benefit of the developed wetland; or,
    - Constructing a green roof or roof garden that replicates the hydrologic and/or water quality benefit of the developed wetland

- If the potential wetlands onsite are determined to be "waters of the U.S.," pursuant to the CWA, the project would comply with the Army Corps of Engineers' regulations for any impacts to these wetlands.

- Construction methods and sequencing would be implemented to preserve exceptional trees proposed to be retained onsite, including:
    - Install chain-link fencing around exceptional trees before mobilization to prevent damage from construction activities;
    - Locate root systems visually or by other means (such as using underground radar equipment) to determine where construction activities should not occur;
    - Remove or replace impervious areas near exceptional trees with permeable surfaces to provide more water to root systems; and,
    - Preserve trees that have a preservation value lower than moderate and are adjacent to an exceptional tree because removing the tree would harm the trees intended for preservation during construction activities.

- For exceptional trees that cannot be preserved or transplanted within the site, mitigation would be provided by installing one or more new trees for every exceptional tree removed, as approved by the City.

- Nest removal for any migratory bird species protected under MBTA would occur outside of nesting season after birds have fledged.

- As possible, native plants would be installed and invasive plants removed in accordance with Executive Order 13112. Native plants would be included in the landscape plan, as possible, to provide habitat for native animals.

Other Possible Mitigation Measures

- To the extent feasible, construction methods and sequencing could be implemented to preserve valuable trees proposed to be retained onsite.

- A thorough landscape maintenance program could be established during and after construction to ensure that the proposed vegetation remains healthy and free of invasive/undesirable plants.

- Additional trees could be installed to support the City's 30-year goal of 20 percent canopy coverage for all sites zoned multi-family or 15 percent canopy coverage for all sites zoned commercial/mixed use.

- Arboriculture practices could be implemented for the remaining trees to ensure a long and healthy tree life.

3.4.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.5 CLIMATE CHANGE, GREENHOUSE GAS EMISSIONS AND ENERGY

This analysis provides a qualitative discussion of the potential impacts of the alternatives on global climate change based upon the best information available at this time. A quantitative discussion of greenhouse gas emissions and energy use, as they relate to climate change, are also provided in this section. The *Yesler Terrace Greenhouse Gas Emissions Analysis* by ENVIRON (2010) is provided in **Appendix E**.

3.5.1 Affected Environment

Climate Change and Greenhouse Gas Emissions

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation and temperature. The global climate is continuously changing, as evidenced by repeated episodes of warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. Scientists have observed, however, an unprecedented increase in the rate of warming in the past 150 years. This recent warming has coincided with the Industrial Revolution, which resulted in widespread deforestation to accommodate development and agriculture and an increase in the use of fossil fuels, which has released substantial amounts of greenhouse gases into the atmosphere.

Greenhouse gases (GHG) such as carbon dioxide, methane, and nitrous oxide are emitted by both natural processes and human activities and trap heat in the atmosphere. The accumulation of GHG in the atmosphere affects the earth's temperature. While research has shown that the Earth's climate has natural warming and cooling cycles, evidence indicates that human activity has elevated the concentration of GHG in the atmosphere beyond the level of naturally-occurring concentrations, resulting in more heat being held within the atmosphere. The Intergovernmental Panel on Climate Change (IPCC), an international group of scientists from 130 governments, has concluded that it is "very likely" - a probability listed at more than 90 percent - that human activities and fossil fuels explain most of the warming over the past 50 years."[1]

The IPCC predicts that under current human GHG emission trends, the following results could be realized within the next 100 years:[2]

- global temperature increases between 1.1 – 6.4 degrees Celsius;
- potential sea level rise between 18 to 59 centimeters or 7 to 22 inches;
- reduction in snow cover and sea ice;
- potential for more intense and frequent heat waves, tropical cycles and heavy precipitation; and
- impacts to biodiversity, drinking water and food supplies.

[1] IPCC, Fourth Assessment Report, February 2, 2007.
[2] IPCC, Summary for Policymakers, April 30, 2007.

The Climate Impacts Group (CIG), a Washington-state based interdisciplinary research group that collaborates with federal, state, local, tribal, and private agencies, organizations, and businesses, studies impacts of natural climate variability and global climate change on the Pacific Northwest. CIG research and modeling indicates the following possible impacts of human-based climate change in the Pacific Northwest:[3]

- Changes in water resources, such as decreased snowpack, earlier snowmelt, decreased water for irrigation, fish and summertime hydropower production, increased conflict over water, and increased urban demand for water;
- changes in salmon migration and reproduction;
- changes in forest growth and species diversity and increases in forest fires; and
- changes along coasts, such as increased coastal erosion and beach loss due to rising sea levels; increased landslides due to increased winter rainfall, with permanent inundation in some areas; and increased coastal flooding due to sea level rise and increased winter streamflow.

Energy

One source of greenhouse gas emissions is the fossil fuels (especially coal) used to produce power used by consumers for electrical power and home heating needs. In the Pacific Northwest - unlike other regions in the United States - power companies are generally able to utilize hydro-electric energy sources which are considered renewable.

Electrical service is provided to Seattle, including the Yesler Terrace site, by Seattle City Light. Seattle City Light has a variety of sources of power including: hydro-electric (88.83 percent), nuclear (5.68 percent), wind (3.43 percent), coal (1.38 percent) and natural gas (0.58 percent)[4]. Only a small percentage (less than 2 percent) of the power provided by Seattle City Light is generated from fossil fuels. Seattle City Light offers consumers options for reducing or offsetting their energy carbon footprint, such as providing energy audits and providing the option to participate in the "green-up" program which allows customers to purchase renewable energy sources (solar and wind) for a portion of their electricity use.

Other strategies that can further reduce greenhouse gas from energy use are: employing design features that naturally reduce energy use such as daylighting and green roofs; retaining mature trees to provide carbon sequestration, air purification and cooling; and, providing onsite power generation such as solar panels or wind turbines.

Regulatory Context

United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) is charged with enforcing the Clean Air Act and has established air quality standards for common pollutants.

On September 22, 2009, the EPA released final regulations that require 29 categories of facilities to report their GHG emissions annually, starting in 2011. Covered facilities include oil

[3] Climate Impacts Group, Climate Impacts in Brief, accessed 9/21/2009, http://www.cses.washington.edu/cig/pnwc/ci.shtml.
[4] Seattle City Light, http://www.seattle.gov/light/FuelMix/, accessed July 10, 2010.

refineries, pulp and paper manufacturing, landfills, and a variety of other manufacturing and industrial sources of emissions. Individual development projects such as the alternatives discussed in this Draft EIS are not subject to these regulations.

Western Climate Initiative

On February 26, 2007, the Governors of Arizona, California, New Mexico, Oregon and Washington signed the Western Climate Initiative (WCI) to develop regional strategies to address climate change. WCI is identifying, evaluating and implementing collective and cooperative ways to reduce greenhouse gases in the region. Subsequent to this original agreement, the Governors of Utah and Montana, as well as the Premiers of British Columbia and Manitoba joined the WCI. The WCI objectives include setting an overall regional reduction goal for GHG emissions to 15 percent below 2005 levels by 2020, developing a design to achieve the goal and participating in The Climate Registry, a multi-state registry to enable tracking, management, and crediting for entities that reduce their GHG emissions.

On September 23, 2008, the WCI released its final design recommendations for a regional cap-and-trade program. On July 27, 2010, the WCI released the report, *Design for the WCI Regional Program*, which identifies specific elements of the program. This program would cover GHG emissions from electricity generation, industrial and commercial fossil fuel combustion, industrial process emissions, gas and diesel consumption for transportation, and residential fuel use. The first phase of the program, which will cover electricity emissions and some industrial emission sources, is to begin January 1, 2012. Individual development projects, such as the alternatives discussed in this Draft EIS, are not currently covered by the WCI cap-and-trade program.

State of Washington

In February of 2007, Executive Order No. 07-02 was signed by the Governor establishing goals for Washington regarding reductions in climate pollution, increases in “green” jobs, and reductions in expenditures on imported fuel.[5] This Executive Order established Washington's goals for reducing greenhouse gas emissions as the following: to reach 1990 levels by 2020, 25 percent below 1990 levels by 2035, and 50 percent below 1990 levels by 2050. This order was intended to address climate change, grow the clean energy economy and move Washington toward energy independence.

In 2007, the Washington legislature passed SB 6001, which among other things, adopted the Executive Order No. 07-02 goals into statute.

In 2008, the Washington Legislature built on SB 6001 by passing E2SHB 2815, the Greenhouse Gas Emissions Bill (codified as RCW 70.235). While SB 6001 set targets to reduce emissions, E2SHB 2815 established reductions in emissions as requirements to be met by the state, and directed the Department of Ecology to submit a comprehensive greenhouse gas reduction plan to the Legislature by December 1, 2008. As part of the plan, Ecology was to describe the actions necessary to achieve the emission reductions, develop a system for reporting and monitoring greenhouse gas emissions within the state, and identify a design for a regional multi-sector, market-based system to reduce statewide greenhouse gas emissions. Ecology’s report was submitted to the Legislature in December 2008. The Plan addresses measures to be taken

[5] http://www.governor.wa.gov/execorders/eo_07-02.pdf

at the state-level and does not apply to individual development projects, such as the alternatives discussed in this Draft EIS.

In 2008,[6] the Department of Ecology issued a memorandum stating that climate change and greenhouse gas emissions should be included in all State Environmental Policy Act (SEPA) analyses and committing to providing further clarification and analysis tools.

In 2009, the Governor signed Executive Order 09-05, ordering Ecology and the Washington State Department of Transportation to take certain actions to reduce climate-changing greenhouse gas emissions, to increase transportation and fuel-conservation options for Washington residents, and to protect the state's water supplies and coastal areas. The Executive Order directs these state agencies to develop a regional emissions reduction program; develop emission reduction strategies and industry emissions benchmarks to make sure 2020 reduction targets are met; work on low-carbon fuel standards or alternative requirements to reduce carbon emissions from the transportation sector; address rising sea levels and the risks to water supplies; and increase transit options, such as buses, light rail, and ride-share programs, to give Washington residents more choices for reducing the effect of transportation emissions. The measures described in the Executive Order do not apply to individual development projects, such as the alternatives discussed in this Draft EIS.

On June 1, 2010, the Department of Ecology issued draft guidelines entitled, *Guidance on Climate Change and SEPA*, for a 25-day public comment period. These draft guidelines include guidance regarding the types of greenhouse gas emissions that should be calculated, a discussion of how to determine if emissions surpass a threshold of "significance", and a description of different types of mitigation measures. Guidance is also provided regarding the requirement to discuss the ability of a proposal to adapt to climate changes as a result of global warming. After closure of the public comment period on June 25, 2010, the Department of Ecology issued a statement indicating that significant changes would be required to the Draft Guidelines before they are issued. If the final *Guidance on Climate Change and SEPA* is issued subsequent to the issuance of this Draft EIS but before issuance of the Final EIS, additional analysis may be included in the Final EIS.

City of Seattle

In 2007, the Seattle City Council adopted Comprehensive Plan goals and policies related to achieving reductions in GHG emissions. In December 2007, the City Council adopted Ordinance No. 122574, which requires City departments that perform environmental review under SEPA to evaluate greenhouse gas (GHG) emissions when reviewing permit applications for development. This Draft EIS includes the evaluation required by this Ordinance.

3.5.2 Impacts

This section describes the assumed impacts of the Yesler Terrace Redevelopment on climate change, greenhouse gas emissions and energy use.

"Environmental stewardship and sustainability" is one of four overall principles developed by the Citizen Review Committee and adopted by the SHA Board of Commissioners for the redevelopment at Yesler Terrace. Several guiding principles adopted in support of this goal are

[6] Manning, Jay. RE: Climate Change - SEPA Environmental Review of Proposals, April 30, 2008.

intended to reduce the overall carbon footprint (including greenhouse gas emissions and energy use) of the Yesler Terace Redevelopment, including the following:

- Incorporate smart growth principles in the redevelopment process but not at the expense of retaining and expanding housing opportunities for those most in need. "Smart growth" is defined by the American Planning Association as "A collection of planning, regulatory, and development practices that use land resources more efficiently through compact building forms, in-fill development, and moderation in street and parking standards."

- Use environmentally friendly and sustainable building techniques to produce healthy and quality housing, facilities and amenities.

- Foster education and awareness programs that promote earth-friendly practices such as waste reduction, recycling, composting and the use of drought-resistant landscaping.

To the extent feasible, the Yesler Terrace Redevelopment would support these guiding sustainability principles by:

- Providing infill development in an Urban Center Village area, reducing sprawl, and reducing pressure to develop affordable and workforce housing opportunities outside of the City and the Urban Growth Boundary;

- Reducing single-occupancy vehicle trips by developing along reliable and convenient transit routes;

- Reducing single-occupancy vehicle trips by integrating housing, jobs and shopping opportunities; and,

- Incorporating low-impact and sustainable design features.

This analysis does not quantify or take into consideration any potential efforts to reduce climate change impacts by incorporating sustainable features into the redevelopment. However, as sustainable design is a guiding principle for Yesler Terrace, it is assumed that some sustainable features would be incorporated into the final development to reduce the impacts quantified in this section (see **Section 3.5.3** and **2.8.2** for additional detail about sustainable design features). These sustainable features would be considered in the approach to design of the neighborhood as a whole, in the design of the street and infrastructure systems, in the design of buildings and sites, and in ongoing site programming and management.

Climate Change

The assumed impacts of climate change (as identified in **Section 3.5.1**) would not be anticipated to have a disproportionate impact on the Yesler Terrace Redevelopment as compared to other sites in Seattle. The site is not located along a coastline, does not include significant forest growth, and no rivers are located onsite. Existing landslide/erosion areas located onsite would be sufficiently shored, per City of Seattle regulations, to reduce the potential for landslide hazards. Any changes in water resource levels would be similar to changes experienced region-wide and would not disproportionately impact the Yesler Terrace Redevelopment.

Greenhouse Gas Emissions

The available methodology for estimating greenhouse gas emissions focuses on a quantitative calculation of emissions from new construction. As such, the methodology shows that redevelopment of the Yesler Terrace site would generate new greenhouse gas emissions as shown in **Table 3.5-1**.

Greenhouse gas emission estimates for the existing Yesler Terrace development were not calculated for this analysis. The calculation method has been developed to apply to new construction and uses baseline assumptions (such as current energy code building requirements and emissions associated with construction) that would not apply to the existing Yesler Terrace development. For this analysis, a relative comparison of the redevelopment alternatives is provided, and no deduction has been taken for the existing development in order to account for a net, as opposed to gross, increase in emissions.

The methodology does not take into consideration any reductions in carbon footprint of the development accommodated at Yesler Terrace (see **Section 3.5.3** below), such as adding density in an Urban Center Village; vehicle trip reductions through building a walkable community where residents can live, work, and play; and LEED building techniques or other energy and resource conservation measures. While some of these measures have been incorporated into the Transportation analysis (See **Appendix N** for mode split assumptions), the available methodology for calculating greenhouse gas emissions cannot consider these vehicle trip reductions. Therefore, the estimates below are only one part of the analysis and should be considered a worst-case assessment.

Analysis Method

The tabulation of greenhouse gas emissions was based on the SEPA Greenhouse Gas Emissions spreadsheet tool developed by King County and adopted by the City of Seattle.[7] This tool was modified to reflect project-specific data, when possible (details about the calculation method and modifications are provided in **Appendix H**). In accordance with findings regarding the primary sources of greenhouse gas emissions, this tabulation focused on three areas/sources of emissions as described below.

- **Building materials and processes (Embodied emissions)**. This portion of the calculation considered both the "upstream" (i.e., mining, harvest, manufacturing, and transport) and the "downstream" (i.e., subsequent, "in place" use and maintenance) of building materials. The default values were modified to reflect values based on materials expected to be used in the buildings' construction (instead of applying averages based on all materials combined as in the spreadsheet tool). For example, the Yesler Terrace residential towers are proposed as concrete columns and beams with a concrete slab interior floor system, interior walls with steel studs, and exterior surface of stucco and glazing. The global warming potential of these materials was calculated using the ATHENA model assuming the average of the types of material systems closest resembling the stated materials and then input into the tool.[8] Also, because the existing spreadsheet cannot calculate embodied emissions for structures other than single-family residential

[7] http://www.kingcounty.gov/property/permits/publications/~/media/property/permits/documents/forms/SEPA_GHG_EmissionsWorksheet_Bulletin26PDF.ashx
[8] http://www.athenasmi.org/tools/ecoCalculator/index.html

buildings, the project architects were consulted with to allow adjustments based on component percentages to provide more realistic specifications for building materials. This analysis used four different building "types" to represent the component of the various project alternatives. Those components were (1) underground parking structures, (2) high-rise residential towers, (3) office buildings, and (4) mid-rise residential towers. Lastly, the estimated amount of pavement for roads, driveways and surface parking was included. Note that the lifespan of the buildings is projected to be 62.5 years for retail/office, and 80 years for multi-family residential respectively, as per the King County spreadsheet model.

- **Post-development energy usage (Energy)**. This element considered energy consumption such as heating and electrical usage. For this calculation, the energy values were adjusted to reflect the usage reported for the Pacific Northwest (as opposed to national averages). In addition, the average floor space per unit value was replaced with a project-related value where possible. No consideration was made to whether or not the buildings would incorporate Built Green or Energy Star ratings, or LEED® ratings. Some studies suggest that these ratings could represent at least 20 percent reductions in overall energy usage.
- **Transportation (Transport)**. This component considered GHG emissions related to vehicle travel of residences and employees. The King County default calculation was used because no other project-specific data were available. However, the annual miles traveled and mileage assumptions were updated based on more recent statewide DOT data and updated fleet mileage increases.

Table 3.5-1
ESTIMATED LIFE SPAN GREENHOUSE GAS EMISSIONS UNDER YESLER TERRACE REDEVELOPMENT ALTERNATIVES
($MTCO_2e$)[1]

	Alternative				
Building Type	**1**	**1A**	**2**	**3**	**4**
Parking Structure/ Surface Parking	223,852	189,842	293,589	363,198	62,633
Pavement/ROW	21,999	21,413	21,102	20,923	27,018
Office Building High-Rise	800,406	539,052	979,469	1,175,665	--
Residential Mid-Rise	2,127,918	2,127,329	2,166,365	1,633,409	1,634,262
Residential High-Rise	567,014	567,014	1,384,687	2,761,260	--
Total Emissions	**3,741,190**	**3,444,650**	**4,845,212**	**5,954,455**	**1,723,913**

Source: ENVIRON, 2010.

[1] $MTCO_2e$ is defined as Metric Tonne Carbon Dioxide Equivalent; equates to 2204.62 pounds of CO2. This is a standard measure of amount of equivalent CO2 emissions.

Energy

Redevelopment on the Yesler Terrace site under the EIS alternatives would result in energy usage exceeding levels used under existing conditions, as shown in **Table 3.5-2**. Energy use would be assumed to be highest under Alternative 3 and lowest under the Alternative 4. These calculations have not taken into consideration any potential efforts to reduce the energy use of

the Yesler Terrace Redevelopment (see **Section 3.5.3** below) such as LEED® building techniques and energy conservation measures, even though these features may be incorporated into the final development. Therefore, these estimates could be considered worst-case.

Table 3.5-2
ESTIMATED ENERGY USE UNDER
YESLER TERRACE REDEVELOPMENT ALTERNATIVES
(kilowatt hours per year)

	Alternative					
Sector	**1**	**1A**	**2**	**3**	**4**	**No Action**
Housing[1]	19,200,000	19,193,600	25,600,000	32,000,000	9,747,200	3,590,400
Office/Hotel[2]	10,241,318	5,132,800	12,814,413	15,381,248	259,315	259,315
Neighborhood Commercial[2]	512,000	512,000	768,000	1,126,400	128,000	0
Neighborhood Services[2]	639,629	639,629	639,629	639,629	639,206	637,977
Total	**30,592,947**	**25,478,029**	**39,822,042**	**49,147,277**	**10,773,722**	**4,487,692**

Source: Blumen Consulting Group, 2010.

[1] Housing energy consumption was calculated by multiplying the assumed number of residential units (see **Table 2-1** in Chapter 2) under each alternative by 6,400 kwh/year per 2010 Energy Code.

[2] Office, hotel, neighborhood commercial and neighborhood services energy consumption was calculated by multiplying the assumed amount of square footage for each use (see **Table 2-1** in Chapter 2) developed under each alternative multiplied by 12.8 kwh per SF per 2010 Energy Code..

No Action Alternative

Under the No Action Alternative, existing onsite buildings would be remodeled and replaced with new facilities in the same configuration at the same location, as necessary. New facilities would likely be designed and constructed to be more energy efficient than the existing buildings; therefore, energy consumption and greenhouse gas emissions under the No Action Alternative could be less than under existing conditions.

Cumulative Impacts

This section describes the cumulative impacts of the proposed Yesler Terrace Redevelopment in combination with other foreseeable offsite actions in the project area. Other planned offsite actions in the project area include: First Hill Streetcar Project, the King County Youth Detention Facility, and projects associated with the Seattle University Major Institution Master Plan (MIMP) expansion.

Greenhouse gas emissions and energy use associated with the above-mentioned offsite actions would contribute to the cumulative carbon footprint of the City of Seattle, but no significant cumulative impacts are anticipated. The First Hill Streetcar project would be intended to reduce single-occupancy vehicle trips within the City; therefore, reducing the associated greenhouse gas emissions.

3.5.3 Mitigation Measures

The following possible mitigation measures would address potential impacts to climate change, energy use and greenhouse gas emissions from the Yesler Terrace Redevelopment:

Possible Mitigation Measures

- **Natural Drainage and Green Roofs** – Green roofs can provide additional open space, opportunities for urban agriculture and decreased energy demands by reducing the cooling load for the building. Green Stormwater Infrastructure (GSI) would be developed for flow control and water quality treatment to the maximum extent feasible.

- **Tree Protection** – The City of Seattle has aggressive urban forest goals in order to help restore tree cover which has been lost due to development. Trees can provide stormwater management, habitat value, noise buffering, air purification, carbon sequestration, and mitigation of the urban heat island effect. Trees also have a positive effect on property values and neighborhood quality. Protection of existing trees, as feasible, and careful attention to new tree planting could help meet the Seattle Comprehensive Urban Forest Management Plan Goals for multi-family residential and commercial development by achieving 15-20 percent overall tree canopy within 30 years.

- **Urban Agriculture** – New P-patch Community Gardens and rooftop gardens could be provided within the site for residents to grow food. Balconies, decks, and right-of-way planting strips could also be utilized for individual residents' agriculture needs. A farmer's market could be established for residents to sell locally grown food, and small micro-retail spaces and food vendor carts could also be allowed where value-added food products could be sold.

- **Native Plants** – Native plants are adapted to the local climate and do not depend upon irrigation after plant establishment for ultimate survival. Landscaping with native plants, beyond that required by code, could be planted to reduce water demand and integrate with the local ecosystem.

- **District Infrastructure Systems for Energy, Water and Waste** – District Infrastructure Systems aggregate enough service demands to make local neighborhood utility solutions feasible. District infrastructure systems could be used as one approach to provide necessary infrastructure services, if determined to be feasible. District solutions may reduce greenhouse gases by utilizing renewable sources of energy and increasing the use of local resources, materials and supplies. District parking solutions and car sharing are designed to reduce vehicle trips. Water reuse and anaerobic digesters may reduce sewer flows. Rainwater capture may reduce stormwater flows. Water reuse and rainwater capture could also reduce potable water demands. District systems for Yesler Terrace could potentially include energy, potable water, wastewater, and solid waste.

- **Waste Management and Deconstruction** – When existing buildings need to be demolished, there are often opportunities to reduce the amount of waste being sent to the landfill with sustainable waste management strategies. In the Seattle area, standard practice for building construction and demolition results in fairly high recycling rates of

over 50 to 60 percent. However, these rates can be increased by implementing aggressive demolition recycling. Such efforts can require considerable additional effort on the part of the contractor. Some of the options under consideration that could mitigate waste generated by the Yesler Terrace project include on-site source separated recycling, potential reuse of demolition materials on-site, deconstruction of existing buildings, and salvage and reuse of building components.

Due to the presence of asbestos and lead-based paint in the majority of the existing onsite buildings, it is unlikely that solid waste resulting from most building demolition would be recyclable. Building materials would be tested as part of demolition activities in order to determine the levels of contamination present. The test results would be used to determine whether building materials could be recycled, would be sent to a landfill or to a specialized facility that handles hazardous waste (see Section 3.6, **Environmental Health**, for details).

- **Building Design** – Building design at Yesler Terrace could integrate a wide variety of green building features. Green building encompasses energy and water conservation, waste reduction, and good indoor environmental quality. Tools and standards that are used to measure green building performance could be used at Yesler Terrace. Some options include: Built Green, LEED, and the Evergreen Sustainable Development Criteria. Custom green building guidelines could also be developed to guide building design and construction. Some of the specific building design strategies that might be considered include solar panels for electricity generation or domestic solar hot water, energy star rated appliances, water conserving fixtures beyond code, low toxic materials, finishes, and flooring, energy and water sub-metering for individual units, high efficiency fixtures such as dual flush toilets, toilet flushing and irrigation supplied by recaptured wastewater or rainwater, dual plumbing systems for all new buildings to accommodate water reuse, and wind generated alternative energy.

3.5.4 Significant Unavoidable Adverse Impacts

The direct and indirect impacts of the greenhouse gas emissions and energy use of any of the Yesler Terrace Redevelopment alternatives are not considered to be significant adverse impacts.

3.6 ENVIRONMENTAL HEALTH

This section describes existing contaminated site conditions and/or hazardous materials on and in the vicinity of the Yesler Terrace site. Potential impacts related to contaminated site conditions/hazardous materials with construction and operation of the proposed Yesler Terrace Redevelopment are also analyzed. This section is based on the *Environmental Health Report for the Yesler Terrace Redevelopment* by Landau Associates (September 2010). This report is provided in **Appendix I** to this Draft EIS.

3.6.1 Affected Environment

This section provides a description of the existing framework of applicable environmental health-related regulations; present and historic land uses on and adjacent to the site; and, known presence or potential presence of contaminants and/or hazardous materials on and adjacent to the site. The descriptions of known environmental health-related conditions are based on data from existing reports, historical information and site reconnaissance (see **Appendix I** for details).

Overview of Environmental Health-related Regulations and Procedures

Characterization of existing site conditions as they relate to environmental health and the need for any future cleanup activities at the Yesler Terrace site were assessed in accordance with applicable local, state and federal regulations, including the Model Toxics Control Act (MTCA; Chapter 70.105D RCW, WAC 173-340), which is managed by the Washington Department of Ecology (Ecology).

MTCA regulations define types and levels of contamination that are harmful to human health; provide guidelines for evaluation and investigation of potential contamination; and, specify appropriate cleanup levels and methods for cleanup actions involving soil, groundwater and media other than sediment. Under MTCA regulations, all cleanups must meet certain minimum requirements, including: compliance with cleanup standards; compliance with applicable state and federal laws; protecting human health and the environment; provision for compliance monitoring; use of permanent solutions to the maximum extent practical; provision for a reasonable restoration time frame; and, consideration of public concerns (see **Appendix I** to this Draft EIS for details on MTCA).

Physical Setting and Existing Uses

The Yesler Terrace site is located in the First Hill neighborhood of Seattle. Multi-family residential and ancillary buildings associated with the Yesler Terrace housing development are located onsite. Many of these structures were constructed in the early 1940s (see **Figure 2-3** and Section 3.8, **Land Use**, for details).

The topography of the site generally slopes from north to south in the four West of Boren Sectors and from northwest to southeast in the East of Boren Sector.

Historic Uses

Historic information for the four West of Boren Sectors indicates that the area was developed with a mix of residential housing and retail uses prior to redevelopment by SHA as the Yesler Terrace public housing complex in the 1940s. Retail uses may have included historical automobile service stations and laundry/dry cleaner facilities. Properties located adjacent to the four West of Boren Sectors (not within the Yesler Terrace site) have had historical uses that included service stations and laundry/dry cleaner facilities (see **Appendix I** for details).

Historic information for the East of Boren Sector indicates that laundry/dry cleaner operations may have formerly been located in both the eastern and western portions of the East of Boren Sector. The northeastern portion of the East of Boren Sector is comprised of two multi-family housing buildings that were originally constructed in the 1930s and have historically included residential housing, retail uses, and laundry/dry cleaner facilities. The southeastern portion of the East of Boren Sector is currently vacant. Prior known uses of the southeastern portion of the East of Boren Sector included mixed use residential and retail (see **Appendix I** for details).

Environmental Health-related Conditions

Environmental Health-related Conditions Common to All Sectors

This section describes existing environmental health-related conditions that are common to all sectors of the Yesler Terrace site.

Underground steam pipes (associated with the Steam Plant) may be present throughout the NW, NE, SE, and SW Sectors. If any potential steam pipes are uncovered during grading or excavation activities, they would need to be evaluated for the potential presence of hazardous materials (i.e., asbestos containing pipe wrap).

Elevated lead concentrations are reported to be present in shallow soil around many of the existing Yesler Terrace buildings in all five sectors due to the past use of lead-based paint on the exterior walls. A soils analysis (completed previously for SHA) from the site indicates that lead concentrations in samples collected from a depth of 0 to 3 feet were greater than the MTCA Method A cleanup level for unrestricted land uses [250 parts per million (ppm)] in multiple locations on the Yesler Terrace site. The previous soil analysis data does not indicate specific locations where sampling was conducted or when sampling was conducted and, therefore, does not delineate the extent of where lead concentrations are greater than the MTCA Method A cleanup level for unrestricted land uses. Further sampling and analysis would be required to determine the presence, extent and levels of lead concentrations at particular locations. (See Section 3.17, **Environmental Justice**, for a discussion of the impacts of lead concentrations in soils to public health.)

Due to the age of onsite buildings, asbestos-containing building materials (ACBM) and lead-based paint could be present. Survey and abatement has been completed on some apartment buildings to remove asbestos-containing materials, including vinyl asbestos flooring and tile, and to encapsulate lead-based paint. It is not known whether all ACBM have been removed from the buildings and an ACBM survey would be required prior to demolition to determine the presence of ACBM materials.

Historical maps and database information for the NW, NE, SE, and SW Sectors indicate that the area was developed with a mix of residential housing and retail uses prior to the development of Yesler Terrace. Historic retail uses may have included historical automobile service stations and laundry/dry cleaner facilities.

NW Sector

Onsite

There have been no reported releases of hazardous materials within the NW Sector.

The buildings on the Yesler Terrace site were originally heated by the former Central Heating Plant (Steam Plant) using coal, but have been converted to electric heat The defunct Steam Plant facility is located southeast of the intersection of 9th Avenue and Spruce Street within the NW Sector. The types of material burned for fuel at the former Steam Plant have not been fully documented. The residual material within the smokestack and the stack itself may contain potentially hazardous materials. Testing of the residual material and the smokestack would be necessary to characterize these materials.

Offsite

Historic information for the properties located offsite, immediately north of the NW Sector indicate that these properties have been historically used as a hospital (including hazardous medical waste treatment and storage); have had fuel storage in underground storage tanks (USTs); a UST removal; and an area used for storage and repair of electrical transformers.

There have been no reported releases of hazardous materials at sites adjacent to the NW Sector.

NE and SE Sectors

Onsite

No known existing onsite environmental health-related conditions are present in the NE or SE Sectors, except for the conditions common to all sectors described above. There are no known reported releases of hazardous materials in the NE or SE Sectors.

Offsite

The former Lloyd's Rocket Gas Station (Lloyd's Station) property is located immediately east of the NE Sector and to the northeast of the SE Sector at 110 Boren Avenue. The property operated as a laundry/dry cleaners in the mid-1940s and as an automobile service station from the early 1950s through the early 1990s. Previous environmental investigation (Galloway Environmental 1997) of the Lloyd's Station site indicates that the Yesler Terrace site was identified as having a potential for encountering contamination from the Lloyd's Station site during Yesler Terrace redevelopment activities.

The Lloyd's Station property is listed on multiple regulatory agency databases and is identified as having had a confirmed release of petroleum hydrocarbons to soil and groundwater and no indication that cleanup has occurred. A summary of the analytical results indicates that the concentrations of gasoline-range total petroleum hydrocarbons (TPH-G), diesel-range TPH

(TPH-D), oil-range TPH (TPH-O), and benzene, toluene, ethylbenzene, and xylenes (BTEX) in soil were above MTCA Method A cleanup levels in effect at the time the previous environmental investigation was performed (1997) for one or more sample locations.

Based on topography and on groundwater elevation contours from previous environmental studies, groundwater flow at the Lloyd's Station property is to the southeast, away from the Yesler Terrace site. Based on groundwater flow to the southeast, the Yesler Terrace site is hydraulically upgradient of the Lloyd's Station property. Although migration of contaminants onto the Yesler Terrace site from the Lloyd's Station property is unlikely due to the groundwater flow direction, there is still a potential for contaminant migration due to the close proximity.

SW Sector

Onsite

Historic information for the SW Sector indicates that a "Dye Works" facility operated within the SW Sector (southwest of the intersection of Yesler Way and 10th Avenue S) in the early 1900s. Operations associated with the former "Dye Works" facility likely included the use of various chemicals. If released, those chemicals could pose a potential concern to soil and groundwater; however, there is no record or documentation indicating that a release occurred.

No other known existing onsite environmental health-related conditions are present in the SW Sector, except for the conditions common to all sectors described above.

Offsite

There have been no reported releases of hazardous materials on properties adjacent to the SW Sector.

East of Boren Sector

Onsite

Four parcels located in the northeastern portion of the East of Boren Sector, where historic residential, retail and laundry/dry cleaner facilities were located, have been designated by the Department of Ecology as a "brownfields" site. Brownfields sites are abandoned or underused properties where there may be environmental contamination requiring clean-up in order for redevelopment to occur. The Yesler Terrace brownfields site is currently being voluntarily remediated by SHA due to a confirmed release of petroleum hydrocarbons, non-halogenated solvents, and halogenated organic compounds to soil and groundwater. According to Ecology, there has been a total excavation of all site contaminants. First quarter 2010 groundwater compliance monitoring analytical results indicated that contaminants of concern were not detected above MTCA Method A cleanup levels for unrestricted land uses and that groundwater monitoring for the site is complete. Ecology is in the process of issuing a "No Further Action" determination for the site[1]. With the exception of the SHA Brownfields site, there have been no other reported releases of hazardous materials within the East of Boren Sector.

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[1] Myers, D. 2010, personal communication; GeoEngineers 2010.

Offsite

Three properties located to the northeast of the East of Boren Sector at the intersection of 12th Avenue and E Fir Street (not immediately adjacent to the East of Boren Sector) were historically automobile service station operations between the 1940s and 1980s. Petroleum hydrocarbon releases to the soil were reported at two of the three sites and a release to groundwater was reported at one of the three sites. There is a potential for contaminated soil or groundwater to be present to the northeast of the East of Boren Sector due to the petroleum hydrocarbon releases that were reported at these properties; however, it is unlikely that these contaminants would have migrated to the Yesler Terrace site due to groundwater flow direction (to the southeast) and the distance of the intersection to the site.

See **Appendix I** for further information on environmental health-related conditions.

3.6.2 Impacts

This section describes the potential environmental health-related impacts associated with the proposed Yesler Terrace Redevelopment. Environmental health-related impacts could occur during construction (i.e. during demolition, grading activities or construction of infrastructure or buildings) and/or operation of the redevelopment.

Alternative 1 and Alternative 1A

Construction

Under Alternatives 1 and 1A, construction of the proposed Yesler Terrace redevelopment would generate air pollutants as a result of dust from demolition activities, earth work and emissions from construction vehicles. However, such air pollutants would be temporary in nature and localized to the immediate vicinity of the construction activity. Construction activities would be conducted according to applicable air quality regulations established by the Puget Sound Clean Air Agency (see Section 3.2, **Air Quality**, for details).

Alternatives 1 and 1A would include redevelopment in areas where lead concentrations in the soil may be above the MTCA Method A soil cleanup levels for unrestricted land uses, based on available information. The presence of lead in soil would pose a potential health risk for construction workers during site redevelopment. Planning for construction would include contingencies for appropriate site-specific health and safety procedures that meet the requirements of WAC 296-155-176 to minimize the potential for workers to be exposed to hazardous materials during construction. In addition, due to the residential uses proposed for Alternatives 1 and 1A, additional characterization, removal, and proper disposal of soil with lead concentrations greater than the MTCA cleanup level would be conducted.

Because of the age of the buildings on the Yesler Terrace site, there may be ACBM and lead-based paint present; therefore, the demolition of existing structures could disturb these materials. Exposure to ACBM and lead-based paint could present safety issues for workers. Construction activities would include contingencies for appropriate site-specific health and safety procedures that meet the requirements of WAC 296-843, Hazardous Waste Operations, to minimize the potential for workers to be exposed to hazardous materials during construction.

Underground steam pipes (associated with the former Steam Plant) may be present throughout the site. If steam pipes are uncovered during site grading or excavation activities, they would need to be evaluated for the potential presence of hazardous materials (i.e., asbestos-containing pipe wrap).

Proper characterization of contaminated soil and/or asphaltic concrete pavement, as part of site clearing, grading or general excavating, would be performed in order to select an appropriate offsite disposal site.

Dewatering may be needed for construction of underground structures (e.g., parking garages) and utilities, depending on the depth of the facility. Impacts to receiving waters (i.e. combined sewer) may result if the construction of below-grade structures and utilities requires dewatering and the facility is located in an area where contaminants are present in groundwater. Monitoring, and potentially treatment, of dewatering discharges would be conducted, as necessary, to limit impacts to receiving waters in the event the dewatering water contains contaminated or turbid groundwater. A King County Waste Discharge permit would be required to discharge any dewatering water to the combined sewer. Monitoring of dewatering discharges would be necessary to determine whether physical and chemical parameters are within King County discharge limits. If parameters are outside acceptable limits, treatment would be necessary prior to discharging to combined sewer.

During construction, the potential for accidental spills of construction-related chemicals would exist. A Pollution Prevention Plan (PPP) containing procedures for preventing and responding to accidental spills would be prepared prior to construction at the site.

It is possible that undocumented contaminants could exist at the site. Should such contamination be discovered, applicable investigation and cleanup provisions, including applicable MTCA Regulations, would be followed.

Operation

Remedial measures implemented prior to or during construction are expected to mitigate potential adverse impacts associated with redevelopment of the Yesler Terrace site within contaminated areas, including exposure of future site users to hazardous substances in soil, groundwater, and/or air, and no significant impacts would be expected.

Alternative 2 and Alternative 3

Construction

Potential environmental health-related impacts during construction of either Alternative 2 or 3 would be similar to those described under Alternatives 1 and 1A, except for potential impacts associated with demolition of the Steam Plant, which is only proposed under Alternatives 2 and 3. The types of material burned to fuel the Steam Plant have not been fully documented. The residual material within the smokestack and the stack itself may contain potentially hazardous materials. Testing of the residual material and the smokestack would be conducted prior to any demolition activities. Proper characterization of any hazardous materials identified within the smokestack would be performed in order to select an appropriate offsite disposal site. Construction activities should include contingencies for appropriate site-specific health and safety procedures that meet the requirements of WAC 296-843, Hazardous Waste Operations,

to minimize the potential for workers to be exposed to hazardous materials from this source during construction.

Operation

Potential environmental health-related impacts during operation of Alternatives 2 and 3 would be similar to those described for Alternatives 1 and 1A.

Alternative 4

Potential environmental health-related impacts during construction and operations of Alternative 4 would be similar to those described for Alternatives 1 and 1A.

No Action Alternative

The No Action Alternative assumes that the Yesler Terrace sit would continue in its current condition; repairing, remodeling and replacement of existing buildings and infrastructure would occur as necessary. Under the No Action Alternative, potential environmental health-related impacts during construction and operation associated with remodeling and replacement of existing buildings would be similar to those described under Alternatives 1 and 1A, with the exception of impacts resulting from the construction of underground parking structures which are not assumed under this alternative; however, these impacts would likely occur at a much lower intensity.

Cumulative Impacts

This section describes the cumulative impacts of the proposed Yesler Terrace project in combination with other foreseeable offsite actions in the project area. Other planned offsite actions in the project area include: First Hill Streetcar Project, the King County Youth Detention Facility, and projects associated with the Seattle University Major Institution Master Plan (MIMP).

Environmental health-related impacts associated with the above-mentioned offsite actions may include the disturbance of hazardous materials due to redevelopment and construction activities and the detection of previously undocumented environmental health-related conditions. Due to the distance of the King County Detention Facility and Seattle University from the Yesler Terrace site, cumulative impacts with these projects are not likely.

If previously undocumented contamination is discovered within the Broadway or E Yesler Way rights-of-ways during construction of the First Hill Streetcar Project, a more rapid cleanup of contaminants could result. Therefore, no significant cumulative impacts are anticipated as a result of the First Hill Streetcar Project.

3.6.3 Mitigation Measures

The following required/proposed mitigation measures would address potential impacts to humans or the environment from existing hazardous materials/conditions as a result of the Yesler Terrace Redevelopment.

Required/Proposed Mitigation Measures

- Additional characterization, removal, and proper disposal of soil with lead concentrations greater than the MTCA cleanup level would be conducted.

- A site-specific health and safety plan would be prepared that includes the safety requirements of WAC 296-843, Hazardous Waste Operations, and WAC 296-155, Safety Standards for Construction Work, to minimize the potential for workers to be exposed to hazardous materials during construction and to address appropriate handling and disposal of any soil with contaminant concentrations greater than the MTCA cleanup levels.

- Conventional dust control measures would be implemented to minimize the exposure of workers and the immediate surrounding populations to construction-generated dust (see Section 3.2, **Air Quality**, for details).

- Spill prevention and response planning would be conducted prior to the start of construction to prevent and, if needed, respond to hydraulic oil or fuel spills.

- Proper characterization of contaminated soil and/or asphaltic concrete pavement, as part of site clearing, grading, or general excavating, would be conducted in order to select an appropriate offsite disposal site.

- Dewatering may be needed for construction of underground structures (e.g., parking garages) and utilities, depending on the depth of the facility. Monitoring, and potentially treatment, of dewatering discharges would be performed, as necessary, to limit impacts to receiving waters in the event the dewatering water contains contaminated or turbid groundwater.

- A King County Waste Discharge permit would be required to discharge any dewatering water to the combined sewer. Monitoring of dewatering discharges would be necessary to determine whether physical and chemical parameters are within King County discharge limits. If parameters are outside acceptable limits, treatment would be necessary prior to discharging to combined sewer.

- During construction activities, possible contaminants in soil could become entrained in stormwater. Stormwater treatment and monitoring would be conducted during demolition and/or construction activities (see Section 3.3, **Water Resources**, for details on water quality treatment).

- Building demolition would be conducted after a hazardous building materials survey has been completed to identify the presence of such materials (e.g., ACBM or lead-based paint) and remove or stabilize them prior to demolition.

- If underground steam pipes (associated with the former Steam Plant) are uncovered during site grading or excavation activities, they would need to be evaluated for the potential presence of hazardous materials (i.e., asbestos-containing pipe wrap).

- The SHA Brownfields site would need to remain in the Department of Ecology's Voluntary Cleanup Program until a "No Further Action" letter is issued.

- At the Steam Plant, residual material within the smokestack and the stack itself may contain potentially hazardous materials. Testing of the residual material and the smokestack would be performed prior to any demolition activities. Proper characterization of any hazardous materials identified within the smokestack would be conducted in order to select an appropriate offsite disposal site (this mitigation measure only applies to Alternatives 2 and 3).

- If unanticipated contamination is discovered, the project would need to comply with applicable cleanup provisions, based on MTCA regulations.

3.6.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.7 NOISE

The following section provides a discussion of existing noise conditions on the Yesler Terrace site and in the site vicinity, potential noise impacts from redevelopment under the EIS alternatives and measures to mitigate redevelopment-related noise impacts. This section is based on the *Noise Technical Report* (September 2010) prepared by ENVIRON Corporation. The full report is included as **Appendix J** to this Draft EIS.

3.7.1 Affected Environment

Noise Level Terminology

Noise is sometimes defined as unwanted sound and the terms noise and sound are used more or less synonymously in this section. The human ear responds to a very wide range of sound intensities. The decibel (dB) scale used to describe and quantify sound is a logarithmic scale that provides a convenient system for considering the large differences in audible sound intensities. On this scale, a 10-dB increase represents a perceived doubling of loudness to someone with normal hearing. Therefore, a 70-dB sound level will sound twice as loud as a 60-dB sound level.

People generally cannot detect sound level differences (increases or decreases) of 1 dB in a given noise source. Although differences of 2 or 3 dB can be detected under ideal laboratory conditions, such changes are difficult to discern in an active outdoor noise environment. A 5-dB change in a given noise source or environment would likely be perceived by most people under normal listening conditions.

As mentioned above, the dB scale used to describe noise is logarithmic. On this scale, a doubling of sound-generating activity (i.e., a doubling of the sound energy) causes a 3-dB increase in average sound produced by that source, not a doubling of the loudness of the sound (which requires a 10-dB increase). For example, if traffic along the road is causing a 60-dB sound level at some nearby location, doubling the traffic on this same road would increase the traffic-related sound level at this same location to 63 dB. Such an increase might not be discernible in a complex acoustical environment.

When addressing the effects of noise on people, it is necessary to consider the "frequency response" of the human ear, or how well people hear sounds of different frequencies. Sound-measuring instruments are therefore often programmed to "weight" sounds based on the way people perceive different frequencies. The frequency-weighting most often used to evaluate environmental noise is A-weighting, and measurements using this system are reported in "A-weighted decibels" or dBA. All sound levels discussed in this evaluation are reported in A-weighted decibels.

For a given noise source, a number of factors affect the sound transmission from the source, which in turn affects the potential noise impact. Important factors include distance from the source, frequency of the sound, absorbency and roughness of the intervening ground surface, the presence or absence of obstructions and their absorbency or reflectivity, and the duration of the sound. The degree of impact on humans also depends on who is listening and on existing sound levels.

Federal regulatory agencies and the City of Seattle use the equivalent sound level (Leq) and the day-night sound level (Ldn) to characterize sound levels and evaluate noise impacts. The Leq is the sound level that if held constant over a specified time period would have the same sound energy as the actual, fluctuating sound. As such, the Leq can be considered an energy-average sound level. When using Leq, it is important to identify the time period being considered. Leq(24), for example, is the equivalent sound level for a 24-hour period. The day-night sound level, Ldn, is similar to the Leq(24), except that a 10 decibel penalty is added to sound levels between 10 PM and 7 AM to account for potential sleep interference.

Regulatory Overview

Seattle Municipal Code

The project site is within the City of Seattle, Washington. Therefore, the noise limits included in the Seattle Noise Control Ordinance (SMC Chapter 25.08) would be applicable to the construction and operation of all development proposed as part of the Yesler Terrace Redevelopment. This Ordinance sets levels and durations of allowable daytime/nighttime operational noise (upper portion of **Table 3.7-1**) and daytime construction noise (lower portion of **Table 3.7-1**). These limits are based on the zoning of the source and receiving properties.

Table 3.7-1
SEATTLE MAXIMUM PERMISSIBLE LEVELS AND CONSTRUCTION NOISE LIMITS (dBA)

Zoning District of Noise Source [25.08.410 & 420 & 425]	Zoning District of Receiving Property		
	Residential Day / Night	Commercial	Industrial
Operational Noise Limits[1]			
Residential	55 / 45	57	60
Commercial	57 / 47	60	65
Industrial	60 / 50	65	70
Daytime Construction Noise Limits[2]			
On-site sources like dozers, loaders, power shovels, cranes, derricks, graders, off-highway trucks, ditchers, and pneumatic equip (maximum+25) [25.08.425 A.1]			
Residential	80	82	85
Commercial	82	85	90
Industrial	85	90	95
Portable equip used in temporary locations in support of construction like chain saws, log chippers, and powered hand tools (maximum+20) [25.08.425 A.2]			
Residential	75	77	80
Commercial	77	80	85
Industrial	80	85	90

Zoning District of Noise Source [25.08.410 & 420 & 425]	Zoning District of Receiving Property		
	Residential Day / Night	Commercial	Industrial
Impact types of equipment like pavement breakers, pile drivers, jackhammers, sand-blasting tools, or other impulse noise sources - may exceed maximum permissible limits between 8 a.m. and 5 p.m. weekdays and 9 a.m. and 5 p.m. weekends, but may not exceed the following limits [25.08.425 B]: Leq (1 hr) 90 dBA Leq (30 minutes) 93 dBA Leq (15 minutes) 96 dBA Leq (7.5 minutes) 99 dBA			
Note: All sound level limits are based on the measurement interval equivalent sound level (Leq) *and* a not-to-be-exceeded Lmax level 15 dBA higher than the indicated limits. [1] The operational noise limits for residential receivers are reduced by 10 dBA during nighttime hours (i.e., 10 PM to 7 AM weekdays, 10 PM to 9 AM weekends) and are displayed for daytime/nighttime hours. [2] Construction noise limits apply at 50 feet or a real property line, whichever is greater. Construction noise is limited to the higher levels listed in the lower portion of the table during "daytime" hours only. For purposes of limiting construction noise received in certain zones, daytime hours are defined as 7 AM to 7 PM weekdays and 9 AM to 7 PM weekends for noise received in Lowrise, Midrise, Highrise, Residential-Commercial, or Neighborhood-Commercial zones. For construction projects in all other zones, and for public projects or locations where there are no residential uses within 100 feet, daytime construction hours are defined as 7 AM to 10 PM weekdays and 9 AM to 10 PM weekends.			

Source: Seattle Municipal Code - 25.08 - Specific sections indicated, 2010.

The Seattle noise limits are based on the hourly equivalent sound level (Leq) and short-term maximum sound level (Lmax) attributable to a sound source.

Seattle's Noise Control Ordinance identifies a number of noise sources or activities that are exempt from the maximum permissible sound levels described in SMC 25.08.410, including sounds created by motor vehicles on public roads (SMC 25.08.480).

Zoning varies on the Yesler Terrace site. The West of Boren Sectors are zoned Multi-family Residential Lowrise 3 (L3), and the East of Boren Sector is zoned Multi-family Residential, Mid-Rise (MR), and Neighborhood Commercial (NC3P-65). L3 and MR zones are intended for multi-family residences and are considered residential districts when applying Seattle's noise code. NC3P-65 zones are considered commercial districts. The majority of the site, therefore, is considered a residential noise source when applying the noise limits, with a consequence of lower sound levels allowed to be emitted during both operation and construction.

Under Alternatives 1-3, the West of Boren Sectors would be rezoned to allow for mixed uses and greater building heights. At this time, it is not known how the Seattle Noise Code would characterize the area for purposes of establishing noise limits (i.e., whether it will consider the new zone a residential or commercial district). However, given the predominant current use and zoning of the site as residential and the predominant proposed future use of the site as residential, the site has been considered a residential district when applying noise limits.

Zoning around the site varies. The area to the north of the NW Sector is zoned MIO-240-HR (Major Institution Overlay), while zoning to the north of the NE Sector and east of the NW Sector includes Multifamily Residential (MR) and NC2-65. Zoning to the east of the East of Boren Sector and SE Sector includes NC3-65 and NC2-65, and MR. The area to the south is presently zoned C1-65 and the area to the southeast is zoned NC3-65; these zones are currently considered commercial receiving districts. However, the zoning to the south is currently under review by the City Council and is likely to be revised to Downtown Mixed Use Residential/Commercial (DMR/C). It is not known what noise limits would apply under this new

zoning; if the area is identified as a residential district, the noise limits would be stricter. However, because the existing zoning to the south of the site is currently commercial, it is likely that any rezone would maintain its classification as a commercial district. See **Figure 3.8-4** in Section 3.8, **Land Use**, for a current zoning map. The HR zone north of the site and the MR zone to the north and east of the site would be considered residential receiving districts with the strictest operational and construction noise limits applied to these locations (**Table 3.7-1**).

The western boundary of the site is abutted by I-5 and land owned by WSDOT. This area is not sensitive to noise and was not considered in the assessment of potential off-site noise impacts.

Department of Housing and Urban Development Regulations

Noise criteria established by the U.S. Department of Housing & Urban Development (HUD) are applicable to the residential portions of the Yesler Terrace Redevelopment, since federal funding may be used for the project. HUD bases its approval of residential projects partially upon whether it considers the existing noise environment acceptable for human habitation.

HUD has established three zones for describing noise conditions under their criteria: an "acceptable" zone where all residential projects may be approved; a "normally unacceptable" zone where mitigation measures would be required and where each project needs to be individually evaluated for approval or denial; and an "unacceptable" zone in which projects are not, as a rule, to be approved.[1] **Table 3.7-2** summarizes HUD noise guideline levels and their corresponding noise zones for housing developments.

Table 3.7-2
HUD NOISE GUIDELINES FOR RESIDENTIAL PROJECTS

HUD Acceptability Standards	Day-Night Average Sound Level (Ldn, dBA)	Special Approvals and Requirements
Acceptable	Above 55 but Not Exceeding 65 [(a)]	None
Normally Unacceptable	Above 65 but Not Exceeding 75	Special Approvals, Environmental Review, and Attenuation [(b)]
Unacceptable	Above 75	Special Approvals, Environmental Review, and Attenuation [(c)]

[(a)] HUD recognizes EPA's recommended level of Ldn = 55 dBA as a goal for outdoor residential areas to protect the public health and welfare with an adequate margin of safety. However, the levels recommended by EPA are not standards and do not take into account cost or feasibility. For the purposes of this regulation, and to meet other program objectives, sites with a day-night average sound level of 65 dBA and below are acceptable and allowable.

[(b)] 5 dBA additional attenuation required for sites above 65 dBA but not exceeding 70 dBA, and 10 dBA additional attenuation required for sites above 70 dBA but not exceeding 75 dBA

[(c)] Attenuation measures to be submitted to the Assistant Secretary for Community Planning and Development on a case-by-case basis.

Source: The HUD Guidebook, 1985.

The HUD guidelines were established for sound levels at exterior residential locations. HUD noise policy is further clarified for interior locations as follows: "It is a HUD goal that the interior auditory environment shall not exceed a day-night average sound level of 45 decibels.

[1] HUD, 1985.

Attenuation measures shall be employed where feasible. Emphasis shall be given to noise sensitive interior spaces such as bedrooms."[2]

The guidelines summarized in **Table 3.7-2** also apply at "other outdoor locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site."[3] Other outdoor locations may include play areas, open spaces, or parks incorporated into residential development.

Existing Sound Environment

Existing sound levels on the Yesler Terrace site were measured in May and June 2010. Measurements included long-term (≥24 hours) monitoring at numerous locations within the project site to characterize the existing acoustic environment at potential residential locations, and one short-term measurement to represent the Yesler Community Center. The sound level measurements (SLMs) are summarized in **Table 3.7-3**, and the measurement locations are depicted in **Figure 3.7-1** (which shows the existing configuration of the project site).

Measurements and observations indicate receivers near the southern and western portions of the site are exposed to traffic noise from I-5 at levels generally considered unsuitable for residential use. Sound levels are slightly lower along the northern and eastern edges of the site, but are still above normally acceptable levels at many locations due to traffic on I-5, Boren Avenue, and Yesler Way. Sound levels at locations in the interior portions of the site are more typical of an urban residential environment with levels at 65 dBA Ldn or less, although traffic noise is audible throughout. Aircraft noise, specifically helicopters flying to and from Harborview Medical Center, also periodically contributes to the noise environment at most locations.

Table 3.7-3
MEASURED EXISTING SOUND LEVELS (dBA)

SLM Location	Duration	Hourly Leq Range		LDN [(B), (C)]
		Day[(a)]	Night[(a)]	
SLM-1	24 hours	65-68	61-68	72
SLM-2	24 hours	60-65	56-63	67
SLM-3	24 hours	61-66	57-63	67
SLM-4	24 hours	67-71	60-69	72
SLM-5	24 hours	52-66	46-57	61
SLM-6	24 hours	58-69	53-60	65
SLM-7	48 hours	71-75	68-74	78
SLM-8	25 hours	76-82	70-78	81
SLM-9	25 hours	66-69	62-69	72
SLM-10	24 hours	59-63	54-60	65
SLM-11	24 hours	67-73	57-69	73
SLM-12	24 hours	53-66	46-59	62
Community Center	2 hours	59 (10AM – 12PM)	NA	NA

(a) The ranges are shown for daytime hours (7 AM to 10 PM) and nighttime hours (10 PM to 7 AM).

(b) The reported Ldn levels are based on measurements over the entire period. For those measurement periods longer than 24-hours, Ldn values were calculated for each progressive 24-hour period, but the values for the different periods were the same.

(c) Cells with diagonal stripes indicate locations with measured sound levels greater than 65 dBA Ldn and less than or equal to 75 dBA and considered "Normally Unacceptable." Cells with solid shading indicate locations with measured sound levels greater than 75 dBA Ldn, areas classified as "Unacceptable" according to HUD noise standards.

Source: Sound level measurements by ENVIRON International Corporation, 2010.

[2] Ibid.
[3] Ibid.

Source: *ENVIRON, Google,* 2010.

	Figure 3.7-1 Sound Level Measurement Locations	Yesler Terrace Redevelopment EIS

3.7.2 Impacts

This section describes potential noise impacts that could result from construction and operation of the Yesler Terrace Redevelopment under Alternatives 1 through 4. A site suitability analysis that considers noise from the freeway (I-5) and other surface streets in the area, is also included.

Construction

Under Alternatives 1-4, noise from demolition and construction activities has the potential to impact nearby receivers, particularly sensitive uses such as residences and the Harborview Medical Center. For daytime construction activities, the Seattle Noise Code allows temporary construction to exceed the noise limits applied to long-term operations by set amounts (**Table 3.7-1**). This allows for noisier construction activities to occur while still controlling the potential for noise impacts to nearby receivers. During nighttime hours (10 PM to 7 AM weekdays and 10 PM to 9 AM weekends), however, higher construction noise limits do not apply, and in residential receiving zones, the stricter nighttime noise limits pertain. For example, the nighttime noise limit for receivers in residential zones is 45 dBA. Because it is difficult for construction activities to meet these stricter nighttime noise limits, construction activities are generally limited to daytime hours. The temporary nature of construction coupled with restriction to daytime hours minimizes the potential for significant impacts from construction activities and equipment.

Due to stricter restrictions on noise for residential receiving properties, care would need to be taken during construction near the north end of the site and in the East of Boren Sector to ensure that construction-related noise received in the adjacent areas does not exceed the Seattle construction noise limits.

In addition to having the potential to affect nearby off-site uses, phased construction could result in some construction activities occurring very near (i.e., within 50 to 100 feet) onsite existing residential units and new residential units constructed during earlier phases. Noise control will be warranted for these situations to minimize the potential for noise impacts at on-site receivers.

Sound levels near many types of construction equipment exceed the levels recommended for residential land uses, and levels decrease at a rate of about 6 dBA for each doubling of distance from the source(s). Typical construction activities and equipment sound levels are shown in **Table 3.7-4** for distances of 50, 100, and 200 feet.

In addition to showing overall hourly noise levels from various construction activities, the lower portion of **Table 3.7-4** shows the range of sound levels emitted by individual pieces of equipment. Because this equipment would not necessarily operate for an entire hour, it may not be appropriate to compare these levels with the Seattle noise limits. However, these levels provide an indication of the relative sound levels that can be expected from different kinds of construction equipment. In the absence of intervening terrain or structures, sounds from construction equipment and activities (usually point sources) decrease approximately 6 dBA for each doubling in distance from the source.

As described under the Affected Environment section, above, the variations in zoning on and in the site vicinity would result in varying construction noise limits. The daytime noise limits shown in the upper portion of **Table 3.7-1** would be 25 dBA higher when applied to the most common

construction equipment of concern (i.e., diesel-powered mobile equipment and pneumatic equipment), resulting in a noise limit ranging from 80 to 85 dBA depending on the specific source and receiver combination. As demonstrated by the upper portion of **Table 3.7-4**, construction activities within 50 to 100 feet of residential properties have the potential to exceed 80 to 85 dBA. Therefore, a construction noise management plans could be necessary for construction activities occurring within approximately 200 feet of on-site or off-site sensitive receivers.

Table 3.7-4
TYPICAL CONSTRUCTION EQUIPMENT NOISE (DBA)

ACTIVITY	RANGE OF HOURLY LEQS		
	AT 50 FEET	AT 100 FEET	AT 200 FEET
Clearing	83	77	71
Grading	75-88	69-82	63-76
Paving	72-88	66-82	60-76
Erection	72-84	66-78	60-72
TYPES OF EQUIPMENT	**RANGE OF NOISE LEVELS**		
	AT 50 FEET	**AT 100 FEET**	**AT 200 FEET**
Bulldozer	77-96	71-90	65-84
Dump Truck	82-94	76-88	70-82
Scraper	80-93	74-87	68-81
Paver	86-88	80-82	74-76
Generators	71-82	65-76	59-70
Compressors	74-81	68-75	62-69

Source: U.S. EPA, 1971 and ENVIRON International Corporation.

Operation

Off-Site Traffic – All Redevelopment Alternatives

Outside of the immediate project area, traffic volumes on area roadways are not projected to increase significantly (i.e., more than double) due to any of the proposed alternatives. In addition, no substantial road alterations are expected to be required under Alternatives 1-4. Therefore, any increases in traffic sound levels at sensitive receivers near the project site would be less than 3-dBA, and would be barely to not perceptible. Consequently, neither project-related traffic nor project-required road alterations would be expected to result in any significant noise impacts.

HVAC and Mechanical Equipment

Heating, venting, and air-conditioning (HVAC) and mechanical equipment associated with new buildings on the project site could emit noise audible at off-site locations. Because the redevelopment is still in a conceptual phase, no details regarding potential future HVAC equipment or locations are currently available. However, noise from all such equipment would be required to comply with the applicable Seattle noise limits. The noise limits would be most restrictive for locations near the north end of the site near Harborview Medical Center (because this is a residential receiving district due to its underlying HR zoning), and in the East of Boren

Sector where adjacent properties are zoned for residential uses. Because the Harborview Medical Center and the East of Boren Sector are already exposed to relatively high levels of noise from I-5; Harborview's heliport, loading docks, and HVAC systems; and traffic and emergency vehicle sirens on Boren Avenue, new mechanical equipment on the Yesler Terrace site that is designed to comply with Seattle's noise limits would have minimal noise impacts on surrounding uses.

No Action Alternative

The No Action Alternative would result in no major redevelopment on the site and little or no changes in off-site noise levels due to activity on the site. It is expected that any construction activity due to rehabilitation, alterations or replacement of the existing residences would be relatively short-term and minor, and noise from such activities would not be expected to result in significant noise impacts as long as the activities complied with the City of Seattle's construction noise standards. No significant noise impacts would be expected.

Site Suitability Assessment under HUD Criteria

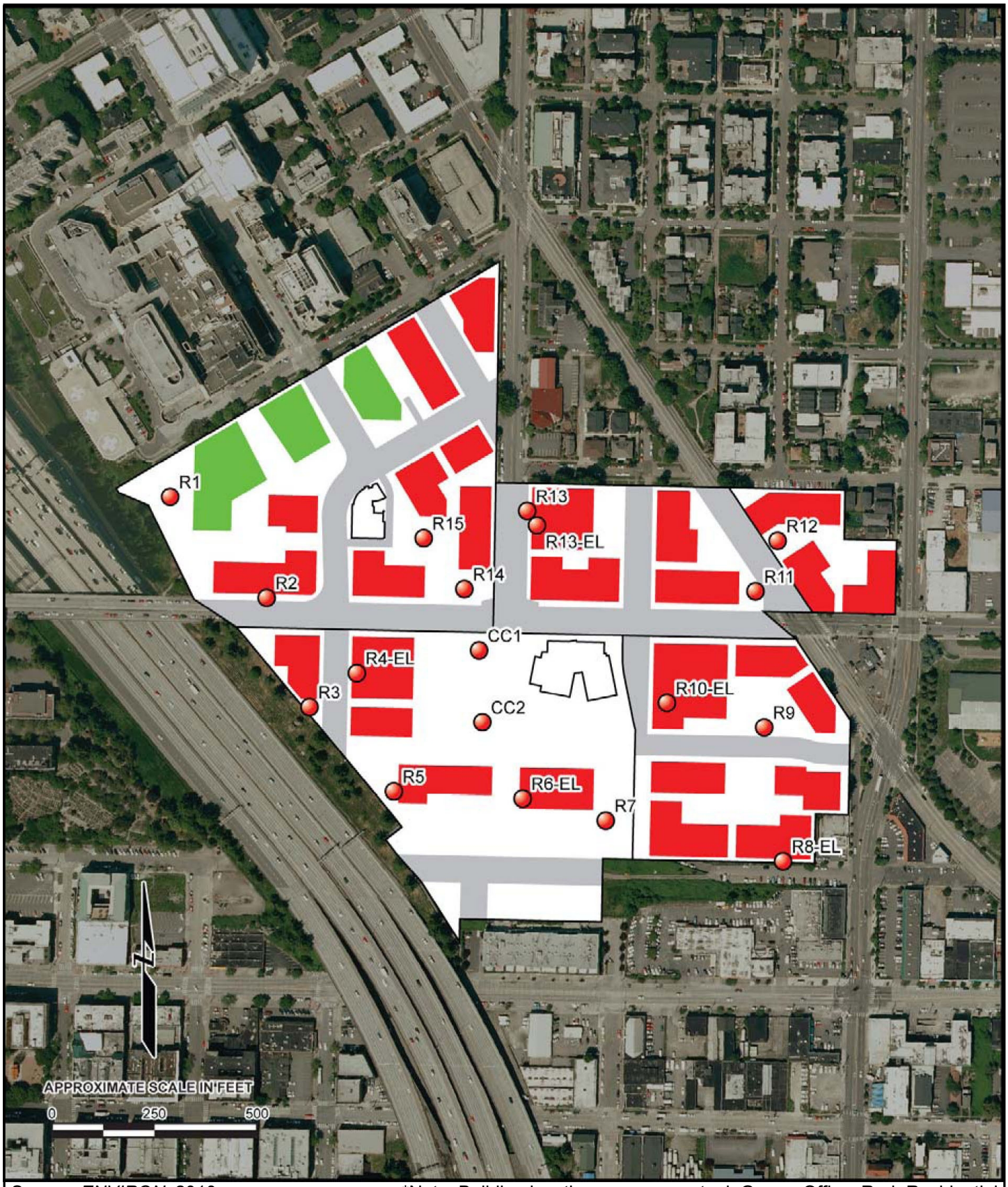
To assess site suitability for proposed residential uses under the EIS alternatives, the dominant area noise sources (i.e., roads) were modeled and evaluated. The modeling included traffic on major roadways (I-5, Boren Avenue, and Yesler Way) and most minor roadways. Brief noise events also known to occur in the site vicinity, such as helicopter noise, were not included in the modeling assessment due to a lack of available specific information. Measured sound levels and traffic data under existing conditions were used to "calibrate" the noise model to ensure the modeling provided as realistic an estimate as possible.

The HUD noise level criteria are typically intended to be applied to exterior use areas associated with residences such as yards, patios, decks, etc. that are adjacent to or connected to residences. Exterior use areas can also include parks, open spaces, or playgrounds if it is determined that relatively quiet conditions are required for the intended use of such areas. For the purpose of the noise suitability analysis, general locations of outdoor use areas or open spaces near expected residential use areas were considered. Open spaces farther from anticipated areas with residences were not considered particularly sensitive. Both sorts of spaces were considered in the analysis and are discussed below for each alternative.

Note that the site suitability analysis noise modeling considered noise 'receptors' representing receivers at the various conceptual locations of on-site buildings, which vary amongst the redevelopment alternatives. Therefore, the noise modeling receptors were not located in the same points of the site for each alternative. Consequently, even though model receptor locations have the same names under different alternatives, these receptors do not necessarily represent the same location, and the projected future sound levels should not be compared amongst the alternatives.

Alternatives 1 and 1A

Under Alternatives 1 and 1A, model-calculated sound levels at numerous locations are greater than 65 dBA and greater than 75 dBA at one model receptor location south of Yesler Way and adjacent to I-5 (see **Table 3.7-5**). **Figure 3.7-2** displays model receptor locations and a conceptual representation of potential buildings under Alternative 1. There are no major differences between Alternatives 1 and 1A that would affect the general noise results discussed below.



Source: *ENVIRON,* 2010. *Note: Building locations are conceptual; Green=Office, Red=Residential

Figure 3.7-2
Model Receptor Locations - Alternative 1

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Table 3.7-5
PROJECTED FUTURE SOUND LEVELS - ALTERNATIVE 1

Receptor [a]	Ldn (dBA)	Use	HUD Assessment
R1	**66** [b]	Office/Open	N/A
R2	**70**	Residential	Normally Unacceptable
R3	**73**	Residential	Normally Unacceptable
R4-EL	**75**	Residential	Normally Unacceptable
R5	**76**	Residential	Unacceptable
R6-EL	**75**	Residential	Normally Unacceptable
R7	**69**	Residential	Normally Unacceptable
R8-EL	**70**	Residential	Normally Unacceptable
R9	61	Residential	Acceptable
R10-EL	**67**	Residential	Normally Unacceptable
R11	**73**	Residential	Normally Unacceptable
R12	**70**	Residential	Normally Unacceptable
R13	**67**	Residential	Normally Unacceptable
R13-EL	**67**	Residential	Normally Unacceptable
R14	**67**	Residential	Normally Unacceptable
R15	58	Residential	Acceptable
CC1	67	Recreational	Normally Unacceptable
CC2	60	Recreational	Normally Unacceptable

Notes:

The receptor heights are generally 5 feet above ground elevation. The exception is for those receptors with the "EL" designation, which indicates an elevated height (at least 50 feet above the ground) to represent middle floor locations.

Red and bold text identifies levels exceeding 65 dBA Ldn. Shaded cells identify levels exceeding 75 dBA Ldn.

N/A indicates uses for which HUD does not provide sound level guidelines.

[a] Refer to **Figure 3.7-2**

Source: ENVIRON International Corporation.

In general, future projected sound levels on much of the site would be considered "normally unacceptable" or "unacceptable" for residential uses under HUD criteria. Locations in the interior of the site several hundred feet from Boren and 12th Avenues, Yesler Way, and I-5 and surrounded somewhat by buildings generally have model-predicted sound levels of 65 dBA or less, which would be considered "acceptable" for residential uses. Some elevated locations (generally associated with the middle floors of the proposed buildings) far from major perimeter roadways and locations near more minor roadways such as Broadway (R13 receptor) also have sound levels in the "normally unacceptable" range.

The loudest areas on the site are near the western edge, particularly south of Yesler Way. Thus, outdoor use areas where quiet conditions are necessary for the intended use should be avoided near the western portion of the site. In addition, locating residential uses in the southwest portion of the site should be carefully considered and avoided if possible in favor of placing less noise-sensitive office uses in this area instead. In addition, any building located in this portion of the site should be constructed to provide more than normal exterior-to-interior noise reduction to ensure acceptable sound levels inside for the intended uses. This will require using special or even extraordinary building techniques and materials, and providing active HVAC systems in order to eliminate the need to open windows to provide ventilation.

Although the sound levels are not expected to be as loud in other portions of the site, future levels would still exceed HUD's guidelines for residential uses in much of the site. This is particularly true for locations within about 200 feet of Boren Avenue, within 80 to 100 feet of the centerline of Yesler Way, and within 75 feet of the centerline of Broadway, in the absence of intervening buildings. Elevated locations in the middle of the site (i.e., 35 feet or more above the ground) with no intervening buildings between them and I-5 also would likely experience sound levels greater than 65 dBA L_{dn}. Locations along the entire southern boundary of the site are also generally exposed to levels exceeding 65 dBA unless there are buildings partially blocking the view to the freeway south and west of the site.

Where feasible, and particularly along Boren Avenue and potentially along Yesler Way and Broadway, buildings should be constructed as near to the roadway as possible, with associated outdoor uses placed on the opposite side of the building (i.e., as far as possible from roads). This would allow the buildings to act as noise barriers for some outdoor use areas more interior to the site. These buildings would also generally need to be constructed to achieve greater than typical interior noise reduction and to provide ventilation systems that would not require open windows.

Alternative 2

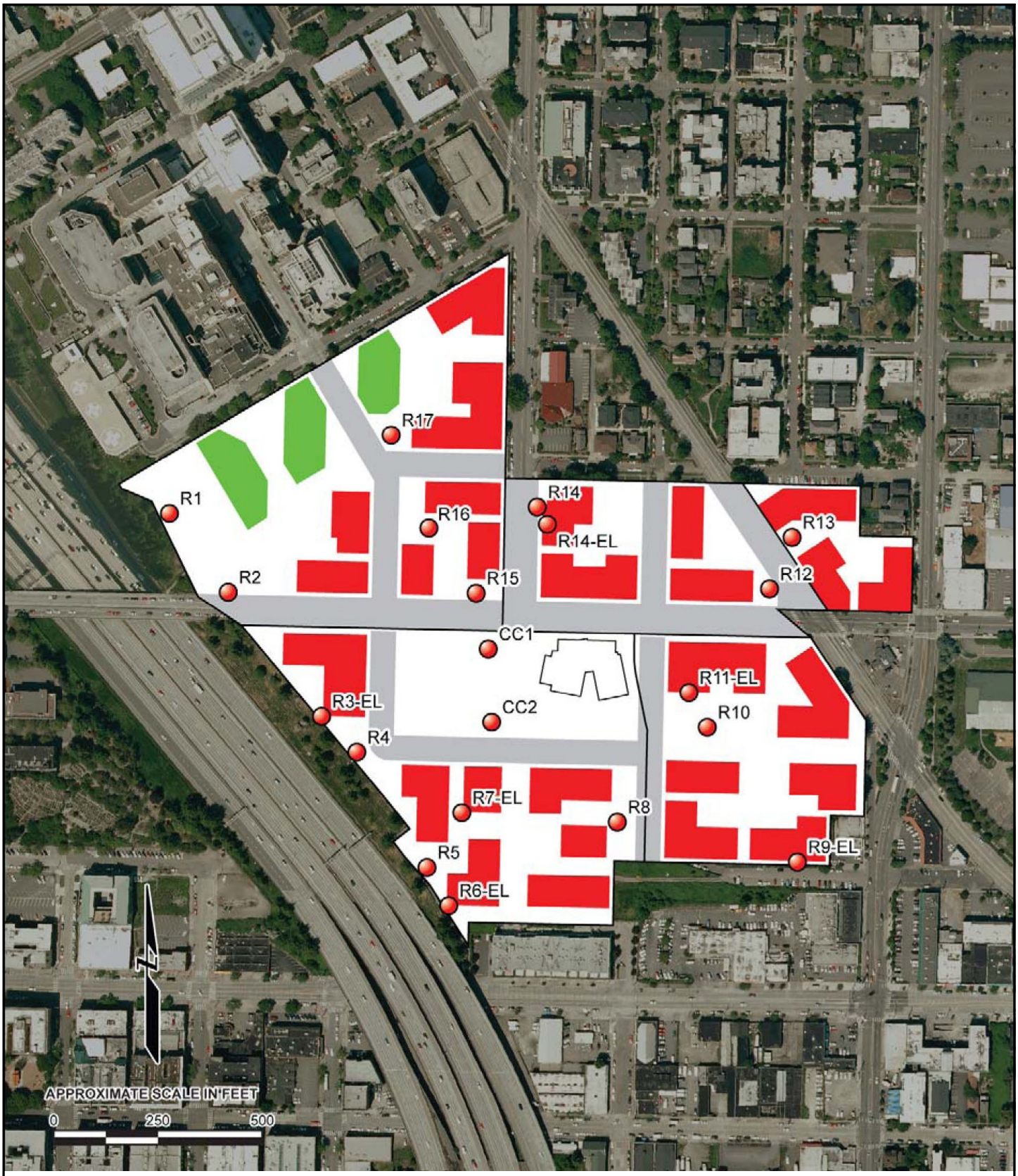
As with Alternative 1, model-calculated sound levels with Alternative 2 at numerous locations on the site are higher than 65 dBA. In addition, modeled levels are greater than 75 dBA along most of the western site boundary south of Yesler Way (see **Table 3.7-6** and **Figure 3.7-3**).

The primary difference under Alternative 2 as compared to Alternative 1, is that there would be more residences exposed to the higher noise levels along the western boundary in the SW Sector, particularly near the southwest corner of the site. More high-rise residential buildings, particularly those in the interior portions of the site, will expose more residences to levels greater than 65 dBA.

As with Alternative 1, outdoor use areas where quiet is necessary for the intended use should be avoided near the western portion of the site. In addition, residential uses should be carefully considered, and if possible avoided, in the southwest portion of the site. If possible, office uses could be placed here instead of residential uses.

Also similar to Alternative 1, buildings adjacent to Boren Avenue or Yesler Way should be constructed as near to the roadway as possible, with the associated exterior uses placed on the opposite side of the building. This would allow the buildings to act as noise barriers for some outdoor uses more interior to the site.

For much of the site, residential (and possibly office) buildings would need to be constructed to achieve greater than typical interior noise reduction and to provide ventilation systems that would not require open windows.



Source: *ENVIRON,* 2010.

*Note: Building locations are conceptual; Green=Office, Red=Residential

Figure 3.7-3
Model Receptor Locations - Alternative 2

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Table 3.7-6
PROJECTED FUTURE SOUND LEVELS - ALTERNATIVE 2

Receptor [a]	Ldn (dBA)	Use	HUD Assessment
R1	**68** [b]	Office	N/A
R2	**69** [b]	Open	N/A
R3-EL	**79**	Residential	Unacceptable
R4	**74** [b]	Open	N/A
R5	**78**	Residential	Unacceptable
R6-EL	**80**	Residential	Unacceptable
R7-EL	**69**	Residential	Normally Unacceptable
R8	62	Residential	Acceptable
R9-EL	**69**	Residential	Normally Unacceptable
R10	54	Residential	Acceptable
R11-EL	**66**	Residential	Normally Unacceptable
R12	**74**	Residential	Normally Unacceptable
R13	**71**	Residential	Normally Unacceptable
R14-EL	**66**	Residential	Normally Unacceptable
R14	**67**	Residential	Normally Unacceptable
R15	**68**	Residential	Normally Unacceptable
R16	58	Residential	Acceptable
R17	61	Residential	Acceptable
CC1	66	Recreational	Normally Unacceptable
CC2	59	Recreational	Normally Unacceptable

Notes:

The receptor heights are generally 5 feet above ground elevation. The exception is for those receptors with the "EL" designation, which indicates an elevated height (at least 50 feet above the ground) to represent middle floor locations.

Red and bold text identifies levels exceeding 65 dBA Ldn. Shaded cells identify levels exceeding 75 dBA Ldn.

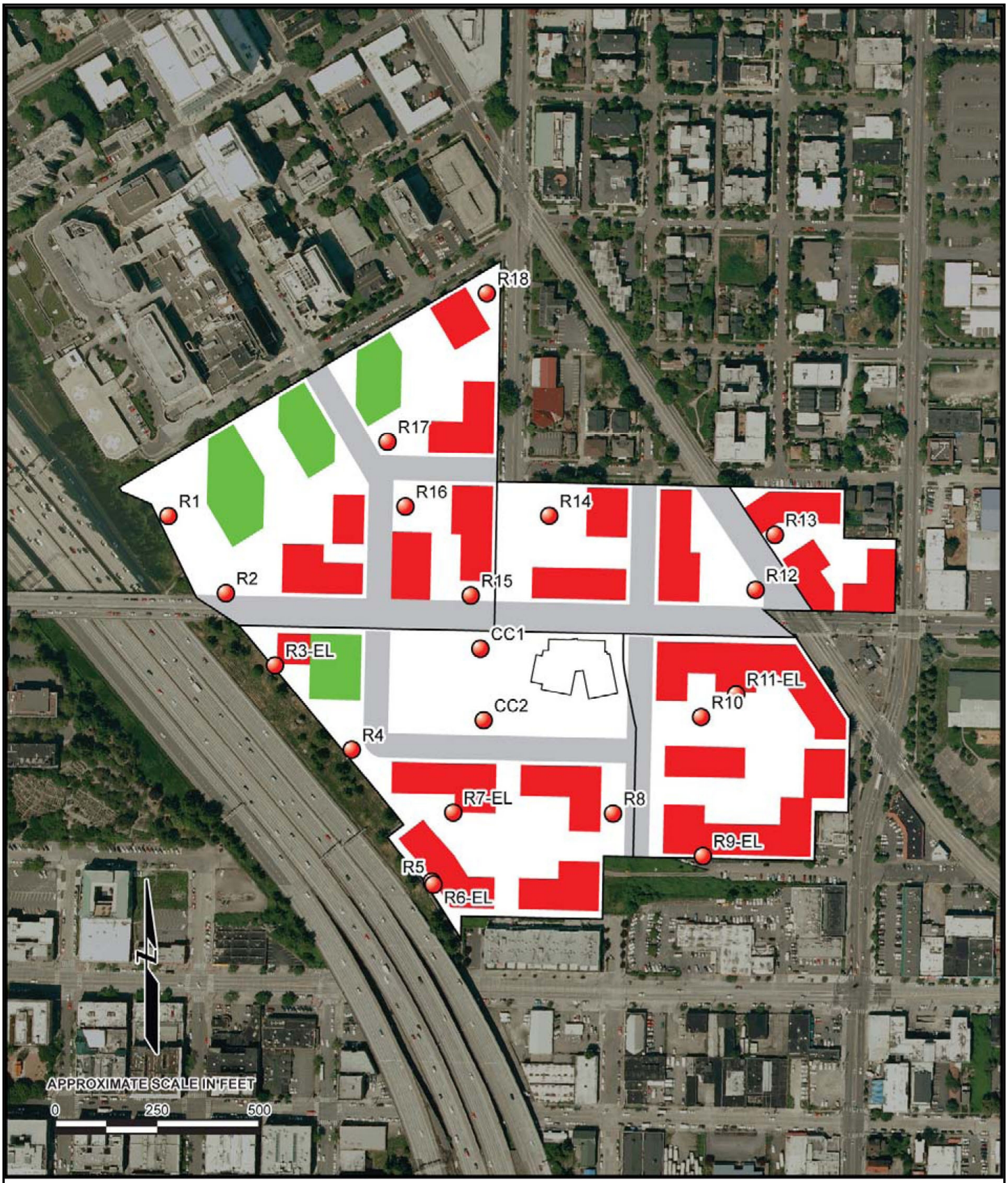
N/A indicates uses for which HUD does not provide sound level guidelines.

[a] Refer to **Figure 3.7-3**

Source: ENVIRON International Corporation.

Alternative 3

As with Alternatives 1 and 2, model-calculated sound levels with Alternative 3 at numerous locations on the site are higher than 65 dBA and are greater than 75 dBA along most of the western site boundary south of Yesler Way in the SW Sector (see **Table 3.7-7** and **Figure 3.7-4**).



Source: *ENVIRON,* 2010.

*Note: Building locations are conceptual; Green=Office, Red=Residential

Figure 3.7-4
Model Receptor Locations - Alternative 3

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Table 3.7-7
PROJECTED FUTURE SOUND LEVELS - ALTERNATIVE 3

Receptor [a]	Ldn (dBA)	Use	HUD Assessment
R1	**68** [b]	Office	N/A
R2	**69** [b]	Open	N/A
R3-EL	**79**	Residential	Unacceptable
R4	**74** [b]	Open	N/A
R5	**82**	Residential	Unacceptable
R6-EL	**81**	Residential	Unacceptable
R7-EL	**73**	Residential	Normally Unacceptable
R8	62	Residential	Acceptable
R9-EL	**71**	Residential	Normally Unacceptable
R10	50	Residential	Acceptable
R11-EL	62	Residential	Acceptable
R12	**73**	Residential	Normally Unacceptable
R13	**69**	Residential	Normally Unacceptable
R14	62	Residential	Acceptable
R15	**69**	Residential	Normally Unacceptable
R16	54	Residential	Acceptable
R17	59	Residential	Acceptable
R18	**66**	Residential	Normally Unacceptable
CC1	66	Recreational	Normally Unacceptable
CC2	60	Recreational	Normally Unacceptable

Notes:

The receptor heights are generally 5 feet above ground elevation. The exception is for those receptors with the "EL" designation, which indicates an elevated height (at least 50 feet above the ground) to represent middle floor locations.

Red and bold text identifies levels exceeding 65 dBA Ldn. Shaded cells identify levels exceeding 75 dBA Ldn.

N/A indicates uses for which HUD does not provide sound level guidelines.

[a] Refer to **Figure 3.7-4**

Source: ENVIRON International Corporation.

Alternative 3 contains the most proposed high-rise residential buildings, including in the interior portions of the site. This could expose more residences to sound levels greater than 65 dBA (Ldn) because it would create more locations with direct line-of-sight to roadway noise sources. It is important to note that this alternative would, as currently conceptualized, create new residential receivers in the southwest portion of the site, where there are not currently any uses, which would expose any residential (or office) buildings to louder sound levels than at any other locations on the project site. In addition, Alternative 3 would raise the elevation of the southwest corner of the site, which would give any buildings in this area a more direct line-of-sight to the freeway and increase traffic noise levels accordingly.

Other conclusions drawn for Alternatives 1 and 2 are the same. Namely, outdoor use areas where quiet is necessary for the intended use should be avoided near the western portion of the site. In addition, residential uses should be avoided, if possible, in the southwest portion of the

site and especially adjacent to I-5 due to the predicted extremely high (i.e., >80 dBA) exterior day-night sound levels in this area, because such levels would require extraordinary methods to provide sufficient noise reduction to protect interior spaces. Buildings adjacent to Boren Avenue or Yesler Way should be constructed as near to the roadway as possible, with the associated exterior uses placed on the opposite side of the building, allowing the buildings to act as noise barriers for some outdoor uses more interior to the site. And for much of the site, residential (and possibly office) buildings would need to be constructed to achieve greater than typical interior noise reduction and to provide ventilation systems that would not require open windows.

Alternative 4

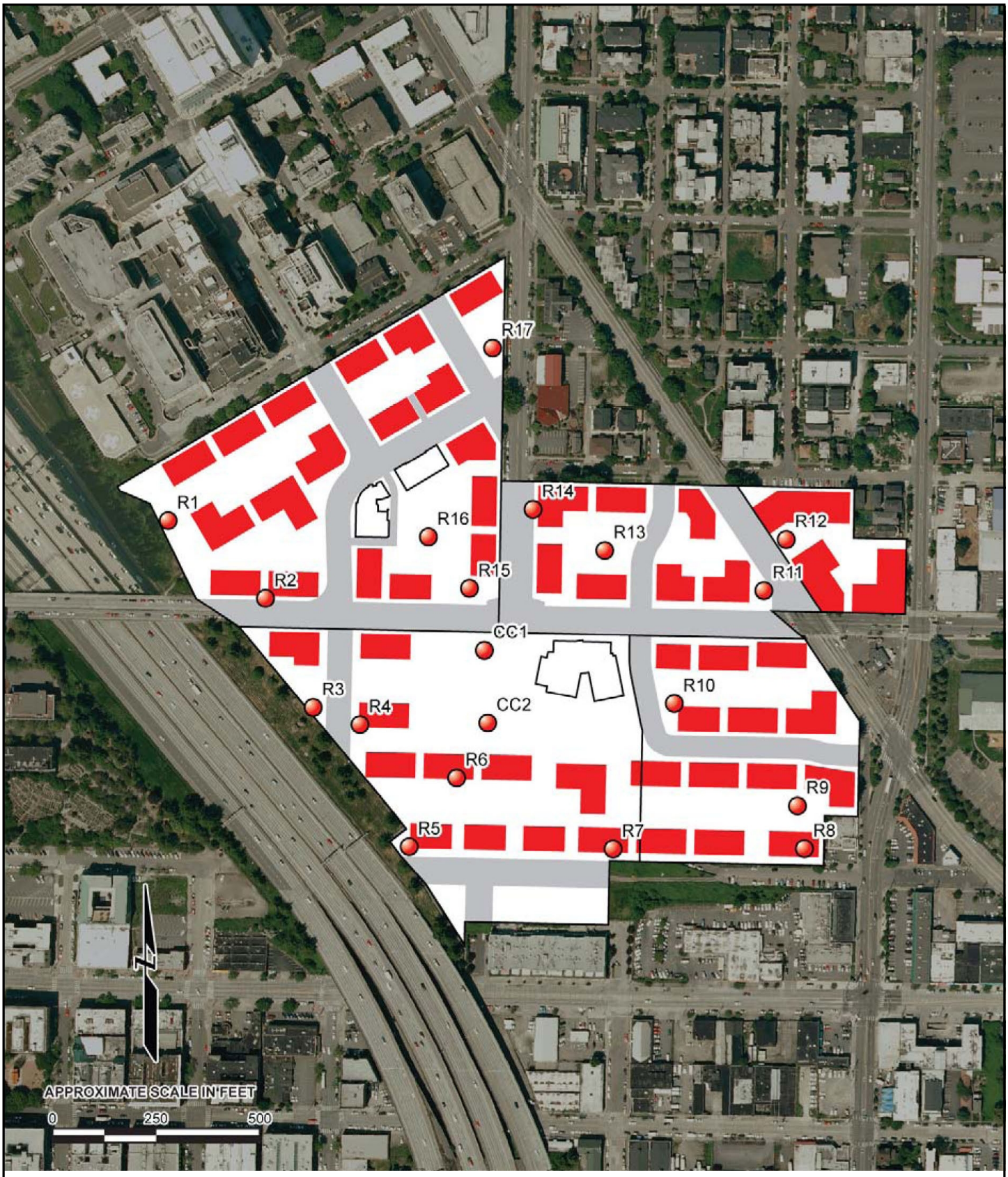
Alternative 4 is similar to the other alternatives in that there are numerous locations with modeled sound levels greater than 65 dBA. There is also one location in the SW Sector adjacent to I-5 with a modeled level greater than 75 dBA (see **Table 3.7-8** and **Figure 3.7-5**). The primary difference with Alternative 4 is that there are no proposed high-rise residential or office buildings, so there are no elevated locations in the center of the site. Therefore, unlike Alternatives 1-3, locations more interior to the site and not adjacent to a road would not have elevated receivers with lines-of-site to major roadway noise sources, so there would be fewer locations likely to experience levels greater than 65 dBA.

Table 3.7-8
PROJECTED FUTURE SOUND LEVELS - ALTERNATIVE 4

Receptor [(a)]	L_{dn} (dBA)	Use	HUD Assessment
R1	**72**	Residential	Normally Unacceptable
R2	**70**	Residential	Normally Unacceptable
R3	**68**	Open	N/A
R4	**69**	Residential	Normally Unacceptable
R5	**80**	Residential	Unacceptable
R6	**69**	Residential	Normally Unacceptable
R7	**68**	Residential	Normally Unacceptable
R8	**67**	Residential	Normally Unacceptable
R9	60	Residential	Acceptable
R10	55	Residential	Acceptable
R11	**73**	Residential	Normally Unacceptable
R12	**69**	Residential	Normally Unacceptable
R13	54	Residential	Acceptable
R14	**66**	Residential	Normally Unacceptable
R15	**67**	Residential	Normally Unacceptable
R16	60	Residential	Acceptable
R17	64	Residential	Acceptable
CC1	67	Recreational	Normally Unacceptable
CC2	63	Recreational	Normally Unacceptable

Notes: Red and bold text identifies levels exceeding 65 dBA Ldn. Shaded cells identify levels exceeding 75 dBA Ldn.
N/A indicates uses for which HUD does not provide sound level guidelines.
[(a)] Refer to **Figure 3.7-5**

Source: ENVIRON International Corporation.



Source: *ENVIRON,* 2010.

*Note: Building locations are conceptual; Green=Office, Red=Residential

Figure 3.7-5
Model Receptor Locations - Alternative 4

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No Action Alternative

Measured sound levels indicate numerous locations with levels greater than 65 dBA Ldn and several areas with levels greater than 75 dBA Ldn (see **Table 3.7-3**). Based on the existing sound level measurements (SLMs), much of the site would currently be considered "generally unacceptable" or "unacceptable" for residential uses according to HUD guidelines. Interior areas away from heavily-trafficked roads are typically considered "acceptable." Under the No Action Alternative, these conditions would remain into the future.

Noise Barrier Mitigation Analysis

As described previously, many of the residential areas on the Yesler site are currently exposed to sound levels exceeding the HUD-recommended level of 65 dBA, and residential uses would be exposed to similar or higher levels in the future under the redevelopment alternatives. Therefore, noise mitigation modeling was completed to assess the potential usefulness of constructing noise barriers (i.e. a wall) to reduce noise from I-5.

The noise mitigation modeling analysis examined simplified versions of the redevelopment alternatives as compared with those considered in the site suitability modeling. These simplifications included considering only traffic on I-5 and Yesler Way (because barriers are unlikely to be feasible along other major noise-producing roadways (e.g., Boren Avenue, Yesler Way), for reasons including lack of space, aesthetics, security, and access) and elimination of most on-site buildings (which would otherwise serve as at least partial barriers to cross-site noise transmission).

The noise barriers were "placed" along the approximate site boundary/right-of-way line on the western boundary of the site, both north and south of Yesler Way. Because the focus was noise from I-5, the analysis considered only receptor locations near the western boundary of the site.

As a preliminary screening review of potential feasibility, the noise barriers evaluated with modeling were 16 feet tall north of Yesler Way and 24 to 30 feet tall south of Yesler Way. These heights were selected as reasonable noise walls in these areas that would likely provide at least 7 dBA of reduction. The barrier assessment considered two of the four redevelopment alternatives, Alternative 1 and Alternative 3. These two alternatives represent the range of conditions that might be found with all of the development alternatives.

- Alternative 1 represents less dense development, and plans do not indicate major changes in the final graded elevation compared with the existing site. This alternative would establish new residential uses in the southwest area of the site, but not as near to the freeway as Alternative 3.

- Alternative 3 represents the most dense development and would include residences in the southwest corner of the site (where noise levels are estimated to be greater than 80 dBA). Alternative 3 also includes substantial re-grading of the site that would result in residences being at higher elevations along the western boundary and in the southwest corner of the site compared to the existing site.

Model-calculated sound levels with and without a noise barrier along I-5 and the model receptor locations are available in **Appendix J**. Note that the model receptor locations are different for

both alternatives because the conceptual building locations are different. So noise levels at similarly labeled model receptors cannot be compared between these alternatives.

Modeling indicates that under Alternative 1, noise barriers could achieve a 7-dBA reduction in noise (compared to without the barriers) for one receptor location (R3) representing homes south of Yesler Way. The analysis for Alternative 1 also indicates a barrier would provide a 5-dBA reduction near the southernmost residences along the western property boundary. North of Yesler Way, a 16-foot high noise barrier would achieve only a 3-dBA reduction in noise for locations near the western boundary. With these noise barriers, traffic noise levels would remain from slightly to much higher than the HUD 65-dBA residential criterion level at all locations considered in the noise barrier effectiveness modeling.

Under Alternative 3, modeling indicates that noise barriers also could achieve a 7-dBA in noise (compared to without the barriers) for one receptor location (R4) representing homes south of Yesler Way. Unlike Alternative 1, however, the increased elevation of portions of the site reduces the effectiveness of the noise barriers for receptor locations along the southern half of the western boundary. Therefore, much of the western property boundary would receive virtually no noise reduction with the noise barriers considered. This is particularly true for the southwest corner of the site. With these noise barriers, traffic noise levels would remain from slightly to much higher than the HUD 65-dBA residential criterion level at all locations considered in the noise barrier effectiveness modeling.

Noise barriers even closer to the freeway (i.e., set atop or just behind the retaining wall at the edge of the freeway) were not considered because this property is owned by the Washington State Department of Transportation and thus is not controlled by SHA. Such barriers would likely provide about the same amount of noise reduction as the barriers that were considered because although these barriers would be closer to the traffic (increasing noise reduction), they also would start at a lower base elevation (decreasing reduction for the same height barrier). Taller barriers would provide more noise reduction but would likely be deemed infeasible to construct as free-standing walls.

A "lid" completely covering the freeway adjacent to the Yesler Terrace site would likely provide very effective noise reduction for the NW Sector of the site (north of Yesler Way) and for the northern portion of the SW Sector. The southwest corner of the site would likely continue to be exposed to unacceptably high levels of traffic noise due to the uncovered portion of the freeway further south.

3.7.3 Mitigation Measures

The following required/proposed and other possible mitigation measures would address potential noise impacts to sensitive on and offsite receivers as a result of the Yesler Terrace Redevelopment.

Required/Proposed Mitigation Measures

- Construction activities would be subject to applicable City of Seattle noise limits.
- HVAC equipment, particularly equipment proposed to be located outside or on the tops of buildings, would need to be selected, located and designed to ensure compliance with City of Seattle's daytime and nighttime noise limits at nearby receiving locations.

Other Possible Mitigation Measures

Construction

Some relatively simple and inexpensive practices can reduce the extent to which people are affected by construction noise and ensure that construction noise levels stay within the applicable daytime sound level limits. Examples include the following:

- Use properly sized and maintained mufflers, engine intake silencers, engine enclosures, and turning off idle equipment.

- Make construction contracts specify that mufflers be in good working order and that engine enclosures be used on equipment when the engine is the dominant source of noise.

- Locate stationary equipment as far away from sensitive receiving locations as possible. Where this is not feasible, or where noise impacts are still significant, place portable noise barriers around the equipment, with the opening directed away sensitive receiving locations.

- To the extent feasible, substitute hydraulic or electric models for impact tools such as jack hammers, rock drills and pavement breakers to reduce construction and demolition noise. Electric pumps could be specified if pumps are required.

- Explore the feasibility of using broad-band or ambient sensing vehicle back-up alarms, which are typically less noticeable than traditional pure-tone alarms.

- Locate construction staging areas expected to be in use for more than a few weeks as far as possible from sensitive receivers, particularly residences.

- Use quiet equipment and temporary noise barriers to shield sensitive uses, and orient work areas to minimize noise transmission to sensitive off-site locations.

Operation

Sound levels at numerous locations on the project site currently exceed HUD guidelines for residential locations and would continue to do so in the future with any of the proposed alternatives. Therefore, some or all of the following mitigation measures should be considered:

- Place outdoor use areas (where quiet conditions are required for optimal use) both away from the perimeter of the site and in locations that are "shielded" by buildings (i.e. where buildings are located between the exterior use area and major roadways).

- If feasible, locate office buildings on the western edge of the SW Sector adjacent to I-5, instead of residences.

- Minimize site grading that increases on-site ground-level elevations that would give lower portions of buildings near I-5 a more direct line-of-sight to the freeway (thereby increasing noise levels).

- Use construction materials and techniques in all buildings on the east, south, and west site perimeter that will reduce interior sound levels in residences to 45 dBA L_{dn} or less.

- Use dynamic venting systems (or air conditioning units) for those residences that are in "normally unacceptable" or "unacceptable" locations to eliminate the need to open windows for ventilation. This would also be useful for office buildings in order to provide interior spaces conducive to typical office operations (i.e., reading, writing, conversations, etc.).

3.7.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated from the proposal. However, the site suitability analysis indicates that portions of the site, even under existing conditions and the No Action Alternative, would be deemed unacceptable under HUD noise criteria without implementation of noise mitigation, including extraordinary noise attenuation measures in an area within the SW Sector, due to the presence of I-5 and other major roadways.

3.8 LAND USE

This section of the Draft EIS discusses the pattern of land uses on the Yesler Terrace site and in the vicinity. It evaluates how the alternatives would affect these land uses, either directly, indirectly or cumulatively. Section 3.9, **Relationship to Plans and Policies**, of this Draft EIS compares consistency of the alternatives with relevant federal, Washington State, and City of Seattle land use plans, policies and regulations. Impacts from changes in the visual character, and the height, bulk and scale of the redevelopment are discussed in Section 3.10, **Aesthetics/Light and Glare/Shadows**.

3.8.1 Affected Environment

The approximately 36.6-acre Yesler Terrace site is located in the City of Seattle's First Hill Neighborhood and is bounded by I-5 on the west, Alder Street and E Fir Street on the north, 12th Avenue on the east, and S Main Street on the south (see **Figure 2-2**, Site Map, and **Figure 2-3**, Existing Site Conditions).

The Yesler Terrace site generally slopes from north to south in the West of Boren Sectors and from northwest to southeast in the East of Boren Sector. The western boundary of the site is characterized by steep grades within the right-of-way that slopes to a retaining wall that runs parallel and adjacent to I-5. Steep slopes are also located in the southern portion of the site separating onsite residential uses from offsite commercial uses along S Main Street. The site has an elevation change of 150 feet from its highest points near Harborview Hospital to its lowest point south of the S Main Street right-of-way.

Historic Land Use Patterns

The existing Yesler Terrace public housing development was the first project undertaken by the SHA following its organization in 1938. The project was promoted as a means of stimulating housing construction after the Great Depression.

The Yesler Terrace development was completed in 1943 and consisted of 863 dwelling units in 97 residential buildings along with community buildings and a steam plant.

Several changes to the Yesler Terrace development have been made since its original construction. The most significant change occurred with the construction of I-5 in 1962, which required demolition of 266 housing units and the loss of 11 acres of the site. In 2003, 21 housing units were removed to allow for construction of the Yesler Community Center by the Seattle Department of Parks and Recreation.

Refer to Section 3.11, **Historic Resources**, for additional information regarding the history of the Yesler Terrace site.

Existing Land Use Patterns

Onsite Land Uses

In addition to being located in the First Hill neighborhood, the four West of Boren sectors of the Yesler Terrace site are primarily located in the City of Seattle's First Hill/Capitol Hill Urban Center, which has been identified by the City as an area targeted to accommodate future housing and employment growth[1] (see **Figure 3.8-1**). A small portion of the SW Sector is located within the Downtown Neighborhood's International District Little Saigon area. The 1.8-acre East of Boren Sector is located within the 12th Avenue Urban Center Village within the Central District neighborhood. The site is not currently built to the existing zoning capacity. For example, in the East of Boren Sector, existing buildings heights are approximately 30 feet; while the current zoning allows for heights of 65-75 feet.

The existing general land use character of the Yesler Terrace site reflects the low-rise multi-family residential uses that have been present on the site since the 1940s. As shown in **Table 3.8-1**, the Yesler Terrace site is currently developed with 468,000 SF of residential uses comprised of 69 low-rise, 2 and 3-story wood-frame residential buildings, with public and private open space, paved parking areas, streets, and off-street walkways. A total of 561 housing units are located onsite including 35 studio, 192 1-bedroom, 229 2-bedroom, 86 3-bedroom, and 19 4-bedroom units. Tenants of approximately 22 ground level residential units are currently operating daycares out of their homes. Most of the residential structures were built as part of the original development in the 1940s. Other ancillary buildings that support the onsite residential uses include 5 laundry facilities and a storage building.

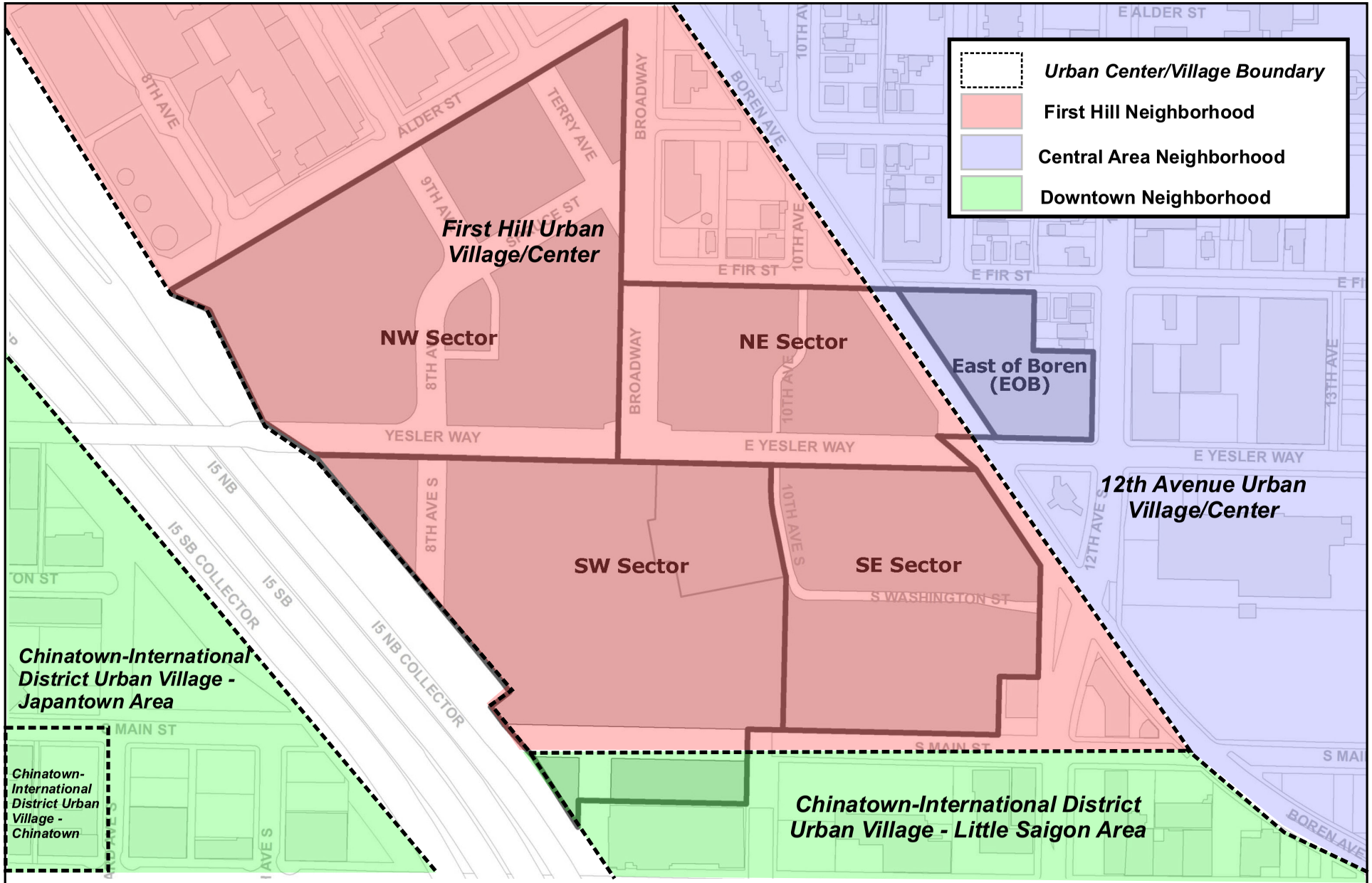
Table 3.8-1
EXISTING YESLER TERRACE BUILDING CHARACTERISTICS

Site Use	Building (SF)	Density	Building Heights
Residential	468,242	Average of 24 units per acre	2-3 stories (20 - 35 FT)
Office	20,259	2.0 FAR[1]	3 stories (35 FT)
Neighborhood Commercial	0		N/A
Neighborhood Services	49,342		1-3 stories (20-35 FT)
Total	**537,843**		

Source: CollinsWoerman, 2010.

[1] Floor Area Ratio (FAR) is the ratio of the gross floor area to lot area and is used to describe density of non-residential uses. When FAR is referenced in this Draft EIS impact analysis, it is based on assumed lot areas in order to compare density under the alternatives. However, this method of calculating average FAR differs from the FAR calculation method required under the City's Land Use Code (see **Chapter 2** for details).

[1] City of Seattle. *Seattle Comprehensive Plan, Urban Village Element*, 2004; City of Seattle, *Seattle Comprehensive Plan Future Land Use Map*, 2009.



Source: *CollinsWoerman and City of Seattle*, 2010.

Figure 3.8-1
Seattle Neighborhoods

Yesler Terrace
Redevelopment EIS

Neighborhood services (49,342 SF), such as food banks, translation services, a Head Start program, and the Yesler Community Center, and office uses (20,259 SF) are provided in other onsite structures. The other onsite structures include: the Jesse Epstein office building, the Steam Plant, the Yesler Community Center, the Yesler Gym building, the Yesler Administration Building and the Head Start building (see **Figure 2-3** in **Chapter 2** of this Draft EIS for the location of these buildings).

As shown in **Table 3.8-2,** approximately 39 percent of the Yesler Terrace site is currently developed in building footprints, streets, sidewalks and surface parking areas. Approximately 61 percent of the site is presently vegetated, consisting of mature trees, lawns, shrubs and other landscaping.

Table 3.8-2
EXISTING YESLER TERRACE LAND USES (ACRES)

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal	East of Boren	Total Acreage	Percent
Building Footprint	2.4	0.8	1.2	1.1	5.5	0.3	**5.8**	15.0%
Surface Parking	0.4	0.2	0.3	0.8	1.7	0.0	**1.7**	5.0%
Parks/Open Space[1]	6.3	2.5	4.4	6.3[2]	19.5	1.3	20.8	57.0%
Rights-of-Way	3.0	2.4	0.3	1.2	6.9	0.0	**6.9**	19.0%
Private Access Drives and Roads	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	0.0%
Yesler Community Center[3]				1.4	1.4		**1.4**	4.0%
Total Acreage[4]	**12.1**	**5.7**	**6.2**	**10.8**	**34.9**	**1.7**	**36.6**	100.0%

Source: CollinsWoerman, 2010.

[1] Existing 20.8 acres of open space includes approximately 8.7 acres of private open space in the form of private yards.
[2] Includes approximately 1.4 acres of steep slope area and unusable open space due to inaccessibility.
[3] Includes the Yesler Community Center parcel.
[4] Site acreage is assumed to be 36.6 acres under all alternatives. Differences in totals due to rounding.

For descriptive purposes in this Draft EIS, the site has been divided into four sectors that comprise the West of Boren Sectors and the area East of Boren Sector (see **Figure 2-4**, Sector Boundaries). These sectors are generally defined by existing streets for ease of understanding and evaluation. Sector boundaries do not necessarily define the lot lines of specific redevelopment parcels. Those lot lines would be established through future subdivision of the site. Final lot boundaries would ultimately be dependent on sale and lease decisions by SHA, as well as based on specific development projects.

The following describes the existing land uses in each of the sectors that make up the site (see **Figure 3.8-2** and **Tables 3.8-1** and **3.8-2** for details on the existing onsite land uses). For the location and more information on the existing buildings on the site, see **Figure 2-3** and **Section 2.6.2** in **Chapter 2**.

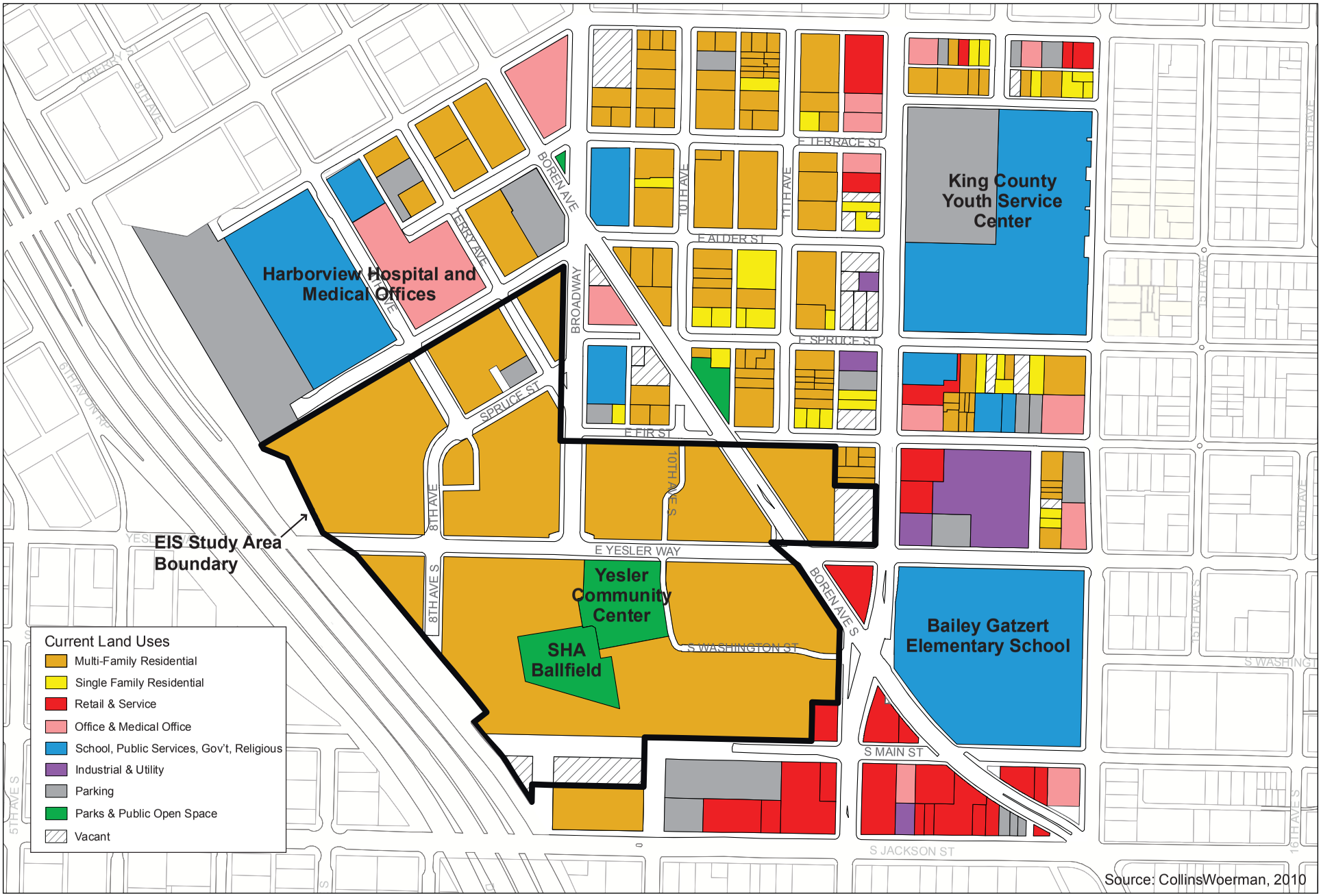


Figure 3-8.2
Existing Land Uses

Yesler Terrace
Redevelopment EIS

NW Sector

This 12.1-acre sector presently contains residential uses at a density of 27 units per acre and office uses at a density of 2.0 FAR on individual parcels. Twenty-seven (27), 2 to 3 story multi-family residential buildings comprised of 231 units are located within this sector (see **Figure 2-3** in **Chapter 2**). Portions of the Terry Avenue, 9th Avenue, Spruce Street, 8th Avenue and Yesler Way rights-of-way are located in this sector and provide access to the residential uses. Non-residential uses in this sector include the 1-story Steam Plant building[2] (with an 111 foot tall stack), which is currently used as storage and maintenance facilities, and the 3-story Jesse Epstein Building, which is currently leased as office space. Approximately 0.4 acres of this sector are in surface parking, providing 70 spaces. Approximately 6.3 acres of open space are provided, including three small children's play areas (sector parks), private yards, lawns and other open space areas.

NE Sector

This 5.7-acre sector presently contains residential uses at a density of 26 units per acre. Eleven (11), 2-story multi-family residential buildings comprised of 87 units are located within this sector. Portions of the Broadway, E Yesler Way, E Fir Street, 10th Avenue and Boren Avenue rights-of-way are located within the sector and provide access to the residential uses. Six former residential units located at the corner of Yesler Way and Broadway have been converted to office uses which are now occupied by SHA and other service providers. Approximately 0.2 acres of this sector are in surface parking, providing 38 spaces. Approximately 2.5 acres of open space are provided, including one small children's play area (sector park), private yards, lawns and other open space areas.

SE Sector

This 6.2-acre sector presently contains residential uses at a density of 20 units per acre. Sixteen (16), 2-story multi-family residential buildings comprised of 118 units are located within this sector. Portions of the E Yesler Way, 10th Avenue S, S Washington Street, S Main Street and Boren Avenue S rights-of-way are located within the sector and provide access to the residential uses. Approximately 0.3 acres of this sector are in surface parking, providing 62 spaces. Approximately 4.4 acres of open space are provided in this sector, including one small children's play area (sector park), private yards, lawns and other open space areas.

SW Sector

This 10.8-acre sector presently contains residential uses at a density of 24 units per acre. Eleven (11), 2-story, multi-family residential buildings comprised of 85 units are located primarily in the northern portion of the sector (generally north of S Main Street). Portions of the Yesler Way, E Yesler Way and 8th Avenue S rights-of-way are located within the sector and provide access to the residential uses.

Approximately 7.7 acres of parks and open space are provided in this sector including:

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[2] On October 6, 2010, the Yesler Terrace Steam Plant was designated as a City Landmark. Please see Section 2.7.3, **Steam Plant Retention**, Section 3.11, **Historic Resources**, and **Appendix L** for additional information about potential mitigation requirements for demolition of the Steam Plant building.

Approximately 7.7 acres of parks and open space are provided in this sector including:

The 1.4-acre Yesler Community Center land parcel, which is owned by the City of Seattle and operated by the Seattle Parks and Recreation Department, and includes a 0.7-acre community center building and 0.7-acre fenced children's play area and surface parking area to the south of the building.
A 1.2-acre athletic field (owned by SHA), used primarily for baseball and softball, is located southwest of the Community Center.
Four community P-Patch gardens.
Approximately 0.8 acres of steep slope area that is located between the on-site residential uses and off-site commercial and residential uses to the south. Approximately 0.6 acres of unusable property (due to inaccessibility) lies to the south of the steep slope.
A small children's play area (sector park) and other small open space areas.

Additionally, four one-story buildings are located within this sector to the west of the Community Center: a storage building, the Yesler Administration Building, the Yesler Gym Building, and the Head Start building. A description of the neighborhood services uses provided at these buildings is provided in **Section 2.6.2**, Existing Site Conditions.

Approximately 0.8 acres of the sector are in surface parking, providing 119 parking spaces, including 12 spaces at the Yesler Community Center.

East of Boren Sector

This 1.8-acre sector presently contains residential uses at a density of 23 units per acre, although these units do not currently house SHA tenants. The four (4), 3-story multifamily residential buildings comprised of 40 units are located within this sector and are presently leased by the YWCA for emergency housing, classrooms and offices., A 1-story community building that serves the residents of this area is present. Several vacant parcels are located in the southeastern corner of this sector. Approximately 0.02 acres of the sector are in surface parking, providing 3 parking spaces. Approximately 1.3 acres of open space are provided, including one small children's play area (sector park).

Land Uses Immediately Adjacent to the Site

Land uses immediately adjacent to the site include:

Northwest. (north of Alder Street) the 15-story Harborview Hospital, 10-story Harborview Research and Training Building, 1-story Fire Station No. 3[3] (which is currently used as a security office by Harborview), 11-story Hilltop House Retirement Home (subsidized apartments) and 3-story Boren Avenue parking garage are located in this area.

[3] Fire Station No. 3 is also a designated as a historic resource by the National Register of Historic Places, Washington Historic Register and the City of Seattle Landmarks Preservation Board. Please see Section 3.11, **Historic Resources**, and **Appendix L** for details.

Northeast. (the area bounded by Broadway, E Fir Street, 12th Avenue, Spruce Street, and Boren Avenue) the 2-story King County Medical Society office building, 2-story Japanese Baptist Church and parking lot, 0.3-acre Horiuchi Park, 1-story auto repair shop, 1-story warehouse, 7 single family homes and eighteen 2 to 5-story multi-family residential uses are located in this area.

East. (the area generally bounded by Fir Street, 13th Avenue, E Yesler Way and 12th Avenue) five 2-story duplexes and several 1-story uses (an auto repair shop, retail store, the King County Storage warehouse and a curtain manufacturing warehouse) are located in this area.

Southeast. (the area generally bounded by E Yesler Way, 14th Avenue S, S Main Street and 12th Avenue S/Boren Avenue S) several 1-story uses (two restaurants, Bailey-Gatzert Elementary School, the Orient Center retail store, and a medical clinic) are located in this area.

South. An undeveloped steep slope area is located along the southern boundary of the site, south of S Main Street. South of this slope, immediately adjacent to the site, is the 7-story Pacific Rim Center building that accommodates residential uses and an indoor mall , a parking lot, and other 1 to 2-story, retail, commercial and restaurant uses.

Southwest and West. A steep slope, a portion of which is WSDOT right-of way is located along the western boundary of the site. The I-5 corridor lies at the bottom of the slope at the base of a retaining wall.

(See **Figure 3.8-2** for a depiction of existing land uses immediately adjacent to the site.)

Land Uses in the Site Vicinity

As shown in **Figures 3.8-1** and **3.8-2**, land uses in the general vicinity of the site include:

North. Seattle's First Hill Urban Center Village extends north from the site. The West of Boren Sectors are primarily located in the First Hill Urban Center Village. Several high-rise medical campuses are located to the north of the site, including: Harborview Hospital Complex, Virginia Mason Hospital Complex, and Swedish Medical Center. The Seattle University campus is located northeast of the site. A concentration of other small-scale medical offices and clinics are located in the vicinity of these campuses. Other land uses in the First Hill neighborhood include low-rise, small scale commercial and retail uses, and multifamily residential uses.

East. The 12th Avenue Urban Center Village of Seattle's Central District Urban Village is located east of Broadway/Boren Avenue, to the east of the site. The East of Boren Sector is located within the 12th Avenue Urban Center Village. Land uses east of the site primarily include 1 to 5-story low-rise, multi-family residential uses. Other uses in the area include the King County Youth Detention Facility and the Bailey-Gatzert Elementary School.

South. Seattle's International District neighborhood's Little Saigon area is located south of the site. The portion of the SW Sector that lies south of S Main Street is located within the Little Saigon area. Land uses south of the site generally include low-rise commercial and retail uses.

West. A portion of the I-5 corridor runs along the western boundary of the site. West of I-5 is Seattle's International District neighborhood, including the Japantown and Chinatown areas. The Seattle Chinatown National Register Historic District is located within the Chinatown area and generally encompasses the area south of Main/Jackson Streets, north of Weller Street, west of I-5 and east of 5th Avenue. Uses west of I-5 and north of Yesler Way include a concentration of high-rise public institution buildings, including King County's Courthouse, Correctional Facility, Administration Building and Goat Hill Office Building, as well as the City of Seattle's Municipal Tower, Public Library, Justice Center and Courthouse. Other uses in the area include high-rise office, commercial and hotel uses. Land uses west of I-5 and south of Yesler Way, include primarily low to mid-rise, multi-family residential uses and mixed use developments.

Existing Land Use Designations

Comprehensive Plan Designation

Onsite

According to the *2009 City of Seattle Comprehensive Plan Future Land Use Map*, the Yesler Terrace site is primarily located in the First Hill Urban Center Village within the First Hill/Capitol Hill Urban Center. Urban Centers and the Villages within them are intended to be the densest areas of the City with the widest range of land uses. The Comprehensive Plan also indicates that the greatest share of job growth and residential growth will be accommodated in Urban Centers and Urban Center Villages, giving people the opportunity to live close to work. The First Hill Urban Center Village is intended to support mixed residential and employment uses (see Section 3.9, **Relationship to Plans, Polices and Regulations**, for further discussion on the site's location in an Urban Center/Village).

The four West of Boren Sectors and a portion of the East of Boren Sector are primarily designated Multi-Family Residential and a small portion of the East of Boren Sector along 12th Avenue is designated Commercial/Mixed Use in the Comprehensive Plan (see **Figure 3.8-3** and **Section 3.9**, Relationship to Plans and Policies for details).

Immediately Adjacent to the Site

The *2009 City of Seattle Comprehensive Plan Future Land Use Map* designations for the areas immediately adjacent to the site include:

Northwest. (the area north of Alder Street) is primarily designated as Major Institution due to the presence of the Harborview Hospital campus. A small portion of this area is designated for Multi-family Residential uses.

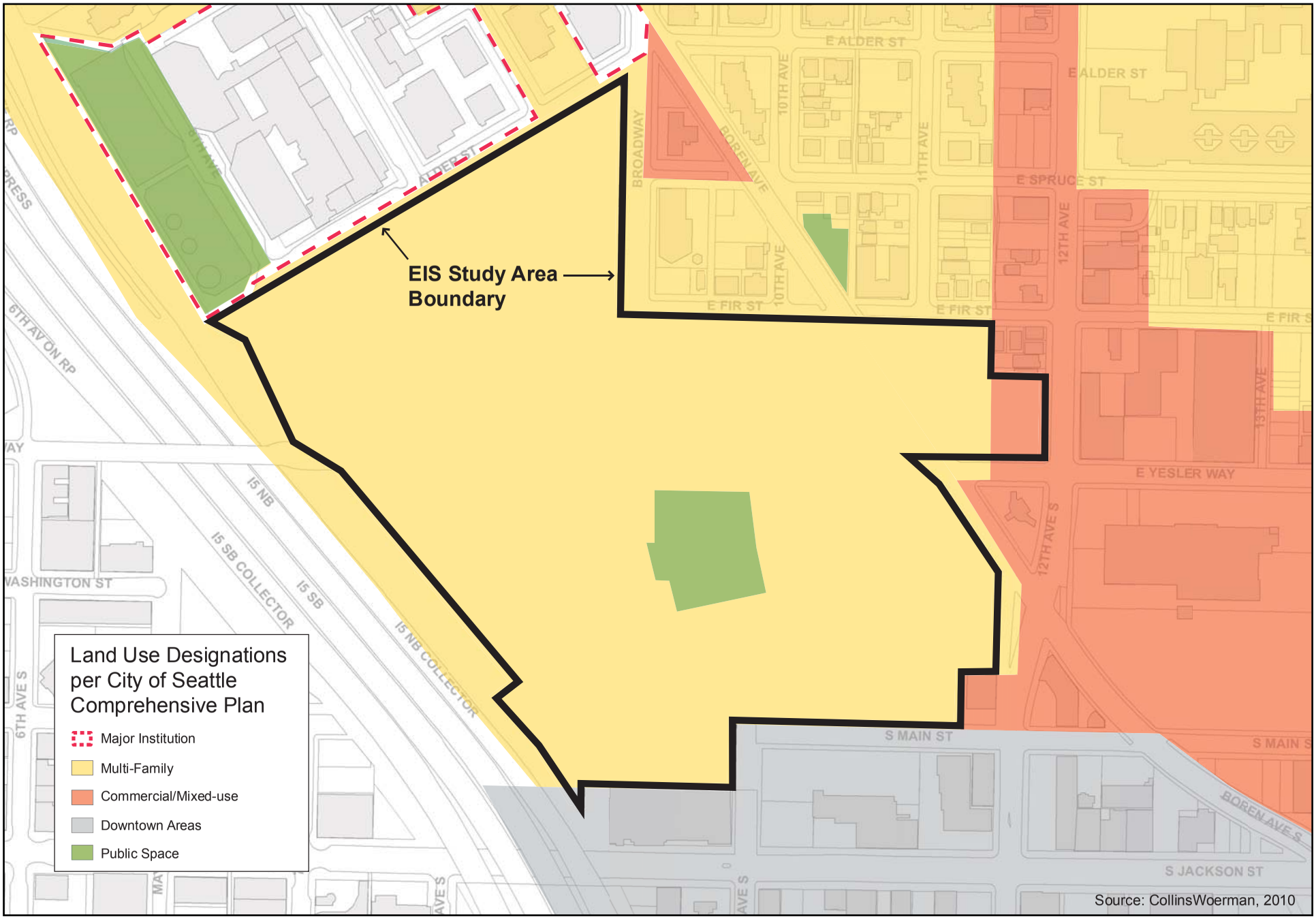

Figure 3.8-3
Comprehensive Plan Future Land Use Designations

Yesler Terrace
Redevelopment EIS

Northeast. (the area bounded by Boren Avenue, E Spruce Street, 12th Avenue, E Fir Street, and Broadway) is primarily designated as Multi-family Residential and the 12th Avenue corridor is designated as Commercial/Mixed Use. The triangle area between Boren Avenue, E Spruce Street and Broadway is also designated as Commercial/Mixed Use. Horiuchi Park is designated as City-owned open space.

East. (the area generally bounded by E Fir Street, 13th Avenue, E Yesler Way and 12th Avenue) is primarily designated as Commercial/Mixed Use.

Southeast. (the area generally bounded by E Yesler Way, 14th Avenue S, S Main Street and 12th Avenue/Boren Avenue) is designated as Commercial/Mixed Use.

South. (the area south of S Main Street) is designated as Downtown Area.

Southwest and West. A portion of the I-5 corridor is located immediately west of the site.

Site Vicinity

The Comprehensive Plan designations in the site vicinity include:

North. This general area is located in the First Hill Urban Center Village within the First Hill/Capitol Hill Urban Center. Comprehensive land use designations include several Major Institution areas, as well as Multi-family Residential and Commercial/Mixed use areas.

East. This general area is located within the 12th Avenue Urban Center Village within the First Hill/Capitol Hill Urban Center. Comprehensive land use designations in the vicinity of the site are Multi-family Residential and Commercial/Mixed use areas.

South. This general area is located within the Little Saigon neighborhood which is located in the Chinatown/International District Urban Center Village within the Downtown Urban Center. Comprehensive land use designations to the south of the site generally include Commercial/Mixed Use areas.

West. A portion of the I-5 corridor runs along the western boundary of the site. West of I-5 the area is identified as the Downtown Urban Village and has a Downtown Area designation.

Zoning

Site

According to the *Seattle Land Use Code*, the four West of Boren Sectors are zoned Multifamily Residential, Lowrise 3 (L3). The East of Boren Sector is zoned Multi-family Residential, Mid-Rise (MR) and Neighborhood Commercial (NC3P-65), as described

below (see **Figure 3.8-4** for an illustration of these zones and Section 3.9, **Relationship to Plans, Policies and Regulations**, for details).

Lowrise Residential 3 (L3) – the L3 zoning classification provides for moderate scale multi-family housing opportunities in multi-family neighborhoods where it is desirable to limit development to infill projects and conversions compatible with the existing mix of houses and small to moderate scale apartment structures. Land uses allowed in this zoning classification include residential, public services, parks and certain institutional uses. Zoning designations of the site throughout the years, including the current L3 zoning, have been a reflection of the original low density development on the site.

Multi-family Mid-rise Residential (MR) – the MR zoning classification provides for concentrations of housing in desirable pedestrian-oriented urban neighborhoods having convenient access to regional transit stations where the mix of activity provides convenient access to residential services and amenities and opportunities for people to live within walking distance of employment. Land uses allowed in this zoning classification include residential, public services, parks, ground floor commercial uses and medical services.

NC3P-65 – Neighborhood Commercial 3 (NC3) zones are intended to support or encourage a pedestrian-oriented shopping district: that (1) serves the surrounding neighborhood and a larger community, citywide, or regional clientele; (2) that provides comparison shopping for a wide range of retail goods and services; (3) that incorporates offices, business support services; and, (4) that incorporates residences compatible with the mixed use character of the area. P designations are applied to NC zones along pedestrian-oriented commercial streets. Land uses allowed in this zoning classification include commercial, retail, office and residential uses.

Immediately Adjacent to the Site

According to the Seattle Land Use Code, the following are the zoning classifications for the areas immediately adjacent to the Yesler Terrace site:

Northwest. (the area north of Alder Street) is zoned MIO-240-HR (Major Institution Overlay) west of Terry Avenue and MIO-105-MR east of Terry Avenue.

Northeast. (the area bounded by Boren Avenue, E Spruce Street, 12th Avenue, E Fir Street and Broadway) is primarily zoned Multi-family Residential (MR), except for the area bounded by Broadway, Boren Avenue and Spruce Street which is zoned Neighborhood Commercial (NC2-65.)

East. (the area generally bounded by E Fir Street, 13th Avenue, E Yesler Way and Boren Avenue) is primarily zoned NC3P-65, except for a small area immediately adjacent to the East of Boren sector which is zoned NC3-65.

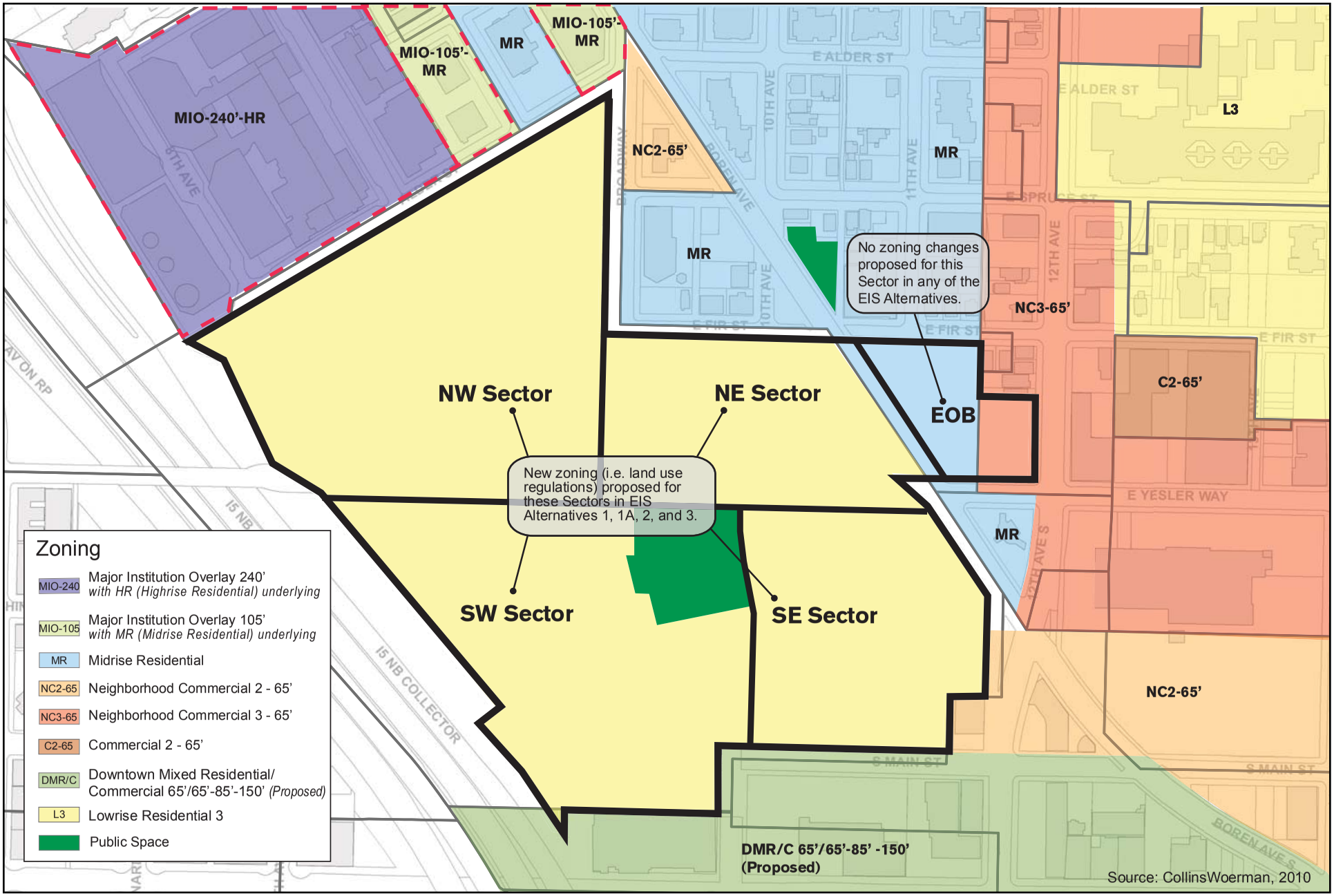

Figure 3.8-4
Zoning

Yesler Terrace
Redevelopment EIS

Southeast. (the area generally bounded by E Yesler Way, 14th Avenue S, S Main Street and 12th Avenue S/Boren Avenue S) is zoned NC3-65 (north of Washington Street) and C2-65 (Commercial) south of Washington Street, except for the area generally bounded by 12th Avenue S, Boren Avenue S and S Main Street, which is zoned C1-65.

South. (the area south of S Main Street) is presently zoned C1-65 and NC3-65. As discussed in the *Livable South Downtown Plan* (2009), the zoning of the Little Saigon neighborhood to the south of the site is currently under review by the City Council and is likely to be revised to Downtown Mixed Residential/Commercial (DMR/C 65/65-85 (150). These zoning changes are intended to encourage residential and job growth development while allowing existing small businesses to adapt, retaining the existing neighborhood character and improving livability. The *Livable South Downtown Plan* states that one objective of the proposed zoning changes is to retain the small and medium size character of the area between S Main Street and Weller Street, which is adjacent to the southern portion of the site.

Southwest and West. A portion of the I-5 corridor is located immediately west of the site.

(See **Figure 3.8-4** for the zoning classifications of the areas immediately adjacent to the site.)

Site Vicinity

According to the Seattle Land Use Code, the following are the zoning classifications for the general vicinity of the Yesler Terrace site:

North. This area has a variety of Major Institution Overlay (MIO) zoning districts. Other zones north of the site including Neighborhood Commercial, Multi-family Residential – Mid-rise, Multi-family Residential – High-rise.

East. This area is zoned Commercial, Neighborhood Commercial, Low-rise Residential.

South. This area is presently zoned Neighborhood Commercial, Commercial and Lowrise Residential. As discussed in the *Livable South Downtown Plan* (2009), the zoning of the Little Saigon neighborhood to the south of the site is currently under review and is likely to be revised to DMR/C 65/65-85 (150).

West. The area west of I-5 and north of Yesler Ave is primarily zoned Downtown Mixed-Commercial and Downtown Office Core. The general vicinity west of the site (south of Yesler Avenue) has a variety of zoning from International District Residential to International District Mixed.

Land Use Trends

Areas to the north, east and south of the Yesler Terrace site are undergoing redevelopment. The level of development in the portion of the First Hill neighborhood

north of the site is intensifying. Several major institutions in the First Hill neighborhood have updated or are in the process of updating their Major Institution Master Plans, including Harborview Medical Center, Swedish Medical Center – First Hill Campus, Seattle University and Virginia Mason Medical Center. The updates to the master plans of these four major institutions, in certain circumstances, include plans for: boundary expansions, increases in the intensity and density of development, increases in building heights and the provision of additional parking facilities. Redevelopment of these major institution campuses would occur incrementally over the next 10-20 years. Other existing, non-institutional and underdeveloped properties in the First Hill neighborhood north of Yesler Terrace are also being redeveloped more intensively (e.g., increased number of units or square footage, and increased height, bulk and scale); the land use pattern, however, is expected to be much the same as currently exists over the next 10-20 years. New non-institutional office and residential development that is occurring is in mid- to high-rise buildings. As this area is one of the City's designated Urban Centers, this trend of intensification in the area north of the Yesler Terrace site is expected to continue for the foreseeable future.

In the area east of the Yesler Terrace site which is located in the 12th Avenue Urban Center Village of the Central District Neighborhood, the multi-family, commercial and single family development that exists in this area has been experiencing low levels of infill development. In many areas, the existing commercial and multifamily development levels are less than is permitted under current zoning. The character, the density, and nature of land uses as well as the height, bulk and scale of development in this area have not changed significantly in the recent past. As with the area north of Yesler Terrace, it is anticipated that localized intensification of commercial and multifamily development will occur in the future. No land use change, however, is anticipated with regard to existing single family development.

The International District's Little Saigon neighborhood is located in the area south of Yesler Terrace. Through the *Livable South Downtown Plan* (2009), the City has targeted this area for increased residential and job growth. Per the *Plan, g*rowth and change is likely in Little Saigon over the next 10-20 years under any scenario, due to the area's accessible location within the Downtown Urban Center Development. New development in the area has been slow. The *Plan* has proposed new zoning for the area that would allow increases in building heights and density in some areas while attempting to preserve the overall neighborhood-scale and character of the community. While some intensification of development and transition to multi-family residential and mixed use buildings is anticipated to occur in the Little Saigon neighborhood under the *Plan* over the next 10-20 years, no significant changes are anticipated in the foreseeable future with regard to the density of development or the character of this neighborhood.

The 2005 Seattle Comprehensive Plan anticipates an additional 84,000 jobs in the City from the year 2004-2024. A significant portion of those jobs could be within office uses, including major institutions to the north, including Harborview Medical Center, Swedish Medical Center, and Seattle University, as well as downtown to the west.

3.8.2 Impacts

Proposed Actions

As presented in **Chapter 2**, the Proposed Actions evaluated in this Draft EIS for the Yesler Terrace Redevelopment Project include:

Decision by SHA on which alternative to implement;
Possible City of Seattle Comprehensive Plan changes;
Zoning changes that would be necessary in order to accommodate the mixed use redevelopment, including a Land Use Code text amendment and a change to the Official Land Use Map (legislative rezone);
Planned Action Ordinance adoption by City of Seattle;
Possible Development Agreement between the City of Seattle and SHA;
Preliminary and Final Plat approvals by City of Seattle;
Street Vacation and dedication approvals by City of Seattle;
Future local, state and federal permits that would be required for construction and development of the Yesler Terrace community;
Release of Funds by HUD; and,
Construction and operation of the buildings and facilities within the Yesler Terrace community.

The proposed zoning changes would create the capacity and regulatory framework to allow for the long-term redevelopment of the site into a new mixed use, mixed income urban neighborhood with residential, office, hotel, neighborhood commercial, neighborhood service and park uses.

The East of Boren Sector is currently zoned Multi-Family Residential, Mid-Rise (MR) and Neighborhood Commercial (NC3P-65). The East of Boren Sector is assumed to be redeveloped under its existing zoning. The West of Boren Sectors are currently zoned Multi-family Residential, Lowrise 3 (L3). Under this classification, only residential and certain institutional uses are allowed. In order to allow higher residential densities and non-residential uses, such as single-use office buildings, hotel or retail uses in the West of Boren Sectors, a Land Use Code text amendment and legislative rezone of the West of Boren sectors are necessary. The City may decide for uniformity purposes to rezone the entire site to a new zone designation, even though the East of Boren Sector is proposed to be developed under existing zoning. (See also Section 3.9**, Relationship to Plans and Policies** for details).

As part of the City's annual Comprehensive Plan Amendment cycle, in May 2010 the City's Department of Planning and Development proposed a Comprehensive Plan Amendment to establish Master Planned Community sites and policies. The intent was to establish a mechanism in the City's Comprehensive Plan to consider planning for large sites, such as Yesler Terrace, and also to designate Yesler Terrace as a Master Planned Community on the Future Land Use Map in the Plan. In July 2010, the City Council made a threshold decision to include the Master Planned Community amendment on the docket for further consideration. The City is conducting its own environmental review on the package of annual Comprehensive Plan Amendments,

including the Master Planned Community amendment, separate from this EIS. A City Council decision on this package of Amendments is anticipated to occur in March 2011.

Methodology

General Methodology

For purposes of this Planned Action environmental review, the following alternatives were developed: four redevelopment alternatives under the proposed zoning (Alternatives 1, 1A, 2 and 3), one redevelopment alternative under existing L3 zoning (including proposed L3 amendments as of May 2009) (Alternative 4), and a No Action Alternative. In order to conduct comprehensive environmental review, a number of assumptions have been developed for each of the alternatives related to the continuation of certain existing uses on the site, amount of mixed use redevelopment, amount of open space (including parks), building heights, road network, utility and stormwater concepts, parking ratios and other assumed design features. These assumptions create an envelope of potential redevelopment and a range of redevelopment alternatives within the envelope, from no action and less intense to more intense redevelopment, to allow for the analysis of probable significant environmental impacts under SEPA and NEPA across the entire range of redevelopment alternatives. These assumptions are described in **Chapter 2.8**. An overview of land use assumptions under each alternative is provided in **Table 3.8-3**.

For purposes of this land use analysis and in order to evaluate potential land use compatibility among uses within the site and between the site and surrounding areas, certain assumptions have been made under a capacity model development scenario to show the number of possible low, mid- and high-rise buildings that could be developed, the distribution of such buildings across the site, and the mix of uses in each building under each alternative (see **Section 2.8.3** for additional details). This discussion of land use impacts details the building heights and density based on both the maximum allowed by the proposed new zoning and the buildings assumed for purposes of the capacity model. Maximum heights were not assumed in all locations in the capacity model for each alternative in order to assess the environmental impacts associated with different building heights (See **Section 2.8.1**). The same methodology has been used to evaluate the height, bulk and scale impacts in both Chapter 3.10, **Aesthetics/Light and Glare/Shadows**, and this **Land Use** analysis.

High-rise residential buildings would be distributed throughout the four West of Boren Sectors. High-rise office or hotel buildings would be concentrated at the northwest end of the NW Sector, near other intense offsite non-housing uses, such as Harborview Medical Center and other medical office uses to the north. Office/hotel buildings in this sector could be designed as stand-alone buildings or clustered to provide a campus type configuration with shared open space, parking and other facilities. Mid-rise buildings would be distributed throughout the site.

These assumptions are not intended to represent a definitive redevelopment plan for the site, but are used instead as a basis for assessing potential land use impacts. The specific type, number, height, location and design of the onsite buildings would be determined as part of future City decisions on the Proposed Actions and specific redevelopment applications submitted by SHA and/or other developers. (See **Section**

2.3, Environmental Review Process and Purpose, for a discussion of the proposed environmental review strategy and proposed Planned Action.)

Long-term Lease Versus Selling Property

At this time, SHA is contemplating the sale of portions of the Yesler Terrace site to private entities for redevelopment. As has been successfully implemented at other SHA developments such as High Point and Rainier Vista, SHA could sell certain land parcels for development of low-income and market-rate housing, and commercial uses, while retaining ownership of certain parcels for development of extremely low income and very low income units that would be managed by SHA. By selling portions of the property targeted for non-SHA housing or non-housing uses to a private entity, SHA would generate revenue to fund new development and focus limited resources on managing and maintaining SHA facilities and serving SHA tenants.

If SHA maintained ownership of the entire site, but leased development rights to private entities on certain parcels, SHA could retain the rights for future redevelopment of new affordable housing on those parcels. By SHA selling certain parcels of the site to a private entity, SHA could preclude the opportunity to redevelop that portion of the site in the future for new SHA-controlled affordable housing.

Before the sale of a portion of SHA property to a private entity, the parties could enter into an agreement that would apply to subsequent development, to ensure compliance with overall land use approvals for the site including: development consistency with the chosen preferred alternative and mitigation set by the HUD record of decision; adherence to the objectives/purpose and need as defined by SHA; as well as provision of affordable housing, sustainability features, design elements, provision of parks and open space, and general livability standards. In addition, it is anticipated that subsequent development would be required to comply with City-imposed conditions of approval on the overall SHA development.

Comparison of Land Uses Under the Alternatives

This section provides a summary comparison of land uses, building uses, building heights and density under the alternatives. Each alternative is described in detail later in this section.

Table 3.8-3 provides a summary breakdown of the site area assumed under the alternatives at buildout in 2030, including the area in building footprint, parking, parks and open space, rights-of-way and private access drives and roads under each of the alternatives.

Table 3.8-3
YESLER TERRACE SITE AREA BREAKDOWN
UNDER EIS ALTERNATIVES (ACRES)

Site Use	Alternative					
	1	1A	2	3	4	No Action Alternative
Building Footprint	11.9	11.5	11.2	11.3	9.8	5.7
Surface Parking	0	0	0	0	3.2	1.7
Parks/Public and Semi-Private Open Space	13.3[1]	13.8[1]	14.5	14.7	13.1[1]	12.1[1]
Private Open Space [2]	n/a	n/a	n/a	n/a	n/a	8.7
Rights-of-Way	8.4	8.4	7.2	7.2	7.8	7
Private Access Drives and Roads	1.5	1.5	2.2	2.2	1.3	0
Yesler Community Center [3]	1.4	1.4	1.4	1.4	1.4	1.4
Total Acreage	**36.5[4]**	**36.6**	**36.5[4]**	**36.8[4]**	**36.6**	**36.6**

Source: CollinsWoerman, 2010.

[1] Includes approximately 1.4 acres of steep slope area and unusable open space due to inaccessibility.

[2] The No Action Alternative includes approximately 8.7 acres of private open space in the form of ground level private yards. Under Alternatives 1-4, private open space, such as balconies, would be provided for some units but cannot be quantified at this time. The specific amount of private open space that would be provided as part of redevelopment would be determined during the design and permitting process.

[3] Includes the Yesler Community Center parcel.

[4] Site acreage is assumed to be 36.6 acres under all alternatives. Differences in totals due to rounding.

Compared to existing conditions, redevelopment under Alternatives 1-4 would substantially increase the total acreage of building footprint, roadways and private access drives and roads onsite. The overall amount of total open space would decrease under Alternative 1-4; however, the amount of public open space would increase but the amount of semi-private open space would decrease (see **Section 3.15.1.1** for more details about parks and open space resources).

Table 3.8-4 summarizes the range of building uses assumed under each alternative. Each of these building uses is described in detail in **Section 2.8.2** of this Draft EIS.

Table 3.8-4
YESLER TERRACE BUILDING USES
UNDER EIS ALTERNATIVES (SF)

Uses	Alternative					
	1	1A	2	3	4	No Action Alternative
Housing	2,757,903	2,757,854	3,634,213	4,496,700	1,415,680	468,242
Office/Hotel	800,103	401,000	1,001,126	1,201,660	20,259	20,259
Neighborhood Commercial	40,000	40,000	60,000	88,000	10,000	0
Neighborhood Services	49,971	49,971	49,971	49,971	49,938	49,342
Total	**3,647,977**	**3,248,825**	**4,745,310**	**5,836,331**	**1,495,877**	**537,843**

Source: CollinsWoerman, 2010.

The amount of residential, office and neighborhood commercial uses would increase under Alternatives 1-4 and the amount of neighborhood services uses would remain relatively constant, as compared to existing conditions (see **Table 3.8-4**). The No Action Alternative would represent a continuation of the existing multi-family residential uses.

Table 2-2 (in **Chapter 2**) summarizes the assumed maximum zoning building heights under the EIS Alternatives by sector.

While **Table 2-2** compares the maximum zoning building heights that are assumed under each alternative, only a few buildings are proposed to be built to this maximum height in each sector. The building height assumptions differ among the EIS Alternatives, with the highest building heights assumed under Alternatives 2 and 3, and lowest building heights assumed under Alternative 4 and the No Action Alternative.

The greatest number of high-rise residential buildings are proposed to be built up to the maximum zoning height under Alternative 3 (Higher Density Alternative), while the fewest high-rise residential buildings are assumed to be built up to the maximum zoning height under Alternative 1A (Lower Density with Less Office Alternative). Alternatives 1-3 assume approximately 3 high-rise office buildings each, the total average height of the office buildings would be highest under Alternative 3 and lowest under Alternative 1. Alternative 1A assumes only two high-rise office buildings with a lower total average height than Alternative 1 (see Section 2.8.3, **Building Heights,** and Section 3.10, **Aesthetics/Light and Glare/Shadows**, for additional information).

Table 2-3 (in **Chapter 2**) compares the assumed building density under each alternative by sector. Residential uses are shown in terms of residential units per net acre. Office uses are described in terms of floor area ratio (FAR). When average FAR is referenced in the impacts analysis, it reflects the ratio of the gross floor area to lot area and is used to describe density of non-residential uses. When FAR is referenced in this Draft EIS impact analysis, it is based on assumed lot areas in order to compare density under the alternatives. This method of calculating average FAR differs from the FAR calculation method required under the City's Land Use Code because specific information about parcel boundaries and building footprints necessary to use the City's method cannot be determined at this time.

Alternative 4 (existing L3 zoning) assumes the lowest overall housing density of the alternatives at 74 housing units per acre, while Alternative 3 assumes the highest overall housing density at 292 housing units per acre.

Redevelopment Alternative 4 and the No Action Alternative would have the lowest average floor-area ratio (FAR) for office use of the alternatives at 2.0, based on office uses only being provided at the existing Jesse Epstein office building. Alternative 2 assumes the highest average FAR at 7.6 on individual parcels, based on the proposed single-use high-rise office (or office/hotel) uses located in the NW Sector.

Impacts Common for All Alternatives

This section describes potential land use impacts that would be common to Alternatives 1-4, including construction impacts, displacement of existing uses and transition in land

use patterns. See the following section for a discussion of potential land use impacts specific to each of the alternatives.

Construction Impacts

Construction activities associated with redevelopment of the Yesler Terrace site under Alternatives 1-4 would generally be the same for Alternatives 1-4 and would consist of three primary activities: demolition of existing buildings, utilities and paved areas; construction of new site infrastructure, including roadways, utilities and parks; and, construction of new buildings. Differences in impacts among the alternatives would primarily relate to the relative intensity of development. In general, construction activities would be the most intense under Alternatives 2 and 3 and the least intense under Alternatives 1 and 4. For instance, all of the Redevelopment Alternatives would include grading activities but the relative amount of grading would be the most intense under Alternative 2 with 745,000 cubic yards of cut and 108,000 cubic yards of fill and least intense under Alternative 4 with 158,000 cubic yards of cut and 84,000 cubic yards of fill. Analysis of the specific construction impacts under each alternative can be found under each element of the environment in this EIS.

Site preparation and infrastructure relocation and redevelopment would generally occur commensurate with development of specific building projects over the approximately 20-year buildout. The majority of the new roads and utility extensions onsite would be developed as buildings are constructed over time.

The Yesler Terrace Redevelopment is assumed to be built out by the year 2030. While a specific phasing development schedule has not been determined and would depend upon market conditions and the availability of applicable funding from local, state and/or federal sources, certain assumptions have been developed regarding redevelopment phasing. See Section 2.8.6, **Development Phasing/Buildout Date**, for details.

Potential land use impacts associated with site preparation and building/infrastructure development would generally relate to building demolition, paving removal and construction truck traffic. These activities would result in periodic impacts to onsite and adjacent land uses over the approximately 20-year buildout. Construction-related impacts would include additional amounts of air pollution as a result of construction-related dust, emissions from construction vehicles and equipment; increased noise from construction activities; soil erosion resulting from removal of vegetation; and, increased traffic associated with construction vehicles and construction workers. Construction activities would be anticipated to occur incrementally over the approximately 20-year buildout period, and would shift location around the site. This would result in temporary impacts to specific adjacent uses when site construction is proximate to those areas (see Section 3.2, **Earth**, 3.2, **Air Quality** and Section 3.7, **Noise**, for details). Certain land uses on or adjacent to the site that would potentially be sensitive to construction activities, including noise and dust, include: existing residents on and adjacent to the site, students at Bailey-Gatzert elementary school; students at the Head Start facility; and visitors to the Yesler Community Center, SHA Ballfield, and Horiuchi Park. These temporary impacts would be mitigated by adhering to all applicable construction activity regulations, including Puget Sound Clean Air Agency air quality regulations, temporary erosion and sediment control measures, and City of Seattle noise regulations (see Section 3.2, **Air Quality** and Section 3.7, **Noise**, for details).

Displacement of Existing Uses

As stated previously in this section, under Alternatives 1-4, all existing residential structures would be demolished on a phased basis and existing residential tenants would be temporarily or permanently displaced. Residents would be given at least 18 months notice prior to relocation, and any resident wanting to return to Yesler Terrace who remains in good standing with SHA would be offered the opportunity to return to the redeveloped community. Some residential tenants may also have the option of relocating temporarily to available on-site units that would be programmed to be removed during a later phase of redevelopment (see Section 2.8.4, **Tenant Relocation**, and Section 3.17, **Environmental Justice**, for details regarding residential tenant relocation).

As residential units are demolished, it is possible that in-home businesses operated by residents, such as the existing in-home daycare businesses, would be disrupted or discontinued due to relocation. Under all alternatives it is assumed that some of the extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses.

Under Alternatives 1-4, certain space currently leased for office or neighborhood services uses would be demolished and existing tenants would be temporarily or permanently displaced including: employees and occupants of the YWCA Fir Street Shelter, Neighborhood House, Yesler Terrace Community Council, Catholic Community Services, the SHA Jobs Resource Center, Head Start, and the SHA Management Office. Permanent displacement could occur due to potential changes in SHA's rental policies/rates or other economic factors. It is also possible that some organizations or agencies could move directly into redeveloped neighborhood commercial or office space, without having to leave the site. Other existing office and neighborhood services tenants and uses would also be displaced only under certain alternatives, as is discussed under the respective alternatives in the section **Impacts Specific to Each Alternative** below.

Under Alternatives 1-4, the SHA Ballfield use in the SW Sector would be displaced and redeveloped with new uses (see Section 3.15.1.1, **Public Services - Parks and Recreation**, for details regarding displacement of the existing ballfield use). Existing informal drop-in uses of the SHA Ballfield could be accommodated at the new Commons Park that would be constructed adjacent to the existing Yesler Community Center. While the phasing plan for the Yesler Playfield demolition and the Commons Park construction has not been determined, it is anticipated that some parks and open space facilities would be developed prior to or concurrent with adjacent building development. Since the existing SHA Ballfield and the proposed Commons Park sites are in close proximity, it would be likely that the SHA Ballfield would be demolished and the Commons Park would be constructed during the same phase (See Section 2.8.6, **Phasing**). The existing formal use of the ballfield by the local little league would need to be relocated to other nearby offsite City sports field facilities, such as Judkins Park located approximately 0.6 miles southeast of the site and/or Madrona Playground located approximately 1.5 miles northeast of the site, if capacity is available (see Section 3.15.1.1, **Public Services – Parks and Recreation**, for details regarding the displaced SHA Ballfield use.)

Transition in Land Use Patterns

In the broader context, redevelopment of the Yesler Terrace site would result in the creation of a new dense, urban mixed use village in the First Hill Urban Center Village over the approximately 20-year buildout period. Redevelopment would be consistent with goals and policies of the Washington State Growth Management Act and the City of Seattle Comprehensive Plan that call for urban infill development with the greatest densities and widest range of land uses to be accommodated within Urban Centers. Those goals and policies also encourage sustainable development, seek to limit sprawl and encourage live/work/play development opportunities (see Section 3.9, **Relationship to Plans Policies and Regulations**, for details). Redevelopment on the Yesler Terrace site would be consistent with and a continuation of the current trend of intensification in the First Hill neighborhood, as described in **Section 3.8.1**.

With proposed redevelopment, the Yesler Terrace site would transition from a low-rise multifamily residential development to a dense mixed use, mixed income community over time including:

- A range of housing types, including extremely low income, very low income, low income and market rate housing;
- A range of recreational resources and gathering places; public parks and open spaces;
- A place to work, live, recreate, and shop in proximity to community support services, developed in accordance with the guiding principles of social equity, economic opportunity, environmental stewardship and responsibility and one-for-one replacement housing; and,
- New employment opportunities for Yesler Terrace residents and the community.

Under Alternatives 1-3, the site would be converted from a low-rise, multi-family residential complex into a dense urban mid-rise and high-rise mixed use neighborhood. Infill redevelopment at the Yesler Terrace site would accommodate a diverse mix of uses, including new housing and employment opportunities in a dense development pattern. Redevelopment would accommodate a portion of the employment and housing growth projected for the City (see Section 3.16, **Socioeconomics**, for additional details); such infill redevelopment would consume less land than would lower density development and could be viewed as being more efficient from a land use perspective. As described in **Section 3.8.1**, the First Hill/Capitol Hill Urban Center, in which the site is primarily located, was identified in the Seattle Comprehensive Plan as an area targeted for growth. Under Alternative 4, the site would remain as a relatively low density, low-rise multifamily complex.

Under Alternatives 1-3, highrise buildings with single use office/hotel uses are proposed. While the Yesler Terrace site has not been identified by the City as a potential area for new office uses, development of this new use would represent a continuation of the existing trend of highrise office uses north of the site. The development of single-use office uses on the site could absorb some anticipated city-wide office use growth from areas designated for these uses.

Impacts Specific to Each Alternative

This section describes potential direct and indirect land use impacts that would be associated with each of the Alternatives 1-4. The types of direct land use impacts that could potentially occur under the Alternatives 1-4 generally relate to conversion of land uses, changes in land use density, changes in activity levels, and compatibility of new land uses on the site with existing site uses and surrounding land uses. These types of impacts are discussed below for each alternative.

Indirect land use impacts that could occur include the potential for increased pressure for off-site development, changes in land use and development density, the potential for increased requests for changes in zoning designations in the immediate surrounding area, and changes in the overall land use character of the area, as well as land use effects on the surrounding neighborhoods, particularly the Central District neighborhood to the east and the Little Saigon neighborhood to the south (indirect impacts are discussed at the end of this chapter).

In the discussion below, reference is made to both maximum height limits that would be allowed by the new zoning, as well as the lower heights evaluated in the capacity model. For ease of reference, the latter are referred to below as "proposed" heights. However, a range of heights is evaluated in this EIS in order to identify the environmental impacts associated with differing heights. The plan ultimately adopted by SHA or approved by the CIty could vary from the specific "proposed" heights described below. However, the heights ultimately approved would not be greater than the maximum height limits described below for each alternative.

A more detailed description of impacts from changes in the visual character, and the height, bulk and scale of the redevelopment are discussed in Section 3.10, **Aesthetics/Light and Glare/Shadows**; the relationship of the Proposed Actions to applicable land use plans and policies is contained in Section 3.9, **Relationship to Plans and Policies**; and, impacts to historic resources are discussed in Section 3.11, **Historic Resources**.

Alternative 1

Alternative 1 represents the lower end of the potential redevelopment range, with an assumed approximately 3.6 million SF of new building space at full buildout, including a mix of residential, office, neighborhood commercial and neighborhood services uses (as compared to the approximately 538,000 SF of primarily residential development currently on the site). Approximately 3,000 residential units would be constructed on the site. Approximately 14.7 acres of parks and open space areas would also be provided.

The type, character and pattern of land uses on the site would change substantially from the existing low-rise residential development to a more dense urban development, featuring a broad range of uses and site amenities. This change in land use character would be consistent with City goals for increased density in the First Hill Urban Center Village. **Table 3.8-5** shows the assumed land uses and **Table 3.8-6** the assumed building uses under Alternative 1.

Table 3.8-5
ALTERNATIVE 1 – ASSUMED LAND USES (ACRES)

Land Use	West of Boren Sectors	East of Boren Sector	Total	Percentage
Building Footprint	10.9	1.0	11.9	32.6%
Surface Parking	0.0	0.0	0.0	0.0%
Parks/Open Space	12.6[1]	0.7	13.3[1]	36.4%
Rights-of-Way	8.4	0.0	8.4	23.0%
Private Access Drives and Roads	1.5	0.0	1.5	4.1%
Yesler Community Center[2]	1.4		1.4	3.8%
Total Acreage	**34.6**	**1.8**	**36.5[3]**	**100%**

Source: CollinsWoerman, 2010.
[1] Includes approximately 1.4 acres of steep slope area and unusable open space due to inaccessibility.
[2] Includes the Yesler Community Center parcel.
[3] Site acreage is assumed to be 36.6 acres under all alternatives. Differences in totals due to rounding.

Table 3.8-6
ALTERNATIVE 1 – ASSUMED BUILDING USES (SF)

Land Use	West of Boren Sectors			
	Low-Rise (1-3 stories)	Mid-Rise (3-7 stories)	High-Rise (8 or more stories)	**TOTAL West of Boren**
Housing	0	1,945,152	580,000	**2,525,152**
Office/Hotel	0	0	800,103	**800,103**
Neighborhood Commercial	0	30,000[1]	0	**30,000**
Neighborhood Services	0	28,000[1]	0	**28,000**
Yesler Community Center	21,971			**21,971**
TOTAL	**21,971**	**2,003,152**	**1,380,103**	**3,405,226**
Land Use	**East of Boren Sectors**			
Housing	0	232,751	0	**232,751**
Office	0	0	0	**0**
Neighborhood Commercial	0	10,000	0	**10,000**
Neighborhood Services	0	0	0	**0**
Yesler Community Center	0	0	0	**0**
TOTAL	**0**	**242,751**	**0**	**242,751**
Land Use	**ALL SECTORS**			
Housing	0	2,177,903	580,000	**2,757,903**
Office	0	0	800,103	**800,103**
Neighborhood Commercial	0	40,000[1]	0	**40,000**
Neighborhood Services	0	28,000[1]	0	**28,000**
Yesler Community Center	21,971	0	0	**21,971**
TOTAL	**21,971**	**2,245,903**	**1,380,103**	**3,647,977**

Source: CollinsWoerman, 2010.
[1] Neighborhood Commercial and Neighborhood Services uses would occur at the base of mid-rise and high-rise buildings.

Residential uses would be contained in single-use or mixed use buildings and could be located in all sectors of the site. Two-story, ground–level housing units could be provided in some locations at the base of mid-rise or high-rise buildings (see also Section 3.10, **Aesthetics/Light and Glare/Shadows** for details).

Single-use office and hotel uses would be located only in the NW Sector of the site. Office buildings in this sector could be designed as stand-alone buildings or clustered to provide a campus-type configuration with shared open space, parking and other facilities.

Neighborhood services and neighborhood commercial uses could be provided in the first three floors above ground level of some mixed use buildings. Typical locations would be along or adjacent to primary streets, particularly near the intersection of Broadway and E Yesler Way, and the intersection of 12th Avenue and E Yesler Way. Neighborhood service uses could include: police, library and social services. Under this alternative, these uses would be located in mixed use buildings that provide either office or housing as their predominant use.

It is assumed that parking under Alternative 1 would be provided in below-grade garages under buildings, plazas and open space. Parking garages could also be provided above-grade at the base of high-rise buildings. The above-grade parking garages would be screened from street view by office or other uses. Typically, parking would be provided below individual buildings, but in some cases parking could be combined and located below multiple buildings.

Approximately 14.7 acres of open space uses would be provided under this alternative throughout all of the sectors. This open space would include the existing 1.4-acre Yesler Community Center parcel, 1.7-acre Commons Park located adjacent to the Yesler Community Center, Sector Parks, children's play areas and community gardens. Building courtyards, rooftop gardens and balconies would also be provided (see Section 3.15.1.1, **Public Services – Parks and Recreation** for details).

Conversion of Land Uses

Development of the site under Alternative 1 would result in the transition of the approximately 36.6-acre Yesler Terrace site from low-rise multi-family residential development to a denser mixed use community with a broad range of residential, hotel/office, neighborhood commercial and neighborhood service uses and a variety of housing types.

To accommodate redevelopment under Alternatives 1, all 69 of the existing residential buildings onsite would be demolished. As described previously, the existing residents of the Yesler Terrace site would be temporarily or permanently relocated and offered relocation assistance. All of the other existing non-residential buildings onsite would also be demolished and the office and neighborhood services uses would be temporarily or permanently displaced, except the Yesler Community Center and the Steam Plant building and uses which would remain.

As shown in **Table 3.8-5**, approximately 60 percent of the site would be developed with buildings, as compared to approximately 39 percent under existing conditions. Approximately 40 percent of the site would be in parks and open space, as compared to 61 percent under existing conditions (the majority of existing open space is in the form of private yards). Under the Redevelopment Alternatives, additional private open space in the form of balconies and rooftops would be provided onsite, but cannot be quantified at this time. The remainder of the site would be roadways and private access drives/roads.

Changes in Density

Under Alternative 1, the density of development on the site would increase from existing conditions. The intensity of development under this alternative would be highest in the NW Sector and lowest in the East of Boren Sector. The average residential density across the site under this alternative would be approximately 180 dwelling units/acre, as compared to 24 units/acre under existing conditions. The average office FAR would be 7.5 on individual parcels under Alternative 1 as compared to 2.0 under existing conditions.

Changes in Activity Levels

Activity levels on the Yesler Terrace site would increase as a result of the estimated 5,228 residents (approximately 4,000 more than the existing 1,231) and 2,837 employees assumed under Alternative 1 (population and employment are discussed further in Section 3.15, **Socioeconomics**). Compared to the existing activity levels on the site (which are primarily limited to residential activity and activity associated with the existing Yesler Community Center), the activity levels on the site would substantially increase due to the dense nature of redevelopment and increased resident and employee population. The general nature of new site activity would be consistent with an urban mixed use neighborhood. Activity levels in the site vicinity primarily related to vehicular and pedestrian traffic would increase (see Section 3.13, **Transportation**, for details).

Relationship to Onsite Uses

Under Alternative 1, the Yesler Community Center and the Steam Plant (the latter is currently used for storage by SHA, as SHA employee meeting space, and partially leased to Harborview Medical Center for woodshop and storage facilities) would be the only remaining existing structures after redevelopment. These existing uses could remain and would be compatible with the residential and parks/open space uses that are assumed to be located in the immediate vicinity. However, there could be considerable differences in height, bulk and scale between the existing Yesler Community Center and the new assumed onsite development to the north, east and south (the existing structures are both 1-story buildings; the assumed 2 high-rise residential buildings to the north of the Community Center could be up to 240 feet in height, and 2 high-rise residential uses to the east and south of the Community Center could be up to 180 feet in height). E Yesler Way and new assumed parks and open space would serve as buffers between the existing and assumed uses onsite. Also, a 1.7-acre Commons Park would be developed west of the Yesler Community Center and the facilities would jointly serve as a parks and open space resource to the residents, employees and visitors of the site.

Relationship to Surrounding Uses

The compatibility of the proposed onsite land uses to existing surrounding land uses would primarily be a function of the type of proposed and existing uses and the height/bulk/scale of these uses. The proximity of proposed uses to existing surrounding uses, and the existence of any buffers between these uses would also factor into the compatibility of the uses.

In general, the Yesler Terrace site is geographically isolated from adjacent land uses along the western boundary by I-5, and is bordered by varied land uses to the north, east and south. Because the existing character of the surrounding land uses varies widely, the relationship of development to surrounding land uses under Alternative 1 is described for each of the onsite sectors.

NW Sector

As described earlier in this section, land uses located immediately north of the NW Sector (north of Alder Street) include medical/institutional uses, a parking garage, a retirement home and a historic fire station. Land uses located immediately east of the NW Sector (east of Broadway) include an office, commercial uses, a church, and single and multi-family residential uses.

Land Use. Under Alternative 1, this sector would be redeveloped with 1.5 million SF of new uses, including: 702,000 SF of residential uses comprised of 763 units; 800,000 SF of office uses; 20,000 SF of neighborhood commercial uses and 18,000 SF of neighborhood services uses. The Steam Plant building and the associated uses would remain in the NW Sector under this alternative.

Approximately 38,000 SF of neighborhood commercial and neighborhood services uses would be provided in floors 1-3 of some of the mixed use buildings in this sector. Approximately 4.2 acres of parks and open space uses would be provided throughout the sector. Approximately 1,920 parking spaces would be provided in below-grade structures under buildings, plazas and open space or in screened above-grade parking garages at the base of high-rise buildings.

Impacts to Offsite Uses North of the NW Sector. Under Alternative 1, it is assumed that single office or hotel uses (other than small offices in neighborhood commercial areas) would be located only in the NW Sector adjacent to other intense non-residential uses, such as Harborview Hospital and other medical office uses to the northwest. Development of office or hotel uses on the site in the area adjacent to Alder Street would be compatible with the existing Harborview Hospital, office and other medical office uses to the north of the NW Sector. Development of a hotel use would be intended to accommodate patients or visitors of the existing hospital uses near the site as limited hotel uses currently exist within walking distance.

Impacts to Offsite Uses East of the NW Sector. Residential uses and neighborhood commercial/services uses potentially provided in the lower levels of the residential buildings in this sector would be compatible with the offsite office, residential, commercial and church uses to the east of Broadway.

Height, Bulk and Scale. Redevelopment under Alternative 1 in this area would represent an increase in building height, bulk and scale, as compared to existing conditions.

Alternative 1 assumes office and hotel development could occur in three high-rise buildings of up to 240 feet under maximum zoning heights and building heights of 162 feet - 225 feet are proposed. The average office/hotel development floor-area ratio (FAR) is estimated at approximately 7.5 on individual parcels within this sector.

Residential development in the NW Sector could occur in high-rise buildings of up to 240 feet under the maximum zoning heights, and mid-rise buildings of 75 feet in height built at a density of 161 units are proposed.

Impacts to Offsite Uses North of the NW Sector. Development of the proposed high-rise office or hotel buildings on the site in the area adjacent to Alder Street would be anticipated to be similar to and compatible with the existing high-rise buildings at Harborview Hospital to the northwest which are at a height of approximately 15 stories.

Proposed mid-rise residential buildings developed near the intersection of Broadway and Alder Street would be anticipated to be similar to the adjacent 11-story retirement home in terms of height, bulk and scale.

(See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figures 3.10-24, 29 and 34**.)

Impacts to Offsite Uses East of the NW Sector. Mid-rise residential buildings proposed in the eastern portion of the NW Sector, adjacent to Broadway, would be considerably taller than the adjacent 1-2 story church and office uses. The considerable height differences between on- and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-37**.)

Buffers. Redevelopment in the NW Sector would be separated and buffered from offsite uses to the north and east by the intervening 66 foot Alder Street right-of-way and the 80 foot Broadway right-of-way, respectively. Street trees planted along the Alder Street right-of-way as part of redevelopment would also provide a pedestrian and motorist-level visual buffer between the onsite and offsite uses.

NE Sector

As described earlier in this section, land uses located immediately north of the NE Sector (north of E Fir Street) include a parking lot, low-rise single and multifamily residential uses and Horiuchi Park.

Land Use. Under Alternative 1, the NE Sector would be redeveloped with 573,399 SF of new uses, including: 553,399 SF of residential uses comprised of 588 residential units; 10,000 SF of neighborhood commercial uses and 10,000 SF of neighborhood services. No single use office or hotel buildings are assumed in the NE Sector.

Neighborhood commercial and neighborhood services uses would be provided in floors 1-3 of some mixed use buildings in this sector. Approximately 1.1 acres of parks and open space uses would be provided throughout the NE Sector. Approximately 541 parking spaces would be provided in below-grade structures under buildings, plazas and open space or in screened above-grade parking garages at the base of high-rise buildings.

Impacts to Offsite Uses North of the NE Sector. The residential uses and the neighborhood commercial/services uses potentially provided in the lower levels of the

residential buildings would be compatible with the offsite residential and park uses to the north of E Fir Street.

Height, Bulk and Scale. Redevelopment under Alternative 1 in this area would represent an increase in building height, bulk and scale, as compared to existing conditions.

Residential development in the NE Sector could occur in high-rise buildings of up to 240 feet under the maximum zoning heights, but only one high-rise building with heights of 240 feet is proposed. Other residential development is assumed to be mid-rise buildings of 75 feet. Residential uses would be developed at a density of 221 units per acre.

Impacts to Offsite Uses North of the NE Sector. The high-rise residential structure that is proposed in the portion of the NE Sector south of E Fir Street would be considerably taller and of much greater bulk and scale than the adjacent 1 to 2 story single-family and multifamily residential uses. The considerable height differences between on- and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures (See also the height ,bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-41**.) It should be noted that these existing offsite uses are not built to the maximum height or density permitted under the existing zoning classification of MR which allows buildings of up to a height of 85 feet.

Buffers. Redevelopment in the NE Sector would be separated and buffered from offsite uses to the north by the intervening 66-foot E Fir Street right-of-way. Street trees planted along the E Fir Street right-of-way as part of redevelopment would also provide a pedestrian and motorist-level visual buffer between the on and offsite uses.

SE Sector

As described earlier in this section, land uses located immediately east of the SE Sector (generally east of Boren Avenue South/12th Avenue) include a restaurant, an elementary school, commercial and office uses. A deli is located in the southeastern corner of the block that includes the SE Sector. Land uses to the south of the SE Sector include retail and commercial uses.

Land Use. Under Alternative 1, the SE Sector would be redeveloped with 717,761 SF of new residential uses comprised of 785 residential units.

No office, hotel, neighborhood commercial or neighborhood services uses are assumed to be developed in the SE Sector under Alternative 1. Approximately 2.1 acres of parks and open space uses would be provided throughout the sector. Approximately 666 parking spaces would be provided in below-grade structures under buildings, plazas and open space or in screened above-grade parking garages at the base of high-rise buildings.

Impacts to Offsite Uses East and South of the SE Sector. The residential uses assumed in this sector would be compatible with the offsite school, commercial and office uses to the east and south of the SE Sector.

Height, Bulk and Scale. Redevelopment under Alternative 1 in the SE Sector would represent an increase in building height, bulk and scale, as compared to existing conditions.

Alternative 1 assumes residential development in the SE Sector could occur in high-rise buildings of up to 180 feet under maximum zoning heights, but only one high-rise building of 180 feet is proposed. The high-rise building is assumed to be located internal to the site near the intersection of E Yesler Way and 10th Avenue S, and would not be adjacent to offsite uses. Other residential development is proposed be mid-rise buildings 75 feet in height. Residential uses would be developed at a density of 176 units per acre.

Impacts to Offsite Uses East of the SE Sector. The mid-rise residential buildings proposed in the eastern portion of the SE Sector would be taller than the adjacent low-rise commercial and retail uses and Bailey-Gatzert Elementary School. While these residential structures would be taller than the adjacent buildings, they would be in scale with other development in the vicinity and separated by existing roadways.
There would also be a difference in height, bulk and scale of the proposed new onsite mid-rise residential development and the offsite 1-story deli use to the southeast. It should be noted that this existing adjacent use is not built to the maximum height or density permitted under the existing zoning classification of NC2-65 which allows buildings with a height of up to 65 feet. The considerable height differences between on- and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-44**.)

Impacts to Offsite Uses South of the SE Sector. The mid-rise residential buildings proposed in the southern portion of the SE Sector would be taller and of much greater bulk and scale than the adjacent low-rise commercial and retail uses. It should be noted that these existing offsite uses are not built to the maximum height or density permitted under the existing zoning classification of C1-65 and NC3-65 which allows buildings with a height of up to 65 feet. (The proposed DMR/C 65/65-85 (150) zoning for the area south of the site would permit residential buildings heights of up to 150 feet.) The considerable height differences in proposed onsite and existing offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. However, no significant impacts are anticipated between the proposed onsite midrise buildings proposed in the southern portion of this sector and the maximum zoning proposed offsite to the south. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-77**.)

Buffers. Except for the 1-story deli located at the corner of S Main Street and 12th Avenue S, onsite development would be separated from offsite development to the east by the Boren Avenue and 12th Avenue S right-of-ways and to the south by the 66 foot S Main Street right-of way. Street trees planted along the right-of-ways as part of redevelopment would also provide a pedestrian and motorist-level visual buffer between the on and offsite uses.

SW Sector

The SW Sector is bounded by offsite uses to the south, including retail and commercial uses.

Land Use. Under Alternative 1, the SW Sector would be redeveloped with 551,905 SF of new residential uses comprised of 611 residential units. Approximately 21,971 SF of neighborhood service uses (at the existing Yesler Community Center) would remain.

Approximately 6.6 acres of parks and open space uses would be provided throughout the sector, including the existing 1.4-acre Yesler Community Center parcel, the 1.7-acre Commons Park adjacent to the existing Yesler Community Center and the existing 1.4 acres of steep slopes and unusable area located in the southern portion of the SW Sector. Approximately 550 parking spaces would be provided in below-grade structures under buildings, plazas and open space or in screened above-grade parking garages.

Impacts to Offsite Uses South of the SW Sector. The residential uses and the neighborhood services uses potentially provided in the lower levels of the residential buildings would be compatible with the offsite residential and commercial uses to the south of the SW Sector.

Height, Bulk and Scale. Redevelopment under Alternative 1 in the SW Sector would represent an increase in building height, bulk and scale, as compared to existing conditions.

Residential density in the SW Sector would be 192 housing units per acre. Residential development in the SW Sector could occur in high-rise buildings of up to 180 feet under the maximum zoning heights, but only two high-rise buildings of up to 180 feet proposed. One high-rise building is proposed in this sector and would be located internal to the site near the intersection of E Yesler Way and 8th Avenue S and would not be adjacent to offsite uses. One high-rise building is proposed to the south of the SW Sector near the steep slope area.

Impacts to Offsite Uses South of the SW Sector. The high-rise residential proposed in the southern portion of the SW Sector would be taller and of much greater bulk and scale than the adjacent 7-story residential building and the commercial buildings south of the SW Sector. It should be noted that these existing offsite uses are not built to the maximum height or density permitted under the existing zoning classification of C1-65 which allows buildings with a height of up to 65. (The proposed DMR/C 65/65-85 (150) zoning for the area south of the site would permit residential buildings heights of up to 150 feet.) The considerable height differences in the proposed onsite and existing offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. However, no significant impacts are anticipated between the proposed onsite midrise buildings proposed in the southern portion of this sector and the maximum zoning proposed offsite to the south. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-51**.)

Buffers. The onsite residential uses would be separated and buffered from offsite residential and commercial uses to the south of the SW Sector by the steep slope and unusable open space area. Street trees planted along the S Main Street right-of-way as part of redevelopment would also provide a pedestrian and motorist-level visual buffer between the on and offsite uses.

East of Boren Sector

The East of Boren Sector is bounded by offsite uses to the north, east and south. As described earlier in this section, land uses located immediately north of the East of Boren Sector (north of E Fir Street) include single and multi-family residential uses and an auto repair shop. Land uses to the east include multi-family residential uses (within the East of Boren block) and commercial uses (across 12th Avenue). A restaurant is located to the south and the Bailey-Gatzert Elementary School is located to the southeast of the sector. Under Alternative 1 (and all of the redevelopment alternatives), development in the East of Boren Sector is assumed to occur consistent with the existing MR and NC3P-65 zoning.

Land Use. Under Alternative 1, the East of Boren Sector would be redeveloped with 242,751 SF of new residential uses comprised of 253 residential units. Approximately 10,000 SF of neighborhood commercial uses would be located in this sector. Approximately 0.7 acres of parks and open space uses would be provided throughout the sector. Approximately 237 parking spaces would be provided in below-grade structures under buildings, plazas and open space.

Impacts to Offsite Uses North, East and South of the East of Boren Sector. The residential uses and the neighborhood commercial uses potentially provided in the lower levels of the onsite residential buildings would be compatible with the offsite residential and commercial uses surrounding the sector and consistent with land uses currently permitted under the existing zoning designations.

Height, Bulk and Scale. Redevelopment under Alternative 1 in the East of Boren Sector would represent an increase in building height, bulk and scale, as compared to existing conditions.

Residential density in the East of Boren Sector would be 152 housing units per acre. Residential development in the East of Boren Sector could occur in mid-rise buildings of up to 75 feet in the west half and 65 feet in the east half of the sector under maximum zoning heights, but is proposed to be developed at 60 feet.

Impacts to Offsite Uses North of the East of Boren Sector. The mid-rise residential buildings proposed in this portion of the EOB Sector would be taller than the adjacent 2-story residential structures to the north. While these onsite residential structures would be taller than the adjacent uses, the development would be consistent with existing zoning regulations, would be in scale with development in the vicinity and separated by existing roadways. It should be noted that these existing offsite uses are not built to the maximum height or density permitted under the existing zoning classification of MR which allows buildings with a height of up to 85.

Impacts to Offsite Uses East of the East of Boren Sector. The mid-rise residential buildings proposed in this portion of the EOB Sector would be taller than the adjacent the 2-story residential buildings to the northeast and the 1-story commercial and retail buildings to the east. While these onsite residential structures would be taller than the adjacent uses, development would be consistent with existing zoning regulations, in scale with development in the vicinity and separated by existing roadways. It should be noted that these existing offsite uses are not built to the maximum height or density

permitted under the existing zoning classification of NC3-65 which allows buildings with a height of up to 65.

Impacts to Offsite Uses South of the East of Boren Sector. The mid-rise residential buildings proposed in this area would be taller than the adjacent low-rise commercial buildings to the south. While these onsite residential structures would be taller than the adjacent uses, they would be in scale with development in the vicinity and separated by existing roadways. It should be noted that these existing offsite uses are not built to the maximum height or density permitted under the existing zoning classification of NC3-65 and MR which allow buildings with a height of 65 and 85 feet, respectively.

Buffers. Except for the multifamily residential units located within the East of Boren Sector block, onsite development would be separated and buffered from offsite development by the E Fir Street, 12th Avenue S and E Yesler Way. Street trees planted along the surrounding rights-of-way as part of redevelopment would also provide a pedestrian and motorist-level visual buffer between the on and offsite uses.

Alternative 1A

Redevelopment of the Yesler Terrace site under Alternative 1A would occur as described under Alternative 1 except for differences in office, parking and park uses in the NW Sector; therefore, only the NW Sector is analyzed for this alternative. Under this alternative, approximately 400,000 SF of office uses would be provided in the NW Sector as compared to 800,000 SF under Alternative 1. The number of high-rise residential buildings provided under this alternative would be the same as Alternative 1; however, only 2 high rise office buildings would be provided under this alternative (as compared to 3 under Alternative 1). Alternative 1A includes 0.5 acres more open space than Alternative 1. Alternative 1A would provide 1,331 parking spaces as compared to 1,920 spaces provided under Alternative 1.

NW Sector

Land Use. Under Alternative 1A, the NW Sector would be redeveloped with 1.4 million SF of new uses including 702,038 SF of residential uses comprised of 763 units; 401,000 SF of office uses; 20,000 SF of Neighborhood Commercial Uses and 18,000 SF of Neighborhood Services. The Steam Plant building and the associated storage uses would remain under this alternative.
Approximately 38,000 SF of neighborhood commercial and neighborhood services uses would be provided in floors 1-3 of some mixed use buildings. Approximately 4.7 acres of parks and open space uses would be provided throughout the sector. Approximately 1,331 parking spaces would be provided in below-grade structures under buildings, plazas and open space or in screened above-grade parking garages at the base of high-rise buildings.

The reduction in office space under Alternative 1A would result in similar land use impacts as Alternative 1 but at a lower level of intensity including less vehicular traffic, lower activity levels and lower parking requirements due to fewer employees.

Impacts to Offsite Uses North of the NW Sector. Under Alternative 1A, it is assumed that single office uses (other than small offices in neighborhood commercial areas) or hotel uses would be located only in the NW Sector adjacent to other intense non-

residential uses, such as Harborview Hospital and other medical office uses to the northwest. Development of office uses on the site in the area adjacent to Alder Street would be anticipated to be similar to and compatible with the existing Harborview Hospital, office and other medical office uses to the north and northwest of the NW Sector. No hotel uses would be assumed under Alternative 1A.

Impacts to Offsite Uses East of the NW Sector. Residential uses and neighborhood commercial/services uses potentially provided in the lower levels of these buildings would be anticipated to be compatible with the offsite office and residential uses to the east of Broadway.

Height, Bulk and Scale. Redevelopment under Alternative 1A in the NW Sector would represent an increase in building height and building density when compared to existing conditions but would be less than Alternative 1 because office building heights would be lower.

Alternative 1A assumes office development could occur in high-rise buildings of up to 240 feet under the maximum zoning heights (the same as Alternative 1), but is proposed be developed at 100 feet - 125 feet in height as compared to 162 - 225 feet assumed under Alternative 1. The office/hotel development average floor-area ratio (FAR) is estimated at approximately 4.3 on individual parcels within this sector as compared to 7.5 under Alternative 1.

Residential development in the NW Sector could occur in high-rise buildings of up to 240 feet under the maximum zoning heights (the same as Alternative 1), but is proposed be developed as mid-rise buildings of 75 feet in height built at a density of 161 units per acre (the same as Alternative 1).

Impacts to Offsite Uses North of the NW Sector. Impacts would occur as described under Alternative 1. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-25, 20,** and **34**.)

Impacts to Offsite Uses East of the NW Sector. Impacts would occur as described under Alternative 1. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-37**.)

Buffers. Buffers would occur as described under Alternative 1.

Alternative 2

Alternative 2 represents the medium of the potential development range with an assumed approximately 4.75 million square feet of new building space at full buildout in 2030 including a mix of residential, office, neighborhood commercial and neighborhood services uses similar to Alternative 1. The type, character and pattern of land uses on the site would be similar to those described under Alternative 1.

Table 3.8-7 illustrates the assumed land uses and **Table 3.8-8** shows the assumed building uses under Alternative 2.

Alternative 2 assumes redevelopment of the Yesler Terrace site with a similar mix of uses to those described under Alternative 1; however, building densities and building

heights would all be higher under Alternative 2. Under Alternative 2, 3 high-rise office/hotel buildings would be provided in the NW Sector (the same as Alternative 1) and 7 residential high-rise buildings would be provided in the West of Boren Sectors (as compared to 4 under Alternatives 1). Approximately 4,000 residential units would be constructed on the site. Approximately 15.9 acres (including a 1.9-acre Commons Park) of parks and open space would be provided.

In addition, roadway improvements including a new street grid, and parks and open space would all be provided at higher levels when compared to Alternative 1. As a result, land use impacts from Alternative 2 would be similar in nature to those described under Alternative 1, but at a higher intensity.

Table 3.8-7
ALTERNATIVE 2 – ASSUMED LAND USES (SF)

Land Use	West of Boren Sectors	East of Boren Sector	Total	Percentage
Building Footprint	10.2	1.0	11.2	30.5%
Surface Parking	0.0	0.0	0.0	0.0%
Parks/Open Space	13.8[1]	0.7	14.5[1]	39.5%
Rights-of-Way	7.3	0.0	7.3	19.9%
Private Access Drives and Roads	2.3	0.0	2.3	6.3%
Yesler Community Center[2]	1.4		1.4	3.8%
Total Acreage	**34.8**	**1.8**	**36.6**	**100.0%**

Source: CollinsWoerman, 2010.

[1] Under Alternative 2, the steep slope and unusable open space areas in the SW Sector would be graded and redeveloped.

[2] Includes the Yesler Community Center parcel.

Table 3.8-8
ALTERNATIVE 2 – ASSUMED BUILDING USES (SF)

Land Use	West of Boren Sectors			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL Sectors 1-4**
Housing	0	1,985,062	1,416,400	**3,401,462**
Office/Hotel	0	0	1,001,126	**1,001,126**
Neighborhood Commercial	0	50,000[1]	0	**50,000**
Neighborhood Services	0	28,000[1]	0	**28,000**
Yesler Community Center	21,971			**21,971**
TOTAL	**21,971**	**2,063,062**	**2,417,526**	**4,502,559**
Land Use	**East of Boren Sectors**			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL East of Boren**
Housing	0	232,751	0	**232,751**
Office	0	0	0	**0**
Neighborhood Commercial	0	10,000	0	**10,000**
Neighborhood Services	0	0	0	**0**
Yesler Community Center				**0**
TOTAL	**0**	**242,751**	**0**	**242,751**
Land Use	**TOTAL SITE**			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL Site**
Housing	0	2,217,813	1,416,400	**3,634,213**
Office/Hotel	0	0	1,001,126	**1,001,126**
Neighborhood Commercial	0	60,000[1]	0	**60,000**
Neighborhood Services	0	28,000[1]	0	**28,000**
Yesler Community Center	21,971			**21,971**
TOTAL	**21,971**	**2,305,813**	**2,417,526**	**4,745,310**

Source: CollinsWoerman, 2010.
[1] Neighborhood Commercial and Neighborhood Services uses would occur at the base of mid-rise and high-rise buildings.

Conversion of Land Uses

Similar to Alternative 1, development of the site under Alternative 2 would result in the transition of the approximately 36.6-acre Yesler Terrace site from low-rise multifamily residential development to denser mixed use community with a broad range of residential, office, hotel, neighborhood commercial and neighborhood service uses and a variety of housing types.

To accommodate redevelopment under Alternative 2, all 69 of the existing residential buildings would be demolished and the existing tenants would be temporarily or permanently relocated and offered relocation assistance.

Under Alternative 2, it is assumed that all existing non-residential buildings would be demolished and the existing tenants would be temporarily or permanently displaced except the Yesler Community Center building and use that would remain. Permanent displacement could occur due to potential changes in SHA's rental policies/rates or other economic factors. It is also possible that some organizations or agencies could move

directly into redeveloped neighborhood commercial or office space, without having to leave the site.

As shown in **Table 3.8-7**, approximately 56.7 percent of the site would be developed with buildings, compared to approximately 39 percent under existing conditions. Approximately 43.3 percent of the site would be in parks and open space, as compared to 61 percent under existing conditions (the majority of existing open space is in the form of private yards). Under the Redevelopment Alternatives, additional private open space in the form of balconies and rooftops would be provided onsite, but cannot be quantified at this time. The remainder of the site would be roadways and private access drives/roads.

Changes in Density

Under Alternative 2, the density of development on the site would increase from existing conditions and would be greater than Alternative 1. The intensity of development under this alternative would be highest in the NW Sector and lowest in the East of Boren Sector. The average residential density across the site under this alternative would be approximately 227 dwelling units/acre as compared to 24 units/acre under existing conditions and 180 units/acre are proposed under Alternative 1. The average office FAR would be 7.6 on individual parcels under Alternative 2 as compared to 7.5 under Alternative 1 and 4.3 under Alternative 1A.

Changes in Activity Levels

Activity levels on the Yesler Terrace site and in the site vicinity would increase over existing conditions as a result of the estimated 6,815 residents (approximately 5,584 more than the existing population of 1,231) and 3,540 employees assumed under Alternative 2 (population and employment is discussed further in **Section 3.16**, Socioeconomics). Activity levels under Alternative 2 would be greater than Alternative 1 due to the greater number of residents and employees assumed under Alternative 2. The general nature of new site activity and the associated impacts would be similar to Alternative 1.

Relationship to Onsite Uses

Under Alternative 2, the Yesler Community Center would be the only remaining existing structure after redevelopment. This use would be compatible with the residential and parks/open space uses that are assumed to be located in the immediate vicinity. However, there could be considerable differences in height, bulk and scale between the existing Yesler Community Center and the new assumed onsite development to the north, east and south (the existing structure is a 1-story building; the assumed residential buildings to the north, south and east could be up to 240 feet under the maximum zoning heights). Similar to Alternative 1, a 1.9-acre Commons Park area would be developed west of the Yesler Community Center and the facilities would jointly serve as a parks and open space resource to the residents and employees of the site. The E Yesler Way, 10th Avenue S and S Washington Street right-of-ways and assumed parks and open space would serve as buffers between the existing and assumed uses onsite.

Relationship to Surrounding Uses

Similar to Alternative 1, the compatibility of the proposed onsite land uses with existing surrounding land uses under Alternative 2 would primarily be a function of the type of proposed and existing uses and the height/bulk/scale of these uses. The proximity of proposed uses to existing surrounding uses, and the existence of any buffers between these uses would also factor into the compatibility of the uses.

NW Sector

Land Use. The mix and type of land uses proposed in the NW Sector under Alternative 2 and their relationship to offsite land uses would be similar to those described under Alternative 1, but at a higher level of intensity. Under this Alternative, the Steam Plant building would be demolished and the associated uses would be displaced. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Redevelopment under Alternative 2 in the NW Sector would represent an increase in building height, building density and activity levels when compared to existing conditions and would be greater than Alternatives 1 and 1A. Alternative 2 assumes 3 high-rise office/hotel buildings (the same as Alternatives 1 and one more than 1A) and 2 residential high-rise buildings (none are assumed under Alternatives 1 and 1A) would be developed in this sector.

Alternative 2 assumes office and hotel development could occur in high-rise buildings of up to 240 feet under the maximum zoning heights (the same as Alternative 1 and 1A), but is proposed to be developed at 190-240 feet in height. The office/hotel development average floor-area ratio (FAR) is estimated at approximately 7.6 on individual parcels within this sector (as compared to 7.5 under Alternative 1 and 4.3 under Alternative 1A).

As described under Alternatives 1 and 1A, residential development in the NW Sector could occur in high-rise buildings of up to 240 feet under the maximum zoning heights, and two high-rises are proposed with heights up to 190 feet. Other residential uses are proposed to be developed as mid-rise buildings of 75 feet in height built at a density of 271 units per acre (as compared to 161 under Alternatives 1 and 1A).

Impacts to Offsite Uses North and East of the NW Sector. The impacts to offsite uses to the north and east of the NW Sector would be as described under Alternative 1 and 1A but at a higher level of intensity due to increased building heights. The considerable height differences in on and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. (See also the height ,bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figures 3.10-26, 31, and 34**.)

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

NE Sector

Land Use. The mix and type of land uses proposed in the NE Sector under Alternative 2 and their relationship to offsite land uses would be similar to those described under

Alternative 1 but at a higher level of intensity. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Maximum zoning heights under Alternative 2 in the NE Sector would be 240 feet but only one residential high-rise at 230 feet is proposed (as compared to 240 feet under Alternatives 1 and 1A). Other residential uses are proposed to be mid-rise buildings of 75 feet in height built at a density of 235 units per acre (as compared to 221 under Alternatives 1 and 1A).

Impacts to Offsite Uses North of the NE Sector. The impacts to offsite uses to the north of the NE Sector would be as described under Alternative 1 and 1A but at a higher level of intensity due to increased building density. The considerable height differences between on- and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-41**.)

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

SE Sector

Land Use. The mix and type of land uses proposed in the SE Sector under Alternative 2 and their relationship to offsite land uses would be similar to those described under Alternative 1 but at a higher level of intensity. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Redevelopment under Alternative 2 in the SE Sector would represent an increase in building height, building density and activity levels when compared to existing conditions and would be greater than Alternative 1.

Alternative 2 assumes residential development in the SE Sector could occur in high-rise buildings of up to 240 feet under maximum zoning heights (as compared to 180 feet under Alternatives 1 and 1A), and two high-rise buildings of 190-230 feet are proposed. Other residential development is proposed to be mid-rise buildings of 75 feet in height (the same as Alternatives 1 and 1A). Residential uses would be developed at a density of 242 units per acre (as compared to 176 units per acre under Alternatives 1 and 1A).

Impacts to Offsite Uses East and South of the SE Sector - The impacts to offsite uses to the east and south of the SE Sector would be as described under Alternative 1 and 1A but at a higher level of intensity due to increased building density. The considerable height differences in on and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figures 3.10-45 and 48**.)

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

SW Sector

Land Use. The mix and type of land uses proposed in the SW Sector under Alternative 2 and their relationship to offsite land uses would be similar to those described under Alternative 1 but at a higher level of intensity. Under this Alternative, the Steam Plant building would be demolished and the associated storage and maintenance uses would be displaced[4]. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Redevelopment under Alternative 2 in the SW Sector would represent an increase in building height, building density and activity levels when compared to existing conditions.

Alternative 2 assumes residential development in the SW Sector could occur in high-rise buildings of up to 240 feet under the maximum zoning heights (as compared to 180 feet under Alternatives 1 and 1A), and two high-rise buildings of up to 140 feet are proposed. Both 140-foot high-rise buildings are proposed to be located internal to the site would not be adjacent to offsite uses. Other residential development is proposed to be mid-rise buildings of 75 feet in height (the same as Alternatives 1 and 2). Residential uses would be developed at a density of 199 housing units per acre (as compared to 192 units under Alternatives 1 and 1A).

Impacts to Offsite Uses South of the SW Sector . The impacts to offsite uses to the south of the SW Sector would be as described under Alternative 1 but at a higher level of intensity due to increased building heights. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-52**.)

Buffers. Under Alternative 2, the steep slope and unusable open space area in the southern portion of the SW Sector would be graded and redeveloped. No roadway or steep slopes buffers would be located between the onsite residential uses and the offsite residential uses to the south of the SW Sector; no significant impacts from this lack of buffering would be anticipated due to the compatibility of the on and offsite uses and commercial nature of the building uses to the south.

East Of Boren Sector

Land Use. The mix and type of land uses proposed in the East of Boren Sector under Alternative 2 and their relationship to offsite land uses would be similar to those described under Alternative 1 but at a higher level of intensity. Proposed land uses would be assumed to be compatible with offsite uses and consistent with existing zoning regulations.

Residential density in the East of Boren Sector would be 154 housing units per acre (as compared to 152 units under Alternatives 1 and 1A). Residential development in the East of Boren Sector could occur in mid-rise buildings of up to 75 feet in the west half

[4] On October 6, 2010, the exterior of the Yesler Terrace Steam Plant was designated as a City Landmark. Please see Section 2.7.3, **Steam Plant Retention**, Section 3.11, **Historic Resources**, and **Appendix L** for additional information about potential mitigation requirements for demolition of the Steam Plant building.

and 65 feet in the east half of the sector under maximum zoning heights but is proposed to be developed at 60 feet (the same as Alternatives 1 and 1A).

Height, Bulk and Scale. Redevelopment under Alternative 2 in the East of Boren Sector would represent similar impacts to height, bulk and scale as described under Alternative 1.

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

Alternative 3

Alternative 3 represents the higher end of the potential development range, with an assumed 5.8 million SF of new building space at full buildout, including a mix of residential, office, neighborhood commercial and neighborhood services uses similar to Alternative 1, 1A and 2. Under Alternative 3, 3 high-rise office buildings would be provided in the NW Sector (the same as Alternatives 1-2), 1 high-rise office/residential building would be provided in the SW Sector and 10 residential high-rise buildings would be provided in the West of Boren Sectors (as compared to 4 under Alternatives 1 and 1A and 7 under Alternative 2). Approximately 5,000 residential units would be constructed on the site. Approximately 16.1 acres of parks and open space would be provided.
Alternative 3 assumes redevelopment of the Yesler Terrace site with a similar mix of uses to those described under Alternatives 1-2; however, building densities and building heights would all be higher under Alternative 3 (see also Section 3.10, **Aesthetics/Light and Glare/Shadows**). In addition, roadway improvements, parks and open space would all be provided at higher levels when compared to Alternatives 1-2. As a result, land use impacts from Alternative 3 would be similar in nature to those described under Alternatives 1-2, but at a higher intensity.

Table 3.8-9 illustrates the assumed land uses and **Table 3.8-10** shows the assumed building uses under Alternative 3.

Table 3.8-9
ALTERNATIVE 3 – ASSUMED LAND USES (SF)

Land Use	West of Boren Sectors	East of Boren Sector	Total	Percentage
Building Footprint	10.0	1.0	11.0	30.1%
Surface Parking	0.0	0.0	0.0	
Parks/Open Space	14.0[1]	0.7	14.7[1]	40.0%
Rights-of-Way	7.3	0.0	7.3	20.0%
Private Access Drives and Roads	2.2	0.0	2.2	6.0%
Yesler Community Center[2]	1.4		1.4	3.8%
Total Acreage	**34.8**	**1.8**	**36.5**[3]	**100.3%**

Source: CollinsWoerman, 2010.

[1] Under Alternative 3, the steep slope and unusable open space areas in the SW Sector would be graded and redeveloped.

[2] Includes the Yesler Community Center parcel.

[3] Site acreage is assumed to be 36.6 acres under all alternatives. Differences in totals due to rounding.

Table 3.8-10
ALTERNATIVE 3 – ASSUMED BUILDING USES (SF)

Land Use	West of Boren Sectors			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL Sectors 1-4**
Housing	0	1,392,480	2,824,500	**4,216,980**
Office/Hotel	0	200000	1,001,660	**1,201,660**
Neighborhood Commercial	0	70,000[1]	0	**70,000**
Neighborhood Services	0	28,000[1]	0	**28,000**
Yesler Community Center	21,971			**21,971**
TOTAL	**21,971**	**1,690,480**	**3,826,160**	**5,538,611**
Land Use	**East of Boren Sector**			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL East of Boren**
Housing	0	279,720	0	**279,720**
Office	0	0	0	**0**
Neighborhood Commercial	0	18,000	0	**18,000**
Neighborhood Services	0	0	0	**0**
Yesler Community Center				**0**
TOTAL	**0**	**297,720**	**0**	**297,720**
Land Use	**TOTAL SITE**			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL Site**
Housing	0	1,672,200	2,824,500	**4,496,700**
Office/Hotel	0	200,000	1,001,660	**1,201,660**
Neighborhood Commercial	0	88,000[1]	0	**88,000**
Neighborhood Services	0	28,000[1]	0	**28,000**
Yesler Community Center	21971			**21,971**
TOTAL	**21,971**	**1,988,200**	**3,826,160**	**5,836,331**

Source: CollinsWoerman, 2010.

[1] Neighborhood Commercial and Neighborhood Services uses would occur at the base of mid-rise and high-rise buildings.

Conversion of Land Uses

Similar to Alternatives 1-2, development of the site under Alternative 3 would result in the transition of the approximately 36.6-acre Yesler Terrace site from low-rise multifamily residential development to a denser mixed use community with a broad range of residential, office, hotel, neighborhood commercial and neighborhood service uses and a variety of housing types.

To accommodate redevelopment under Alternatives 3, all 69 of the existing residential buildings would be demolished and the existing tenants would be temporarily or permanently relocated and offered relocation assistance. Under Alternative 3, it is assumed that all existing buildings would be demolished except the Yesler Community Center and existing non-residential tenants would be temporarily or permanently displaced. Permanent displacement could occur due to potential changes in SHA's rental policies/rates or other economic factors. It is also possible that some organizations or agencies could move directly into redeveloped neighborhood commercial or office space, without having to leave the site.

As shown in **Table 3.8-9**, approximately 55.9 percent of the site would be developed with buildings, compared to approximately 39 percent under existing conditions. Approximately 44.1 percent of the site would be in parks and open space (additional private open space would be provided onsite in the form of balconies and rooftops but has not been quantified), as compared to 61 percent under existing conditions (the majority of existing open space is in the form of private yards). Under the Redevelopment Alternatives, additional private open space in the form of balconies and rooftops would be provided onsite, but cannot be quantified at this time. . The remainder of the site would be roadways and private access drives/roads.

Changes in Density

Under Alternative 3, the density of development on the site would increase from existing conditions and would be greater than Alternatives 1-2. The intensity of development under this alternative would be highest in the NW Sector and lowest in the East of Boren Sector. The average residential density over the site under this alternative would be approximately 292 dwelling units/acre as compared to 180 units under Alternatives 1/1A, and 227 units under Alternative 2. The average office FAR would be 6.7 on individual parcels under Alternative 3 as compared to 7.5 under Alternative 1, 4.3 Under Alternative 1A and 7.6 under Alternative 2. . Due to the low office FAR assumed for the office uses in the SW Sector under this Alternative, the average FAR for Alternative 3 is less than under Alternative 2, even though more office space is assumed under Alternative 3.

Changes in Activity Levels

Activity levels on the Yesler Terrace site and in the site vicinity would increase over existing conditions as a result of the approximately 8,315 residents (approximately 7,084 more than under the existing population of 1,231) and 4,256 employees assumed under Alternative 3 (population and employment is discussed further in Section 3.15, **Socioeconomics**). Activity levels under Alternative 3 would be greater than Alternatives 1-2 due to the greater number of residents and employees assumed under Alternative 3. The general nature of new site activity would be similar to Alternatives 1-2.

Relationship to Onsite Uses

Similar to Alternative 2, the Yesler Community Center would be the only existing structure or use to remain on the site after redevelopment. The relationship of this existing use to new uses assumed under Alternative 3 would be similar to Alternative 2, except that high-rise buildings could reach up to 300 feet in height under maximum zoning heights. No high-rise buildings are assumed directly adjacent to the Yesler Community Center under this Alternative.

Relationship to Surrounding Uses

Similar to Alternatives 1-2, the relationship of the proposed onsite land uses with existing surrounding land uses would primarily be a function of the type of proposed and existing uses and the height/bulk/scale of these uses. The proximity of proposed uses to existing surrounding uses, and the existence of any buffers between these uses would also factor into the compatibility of the uses.

In general, the Yesler Terrace site is geographically separated from adjacent land uses along the western boundary by I-5, and is bordered by varied land uses to the north, east and south. Because the character of the surrounding land uses varies widely, the relationship of development to surrounding land uses under Alternative 3 is described for each of the onsite sectors.

NW Sector

Land Use. The mix and type of land uses proposed in the NW Sector under Alternative 3 and their relationship to offsite land uses would be similar to those described under Alternative 1 and 2 but at a higher level of intensity. Under this Alternative, the Steam Plant building would be demolished and the associated uses would be displaced. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Redevelopment under Alternative 3 in the NW Sector would represent an increase in building height, building density and activity levels when compared to existing conditions and would be greater than Alternatives 1-2. Alternative 3 assumes 3 high-rise office/hotel buildings (the same as Alternatives 1-2) and 3 residential high-rise buildings (none are assumed under Alternatives 1 and 1A and 2 are assumed under Alternative 2) would be developed in this sector.

Alternative 3 assumes office and hotel development could occur in high-rise buildings of up to 240 feet under the maximum building heights (the same as Alternatives 1-2), but are proposed to be developed at 190 to 240 feet in height (as compared to 165-225 feet under Alternative 1, 100-125 feet under Alternative 1A and 190-240 under Alternative 2). The office/hotel development floor-area ratio (FAR) is estimated at approximately 7.6 on individual parcels within this sector (as compared to 7.5 under Alternative 1, 4.3 under Alternative 2 and 7.6 under Alternative 2).

Residential development in the NW Sector could occur in high-rise buildings of up to 300 feet under maximum zoning heights (compared to 240 feet under Alternatives 1-2), and 3 high-rise buildings are proposed at heights of up to 280 feet. Other residential uses are proposed to be developed as mid-rise buildings of 75 feet in height (the same as Alternatives 1-2).

Impacts to Offsite Uses North and East of the NW Sector. The impacts to offsite uses to north and east of the NW Sector would be as described under Alternative 1-2 but at a higher level of intensity due to increased building heights. The considerable height differences in on and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. (See also the height ,bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figures 3.10-27, 32, 35 and 39**.)

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

NE Sector

Land Use. The mix and type of land uses proposed in the NE Sector under Alternative 3 and their relationship to offsite land uses would be similar to those described under

Alternative 1, but at a higher level of intensity. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Maximum zoning heights under Alternative 3 in the NE Sector would be 300 feet (greater than the 240 feet assumed under Alternatives 1-2) and building heights are proposed to be 280 feet (greater than the 240 feet assumed under Alternatives 1 -2). Alternative 3 represents similar impacts to height, bulk and scale as described under Alternative 1-2 but at a higher level of intensity due to increased building heights.

Residential development in the NE Sector could occur in high-rise buildings of up to 300 feet under the maximum zoning heights and two high-rise buildings of up to 280 feet are proposed. Other residential development is proposed to be developed in mid-rise buildings of 75 feet (the same as Alternatives 1-2). Residential uses would be developed at a density of 340 units per acre (as compared to 221 units under Alternative 1 and 1A and 235 units under Alternative 2).

Impacts to Offsite Uses North and East of the NE Sector. The impacts to offsite uses to the north and east of the NE Sector would be as described under Alternative 1 but at a higher level of intensity due to increased building heights. The considerable height differences in on and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-42**.)

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

SE Sector

Land Use. The mix and type of land uses proposed in the SE Sector under Alternative 3 and their relationship to offsite land uses would be similar to those described under Alternative 1 but at a higher level of intensity. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Redevelopment under Alternative 3 in the SE Sector would represent an increase in building height, building density and activity levels when compared to existing conditions.

Residential development in the SE Sector under Alternative 3 could occur in high-rise buildings of up to 240 feet under the maximum zoning heights and three high-rise buildings of up to 220 feet are proposed. Other residential development is proposed to be mid-rise buildings of 75 feet in height (the same as Alternatives 1-2). Residential building density in the SE Sector would be 304 housing units per acre (as compared to 176 units under Alternatives 1 and 1A and 242 units under Alternative 2).

Impacts to Offsite Uses East and South of the SE Sector - The impacts to offsite uses to the east and south of the SE Sector would be as described under Alternative 1 but at a higher level of intensity due to increased building heights. The considerable height differences in on and offsite uses could be perceived as significant impacts without implementation of appropriate mitigation measures. (See also the height,bulk and scale

discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-45 and 49**.)

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

SW Sector

Land Use. The mix and type of land uses proposed in the SW Sector under Alternative 3 and their relationship to offsite land uses would be similar to those described under Alternative 1 but with the addition of office uses in the northwest portion of the sector adjacent to I-5 and at a higher level of intensity. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Redevelopment under Alternative 3 in this area would represent an increase in building height, building density and activity levels when compared to existing conditions.

Alternative 3 assumes office and hotel development could occur in high-rise buildings of up to 240 feet but is proposed to be developed at 220 feet. Under Alternative 3, the office/hotel building in the SW Sector is assumed to be half office and half residential. The office/hotel development floor-area ratio (FAR) is estimated at approximately 4.4 on individual parcels within this sector.

Residential development in the SW Sector could occur in high-rise buildings of up to 240 feet under the maximum zoning heights (as compared to 180 feet under Alternatives 1 and 1A and 240 feet under Alternative 2) and two high-rise buildings of up to 220 feet are proposed. Other residential development is proposed to be mid-rise buildings of 75 feet in height (the same as Alternatives 1-2). Residential building density in the SW Sector would be 234 housing units per acre (as compared to 192 units under Alternatives 1 and 1A and 199 units under Alternative 2).

Impacts to Offsite Uses South of the SW Sector - The impacts to offsite uses to the south the SW Sector would be as described under Alternative 1 but at a higher level of intensity due to increased building heights. (See also the height, bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figure 3.10-53**.)

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 2.

East Of Boren Sector

Land Use. The mix and type of land uses proposed in the East of Boren Sector under Alternative 3 and their relationship to offsite land uses would be similar to those described under Alternative 1 but at a higher level of intensity. Proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Redevelopment under Alternative 3 in this area would represent an increase in building height, building density and activity levels when compared to existing conditions.

Residential development in the East of Boren Sector could occur in mid-rise buildings of up to 75 feet in the west half and 65 feet in the east half of the sector under the maximum zoning heights and is proposed to be developed to the maximum heights. Residential building density in the East of Boren Sector would be 188 housing units per acre (as compared to 152 units under Alternatives 1, 1A and 2).

Impacts to Offsite Uses North, East and South of the East of Boren Sector. The impacts to offsite uses to the north, east and south of the East of Boren Sector would be as described under Alternative 1.

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

Alternative 4

Alternative 4 represents development on the Yesler Terrace site under the existing Low-rise 3 (as modified to include draft changes as of May 2009), MR and NC3P-65 zoning with an assumed 1.2 million SF of building space at full buildout, including a mix of new residential and neighborhood services uses, new neighborhood commercial uses in the East of Boren sector, and existing office uses in the Jesse Epstein building. Approximately 1,219 residential units would be constructed on the site. Development of 14.6 acres of new parks and open space areas would also be provided.

The type, character and pattern of land uses on the site would continue as a low-rise multifamily residential development but at a higher intensity than under existing conditions. **Table 3.8-11** shows the assumed land uses and **Table 3.8-12** shows the assumed building uses under Alternative 4.

Table 3.8-11
ALTERNATIVE 4 – ASSUMED LAND USES (SF)

Land Use	West of Boren Sectors	East of Boren Sector	Total	Percentage
Building Footprint	8.7	1.0	9.8	26.8%
Surface Parking	3.2	0.0	3.2	8.7%
Parks/Open Space	12.4[1]	0.7	13.1[1]	35.8%
Rights-of-Way	7.8	0.0	7.8	21.3%
Private Access Drives and Roads	1.3	0.0	1.3	3.6%
Yesler Community Center[2]	1.4		1.4	3.8%
Total Acreage	**34.8**	**1.8**	**36.6**	**100.0%**

Source: CollinsWoerman, 2010.
[1] Includes approximately 1.4 acres of steep slope area and unusable open space due to inaccessibility.
[2] Includes the Yesler Community Center parcel.

Table 3.8-12
ALTERNATIVE 4 – ASSUMED BUILDING USES (SF)

Land Use	West of Boren Sectors			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL Sectors 1-4**
Housing	0	1,143,535	0	**1,143,535**
Office	20,259	0	0	**20,259**
Neighborhood Commercial	0	0	0	**0**
Neighborhood Services	0	27,967[1]	0	**27,967**
Yesler Community Center	21,971			**21,971**
TOTAL	**42,230**	**1,171,502**	**0**	**1,213,732**
Land Use	**East of Boren Sector**			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL East of Boren**
Housing	0	272,145	0	**272,145**
Office	0	0	0	**0**
Neighborhood Commercial	0	10,000	0	**10,000**
Neighborhood Services	0	0	0	**0**
Yesler Community Center				**0**
TOTAL	**0**	**282,145**	**0**	**282,145**
Land Use	**TOTAL SITE**			
	Low-Rise	Mid-Rise	High-Rise	**TOTAL Site**
Housing	0	1,415,680	0	**1,415,680**
Office	20,259	0	0	**20,259**
Neighborhood Commercial	0	10,000[1]	0	**10,000**
Neighborhood Services	0	27,967[1]	0	**27,967**
Yesler Community Center	21,971			**21,971**
TOTAL	**42,230**	**1,453,647**	**0**	**1,495,877**

Source: CollinsWoerman, 2010.
[1] Neighborhood Commercial and Neighborhood Services uses would occur at the base of mid-rise buildings.

Approximately 1.4 million SF of residential uses comprised of 1,523 units would be developed in single-use buildings and would be located in all sectors of the site. Office uses would be limited to the existing Jesse Epstein building in the NW Sector. Neighborhood commercial uses would only be provided in the East of Boren Sector. Consistent with existing zoning, no new single use office, hotel use nor expansion of neighborhood services would be assumed under this alternative. It is assumed that parking under Alternative 4 would be provided in a combination of surface parking and parking garages at or below grade under buildings.

Conversion of Land Uses

Under Alternative 4, the existing multifamily residential uses would be redeveloped in low-rise residential uses similar to existing conditions.

To accommodate redevelopment under Alternatives 4, all 69 of the existing residential buildings would be demolished and the tenants relocated. Under Alternative 4, it is

assumed that the existing Yesler Community Center, Jesse Epstein building and the Steam Plant and their associated uses would remain.

As shown in **Table 3.8-11**, approximately 60.4 percent of the site would be developed with buildings, compared to approximately 39 percent under existing conditions. Approximately 39.6 percent of the site would be in parks and open space, as compared to 61 percent under existing conditions.

Changes in Density

Under Alternative 4, the density of development on the site would increase from existing conditions. The intensity of development under this alternative would be highest in the East of Boren Sector and lowest in the SW Sector. The average residential density over the site under this alternative would be approximately 74 dwelling units/acre as compared to 24 units/acre under existing conditions. The average office FAR would be the same as under existing conditions (2.0).

Changes in Activity Levels

Activity levels on the Yesler Terrace site and in the site vicinity would increase over existing conditions as a result of the approximately 2,795 residents and 160 employees assumed under Alternative 4 (population and employment is discussed further in Section 3.15, **Socioeconomics**). Compared to the existing activity levels on the site (which are primarily limited to residential activity and activity associated with the existing Yesler Community Center), the activity levels on the site would increase due to the denser nature of housing redevelopment and increased resident population, but would be less than under Alternatives 1-3. Increased activity levels associated with new site development along the site perimeter have the greatest potential to impact adjacent land uses.

Relationship to Onsite Uses

Under Alternative 4, the Yesler Community Center, Steam Plant and Jesse Epstein building would remain after redevelopment. These uses would be compatible with the residential and parks/open space uses that are assumed to be located in the immediate vicinity.

Under this alternative, the existing buildings would be surrounded by 37-42 foot residential buildings, similar to existing conditions. A 1.7-acre Commons Park area would be developed west of the Yesler Community Center and the facilities would jointly serve as a parks and open space resource to the entire community.

Relationship to Surrounding Uses

The relationship of the proposed onsite land uses with existing surrounding land uses would primarily be a function of the type of proposed and existing uses and the height/bulk/scale of these uses. The proximity of proposed uses to existing surrounding uses, and the existence of any buffers between these uses would also factor into the compatibility of the uses.

In general, the Yesler Terrace site is geographically isolated from adjacent land uses along the western boundary by I-5, and is bordered by varied land uses to the north, east and south.

Land Use. Under Alternative 4, the four West of Boren Sectors would be developed with 1.2 million SF of multifamily residential uses consistent with the L3 zoning regulations and current uses located on the site.
The East of Boren Sector would be redeveloped with 272,000 SF of residential uses and 10,000 SF of neighborhood commercial uses consistent with the existing zoning regulations and current and previous uses located on the site. Similar to existing conditions, proposed land uses would be assumed to be compatible with offsite uses.

Height, Bulk and Scale. Redevelopment under Alternative 4 would represent an increase in building height, building density and activity levels on the site when compared to existing conditions.

Alternative 4 assumes residential buildings would be developed at 37 feet in height within the four West of Boren Sectors (an additional 5 feet in height could be permitted for sloped roofs) as compared to the 20-30 foot buildings currently located on the site. Residential buildings are proposed to be developed at a height of 65 feet in the east half of the East of Boren Sector and 75 feet in the west half. While the proposed residential structures would be taller than the adjacent uses, they would be developed consistent with existing zoning and at a similar scale to development in the vicinity. (See also the height ,bulk and scale discussion in Section 3.10, **Aesthetics/Light and Glare/Shadows** and **Figures 3.10-28, 33, 36, 40, 43, 46, 50 and 54**.)

Buffers. Buffers between onsite and offsite uses in this sector would be as described under Alternative 1.

No Action Alternative

Under the No Action Alternative, the site would continue in its present condition and no redevelopment is assumed. Buildings and infrastructure would be repaired and/or replaced, in the same location and configuration, as necessary. The existing onsite residential, office and neighborhood service uses could be displaced temporarily or permanently as buildings are repaired or replaced as necessary; impacts regarding displacement would be similar to those described for Alternatives 1-4 but would occur at a lower level of intensity over a longer period of time. No change in land use patterns onsite would occur. As stated under Land Use Trends in **Section 3.8.1**, intensification of development is anticipated to occur in the areas surrounding the site, especially the First Hill neighborhood to the north. If the site is not redeveloped, over time the level of development on the site could be out of scale with development in the surrounding area and the site would remain an underutilized area in close proximity to the urban core.

Indirect/Cumulative Impacts

The mix of uses assumed for the Yesler Terrace site under Alternatives 1- 3 would be intended to provide a wide range of housing, employment and services to support site residents and employees; this could lessen the pressure for new offsite residential, office, neighborhood commercial and neighborhood services development. However, to

the extent that area property owners perceive an opportunity for redevelopment based, in part, on new residents and employees associated with Yesler Terrace, some new commercial development in the area could be indirectly generated, including in areas such as Little Saigon. The proposed single-use office buildings assumed under Alternatives 1-3 could absorb some anticipated City-wide office use growth from areas previously designated for these uses. Also, the increase in intensity of development on the site under Alternatives 1-3 could result in requested zoning changes in the areas adjacent to the site which the City would need to evaluate in terms of consistency with rezone criteria, land use goals and regulations. Any development in the area generated indirectly by Yesler Terrace redevelopment would likely occur incrementally over time and would be assumed to be consistent with City land use goals and regulations; therefore, significant indirect land use impacts would not be anticipated.

As discussed in detail in Section 3.16, **Socioeconomics**, redevelopment of Yesler Terrace could potentially result in changes to adjacent and nearby areas in the form of displacement of businesses, low income individuals, and/or the services that support them due to increased property values and/or rents. While such indirect and cumulative impacts are possible, their occurrence would also be dependent on other conditions such as favorable economic conditions, local plans and zoning, political support and other broad development trends that are already in progress.

Little Saigon was identified in the *Livable South Downtown Planning Study* (2009) as an area that would experience incremental growth and development over time. Pending City-initiated zoning decisions allow for such growth and development while striving to retain small and medium-size retail and businesses uses in the area between Main Street and Weller Street, adjacent to the site. [5] This growth and change would occur with or without redevelopment of Yesler Terrace. The area was also identified as being deficient in parks and open space areas. The Plan encourages connectivity between the Yesler Terrace development and Little Saigon to provide access to onsite public open spaces including the Yesler Community Center (See Section 2.8.2, **Circulation**, and Section 3.13, **Transportation**, regarding pedestrian connectivity).

Land uses assumed with mixed use redevelopment of the Yesler Terrace site, along with future development in the area (including the redevelopment of the King County Youth Detention Facility, the First Hill Streetcar project, and the Seattle University Major Institution Master Plan program), would contribute to cumulative employment/population growth and intensification of land uses in this portion of the City. To the extent that such development is consistent with the City Comprehensive Plan and zoning regulations, future intensification of land use would help achieve local goals for directing growth toward urban centers/villages.

3.8.3 Mitigation Measures

Ultimately, the design guidelines, development standards and the Planned Action Ordinance for this proposal would guide redevelopment of the Yesler Terrace site over the long-term. These plans, regulations and standards, along with individual project review by the City, would serve as mitigation to preclude any potential significant land

[5] Economic studies conducted for the City-initiated zoning changes in South Downtown note that small businesses in this area are at risk of displacement due to a number of economic factors beyond zoning changes.

use impacts from future redevelopment and ensure compatibility among site uses and uses in the site vicinity.

The following possible mitigation measures would further address potential land use compatibility issues, particularly related to compatibility with adjacent uses and among uses within the site itself.

Required/Proposed Mitigation Measures

SHA's decision on which development plan to implement will likely include SHA-imposed design standards to help mitigate land use, and height, bulk and scale impacts.
As part of the Project Actions, design guidelines will be prepared by SHA and the City, and future development would be reviewed for conformance with those design guidelines.

The new zone designation for the site will establish zoning standards to mitigate land use, and height, bulk, and scale impacts.

Under all alternatives it is assumed that a portion of the ground level, extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses..

Other Possible Mitigation Measures

Features that could be incorporated into the plans under Alternatives 1-3 that would address the relationship of proposed uses on the site to surrounding uses include provision of:

- Land uses that are compatible with and complement uses within the site and in the surrounding area in terms of land use type and height/bulk/scale, such as developing single-use high-rise office or hotel buildings only in the areas of the site adjacent to existing offsite high-rise office/medical use buildings,.
- A mix of uses that creates opportunity for the establishment of a live-work-play environment for existing and new tenants.
- Public parks and open space area that can serve as a resource to Yesler Terrace residents and employees.
- Provision of landscaping and street trees around the site perimeter in order to provide a buffer between onsite redevelopment and existing offsite adjacent uses.

Implementation of specific mitigation measures to ensure that new land uses are compatible with onsite existing retained uses and offsite uses such as street level setbacks, upper level setbacks and landscape design guidelines. See Section 3.10, **Aesthetics/Light and Glare/Shadows**, for a complete list of specific mitigation measures, as well as Appendix Q, **Urban Design Approaches**, for guidance for specific design guidelines. See Section 2.8.4, **Building Heights**, for criteria for spacing of high-rise buildings.

Additional mitigation measures related to air quality, noise, views, transportation and public services would be provided to lessen the potential for impacts from redevelopment of the site (see Section 3.2, **Air Quality**, Section 3.6, **Noise**, Section 3.10, **Aesthetics/Light and Glare/Shadows**, Section 3.12, **Transportation** and Section 3.13**, Public Services** for details).

3.8.4 Significant Unavoidable Adverse Impacts

Significant adverse land use impacts would not be anticipated under Alternatives 1-4 as the proposed land uses are compatible with existing offsite uses.
No significant unavoidable adverse height, bulk or scale related impacts would be anticipated with implementation of appropriate mitigation measures, including those listed above.

Redevelopment is assumed to occur consistent with the above mitigation measures, adopted standards, guidelines, and regulations for Yesler Terrace, including a Planned Action Ordinance.

3.9 RELATIONSHIP TO PLANS AND POLICIES

This section evaluates the consistency of the Proposal, including the *Proposed Actions,* with adopted land use plans, policies and development regulations that are in effect at the time of publication of this Draft EIS. Key plans, policies and regulations that are summarized and evaluated include:

Federal Plans, Polices and Regulations

- *U.S. Department of Transportation, Federal Aviation Administration*
- *HUD Environmental Regulations*
- *Clean Air Act*
- *Clean Water Act*
- *Endangered Species Act*
- *Migratory Bird Treaty Act*
- *Executive Order 13112, Invasive Species*
- *National Historic Preservation Act*
- *Coastal Zone Management Act*

State and Regional Plans, Polices and Regulations

- *Washington Coastal Zone Management Program*
- *State Growth Management Act*
- *Puget Sound Regional Council Vision 2040*
- *King County Countywide Planning Policies*

Local Plans, Polices and Regulations

- *City of Seattle Comprehensive Plan*
- *Livable South Downtown Planning Study*
- *City of Seattle Consolidated Plan for Housing and Community Development, 2009-2012*
- *Harborview Medical Center Major Institution Master Plan*
- *City of Seattle Land Use Code*
- *City of Seattle Urban Forest Management Plan*
- *City of Seattle Street Vacation Policies*

Federal Plans, Policies and Regulations

U.S. Department of Transportation, Federal Aviation Administration

As depicted by **Figure 3.9-1**, the Yesler Terrace site is located adjacent to Harborview Medical Center, the region's Level 1 Trauma Center. Harborview maintains a heliport with three helipads for medical emergencies that is located atop the parking structure in the southwest portion of the Harborview campus, which is directly to the north of the Yesler Terrace site. While the heliport is primarily served by commercial aircraft, military aircraft occasionally access the heliport.

Summary: *FAA regulates use of the airspace associated with non-military airports and heliports. Projects that exceed a height of 200 feet above ground level (redevelopment on the Yesler Terrace site could reach a maximum of 300 feet) are required to submit documentation to the FAA for an aeronautical study (14 CFR 77.13). The nearest public use airport is Boeing Field, which is over four miles south of the Yesler Terrace site. The nearest heliport, however, is that associated with Harborview Medical Center, which is adjacent to the Yesler Terrace site. There are two major factors that FAA considers as part of the aeronautical study – relationship of the proposed structure(s) to the adopted flight path of the heliport and relationship of the proposed structure(s) to the prescribed glide path.*

Discussion: In 2007, FAA adopted a helicopter flight path from Elliott Bay through downtown Seattle towards Harborview, which outlines specific flight procedures.[1] In addition, Harborview maintains two approach and departure glide paths – west and south of the heliport. These glide paths are based on visual flight rules (the pilot operates under a see and avoid concept and provides his or her own obstacle/terrain clearance), rather than prescribed flight procedures.

A portion of the proposed Yesler Terrace redevelopment site would be located within the existing 500-foot wide southern approach for the heliport. AirMethods[2], the parent company that provides aviation services, pilots and mechanics to Airlift Northwest (the provider of air medical transport services to Harborview) was contacted by the EIS team to garner their input on the relationship of the southern glide path and the redevelopment of the Yesler Terrace site. Air Methods recommended a wider southern glide path (691 feet) that lined up with the westernmost building line of the new Harborview additions. The building layout for each redevelopment alternative has been developed so that the height of potential structures at the site would be outside this recommended wider southern glide path. A site map indicating the existing and recommended flight path and a cross-section south of the helipad are depicted in **Figure 3.9-1**.

Required documentation will be submitted to FAA for purposes of an aeronautical study in accordance with 14 CFR 77.13, in connection with a specific development proposal for buildings over 200 feet. See Section 3.18, **Wind Analysis**, for additional information regarding wind flow patterns in the immediate vicinity of the heliport.

U.S. Department of Housing and Urban Development

Summary: *The Department of Housing and Urban Development's (HUD) NEPA environmental review procedures for entities assuming HUD environmental review, decision-making, and action responsibilities under NEPA and related federal laws and authorities are contained in Title 24, Part 58 of the Code of Federal Regulations (CFR). These regulations provide instruction and guidance to recipients of HUD assistance and other responsible entities, for conducting an environmental review and for obtaining approval of a Request for Release of Funds. The City of Seattle Human Services Department is the responsible entity under 24 CFR 58 for environmental review, decision-making, and action responsibilities that would otherwise apply to HUD, under a delegation agreement between the City of Seattle and HUD.*

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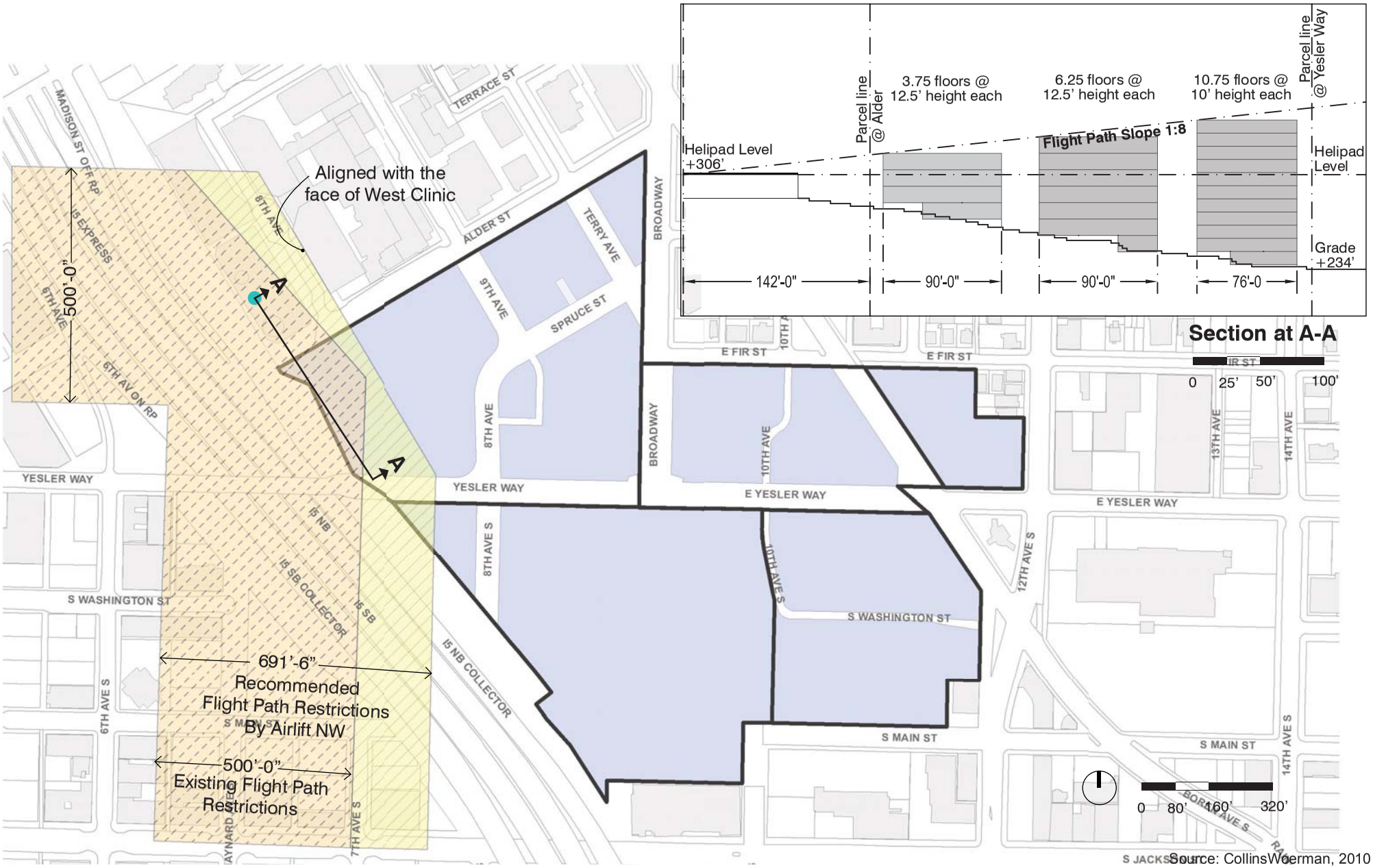
[1] E-mail correspondence with Frederick Mitchell, FAA Western Flight Procedures Office, September 2, 2010 (includes attachment of Copter RNAV (GPS) 097).

[2] Meeting with Steve Lodwig, Program Aviation Manager at Air Methods, March 4, 2010.



Source: CollinsWoerman, 2010

Figure 3.9-1
Existing and Recommended Helicopter Flight Path

Yesler Terrace
Redevelopment EIS

Discussion: This Draft EIS has been prepared consistent with HUD's environmental review procedures as outlined in Title 24, Part 58 of the CFR. See Chapter 2, for further information on the project's relationship to HUD.

***Summary**: HUD's basic regulation for responsible entities assuming HUD environmental review decision-making, and action responsibilities that implement the National Environmental Policy Act (NEPA), the regulations of the Council on Environmental Quality (CEQ) and other related Federal environmental laws and authorities are contained in Title 24, Part 58 of the Code of Federal Regulations (CFR).*

The responsible entity must certify that it has complied with the requirements that would apply to HUD under the following law and authorities, and must consider the criteria, standards, policies and regulations of the following laws and authorities:

(a) Historic properties.
- *(1) The National Historic Preservation Act of 1966.*
- *(2) Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 13, 1971 (3 CFR, 1971--1975 Comp., p. 559).*
- *(3) The Archaeological and Historic Preservation Act of 1974, which amends the Reservoir Salvage Act of 1960 (16 U.S.C. 469 et seq.).*
- *(4) Procedures for the Protection of Historic and Cultural Properties (Advisory Council on Historic Preservation--36 CFR part 800).*

(b) Floodplain, management and wetland protection.
- *(1) Flood Disaster Protection Act of 1973 (42 U.S.C. 4001-4128) and the National Flood* Insurance *Reform Act of 1994.*
- *(2) HUD Procedure for the Implementation of Executive Order 11988 (3 CFR, 1977 Comp., p. 117)--24 CFR part 55, Floodplain Management.*
- *(3) Executive Order 11990 (Protection of Wetlands), (3 CFR, 1977 Comp., p. 121).*

(c) Coastal areas protection and management.
- *(1) The Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 (16 U.S.C. 3501 et seq.).*
- *(2) The Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.), as amended.*

(d) Sole source aquifers. The Safe Drinking Water Act of 1974 (42 U.S.C. 201, 300 et seq., and b 21 U.S.C. 349), as amended. (See 40 CFR part 149.)

(e) Endangered species. The Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), as amended. (See 50 CFR part 402.)

(f) Wild and scenic rivers. The Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.), as amended.

(g) Air quality. The Clean Air Act (42 U.S.C. 7401 et seq.), as amended. (See 40 CFR parts 6, 51, and 93.)

(h) Farmlands protection. The Farmland Protection Policy Act of 1981 (7 U.S.C. 4201 et seq.), as amended. (See 7 CFR part 658.)

(j) HUD environmental standards. Applicable criteria and standards specified in HUD environmental regulations (24 CFR part 51) and HUD policy set forth in 24 CFR 58.5(i)(2).

(j) Environmental justice. Executive Order 12898--Federal Actions to Address Environmental Justice in Minority Populations and Low income Populations (3 CFR, 1994 Comp., p. 859).

Discussion: See below under National Historic Preservation Act and Section 3.11, **Historic Resources**, for a discussion of compliance with the Section 106 process. See Section 3.12, **Cultural Resources**, and **Appendix M**, Cultural Resources Technical Report, for a full description of compliance with federal laws and authorities listed above.

The project site is not within a floodplain and thus not subject to the flood-related federal laws, regulations and procedures listed above[3]. Two small potential wetlands have been identified near the southern boundary of the site. See the Section 3.4, **Plants and Animals**, and **Appendix G**, for additional information.

The project site is not within a Coastal Barrier area, and thus not subject to the Coastal Barrier Resources Act. King County is designated as part of the coastal zone and thus subject to the Coastal Zone Management Act (See below for information regarding CZM compliance). The project site does not impact a sole source aquifer and thus not subject to the Safe Drinking Water Act.

See below under the Endangered Species Act for compliance with this federal law. As discussed in Section 3.4, **Plants and Animals**, and **Appendix G**, no critical habitat, as defined by applicable City, State or Federal regulations, is located on or in the vicinity of the site.

The project site is not in proximity to a Wild and Scenic River and thus not subject to the Wild and Scenic Rivers Act. See below for compliance with the Federal Water Pollution Control Act. Stormwater is addressed in Section 3.3, **Water Resources**.

See Section 3.2, **Air Quality**, for additional information on the project's relationship to the Clean Air Act and local and state regulations.

The project site is currently zoned Multifamily Residential, Lowrise 3 (L3). Multifamily Residential Mid-Rise (MR) and Neighborhood Commercial (NC3P-65) and thus is not subject to the Farmland Protection Policy Act.

An evaluation of disproportionate impacts to minority and low-impact populations is addressed in Section 3.17, **Environmental Justice**.

Summary*: The Department of Housing and Urban Development (HUD) provides environmental standards for determining project acceptability and necessary measures to insure that activities assisted by HUD achieve the goal of a suitable living environment. The environmental criteria, encompassed in 24 CFR Part 51 include noise abatement and control and the siting of HUD-assisted projects near hazardous operations including explosives, flammables, runway clear zones at civil airports, and accident potential zones at military airfields. In addition, as set forth in 24 CFR 58.5(i)(2), it is HUD policy that all properties that are being proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property.*

Discussion: See **Table 3.7-2** in Section 3.7, **Noise** for a summary of HUD noise guideline levels and their corresponding noise zones for housing developments. As discussed in Section 3.7, **Noise**, and **Appendix J**, measurements and observations indicate receivers near the southern and western portions of the site are exposed to traffic noise from I-5 at levels generally considered unsuitable for residential use. Sound levels are slightly lower along the northern and eastern edges of the site, but are still above normally acceptable levels at many locations due to traffic on I-5, Boren Avenue, and E Yesler Way. Sound levels at locations in the interior portions

[3] FEMA Floodplain Map No. 53033C0630F, Panel 630, May 16, 1995

of the site are more typical of an urban residential environment with levels at 65 dBA Ldn or less, although traffic noise is audible throughout. Aircraft noise, specifically helicopters flying to and from Harborview Medical Center, also contributes to the noise environment at most locations. Overall, the noise site suitability analysis indicates that portions of the site would be deemed unacceptable under HUD noise criteria without implementation of noise mitigation, including extraordinary noise attenuation measures in an area within the SW Sector, due to the proximity of 1-5 and other major roadways to the site (see Section 3.7, **Noise**, for additional information).

The project site is not in proximity to hazardous operations including explosives, flammables, runway clear zones at civil airports, and accident potential zones at military airfields. See Section 3.6, **Environmental Health**, and **Appendix I**, for the results of the Phase 1 Environmental Site Assessment completed for the site.

Existing major roadways in the vicinity of the project site are causing elevated levels of both criteria air pollutants and toxic air pollutants onsite and in much larger areas nearby. See Section 3.2, **Air Quality**, for further information.

Clean Air Act

Summary: *The Clean Air Act is a federal law intended to protect public health and the environment from dangerous air pollution. The Act regulates air emissions from stationary and mobile sources and authorizes the EPA to establish National Ambient Air Quality Standards (NAAQSs). The EPA designates locations not meeting NAAQSs as a U.S. EPA Nonattainment Area, and prohibits federal assistance to projects that are not in conformance with the air quality State Implementation Plan to bring areas back into compliance with NAAQSs, or attainment Maintenance areas are attainment areas previously designated as nonattainment areas. New construction and conversion in "non-attainment" or "maintenance" areas as designated by the EPA may need to be modified or mitigation measures developed and implemented.*

Discussion: The EPA sets NAAQSs and designates non-attainment and maintenance areas, and issues permits for major and minor sources of air pollution. The Puget Sound Clean Air Agency (PSCAA) has jurisdiction over local air quality regulation working in partnership with the EPA and Washington State Department of Ecology. See Section 3.2, **Air Quality**, for additional information on the project's relationship to the Clean Air Act and local and state regulations.

Clean Water Act (Federal Water Pollution Control Act)

Summary: *The Clean Water Act (CWA) is a federal statute which protects surface water quality through a variety of tools to reduce direct pollutant discharges into waterways and manage polluted runoff. The CWA prohibits discharging pollutants from a point source (i.e. pipe, ditch etc.) into navigable waters unless an EPA National Pollutant Discharge Elimination System (NPDES) permit is obtained.*

Discussion*:* The Washington Department of Ecology has local jurisdiction over the Clean Water Act. See Section 3.3, **Water Resources**, for additional information on the project's relationship to local and state regulations regarding stormwater.

Endangered Species Act

Section 7 of the Endangered Species Act (ESA) is administered by the United States Fish and Wildlife Service (USFWS) and the National Oceanographic and Atmospheric Administration (NOAA). The ESA, as amended, applies to federal agency actions and sets forth requirements for consultation to determine if the proposed action "may affect" an endangered or threatened species and their critical habitat. If an agency determines that an action "may affect" a threatened or endangered species or critical habitat, then Section 7(a)(2) requires each agency, generally the lead agency, to consult with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) (the Services), as appropriate, to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of any federally listed endangered or threatened species, or result in the destruction or adverse modification of critical habitat. If a species has been proposed for federal listing as threatened or endangered, or a critical habitat has been proposed, Section 7(a)(4) states that each agency shall confer with the Services.

Discussion: As discussed in Section 3.4, **Plants and Animals**, and **Appendix G**, no critical habitat, as defined by applicable City, State or Federal regulations, is located on or in the vicinity of the site, and no species listed as threatened or endangered under the ESA is located on or in the vicinity of the site. The critical habitat closest to the site is Lake Union and Lake Washington, located more than 1.5 miles from the site, which provide habitat for bull trout and Puget Sound Chinook salmon. Stormwater from Yesler Terrace could affect water quality and critical habitat in nearby water bodies. However, as under existing conditions, stormwater from the Yesler Terrace Redevelopment alternatives would drain to the public stormwater system where it would be conveyed to the West Point Treatment facility for treatment prior to discharge to Puget Sound; therefore, no significant impacts to offsite critical habitat are anticipated. Under Alternatives 1-4 green stormwater infrastructure (GSI) would be used for flow and water quality treatment to the maximum extent feasible. By using GSI, the peak stormwater discharge to the combined sewer system under Alternatives 1 – 4 would actually decrease from current conditions.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits private parties (and federal agencies in certain judicial circuits) from intentionally taking a migratory bird, its eggs, or nests. "Take" is defined as "pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR §10.21). The MBTA prohibits taking, selling, or other activities that would harm migratory birds, its eggs or nests, unless the U.S. Secretary of the Interior, through the USFWS, authorizes such activities under a special permit. Part 724 FW 1-2 of the USFWS Service Manual (USFWS 2003) states that for migratory birds other than eagles and endangered or threatened species, a permit is not required to dislodge or destroy migratory bird nests that are not occupied by juveniles or eggs. However, any such destruction that results in take of any migratory bird is a violation of the MBTA (e.g., where juveniles still depend on the nest for survival).

Discussion: As discussed in Section 3.4, **Plants and Animals**, and **Appendix G**, during onsite reconnaissance performed for this Draft EIS analysis, potential nesting sites that would be protected under the MBTA were observed on buildings in the NW Sector. Prior to any redevelopment occurring in the NW Sector under any of the EIS alternatives, consultation with the USFWS would occur to ensure compliance with the requirements of the MBTA, and any necessary nest removal would occur outside of nesting season after birds have fledged.

Executive Order 13112, Invasive Species

Pursuant to Executive Order 13112, Invasive Species, enacted in February 3, 1999, federal agencies whose actions may affect the status of invasive species (alien species whose introduction does or is likely to cause economic or environmental harm to human health) are directed to use relevant programs and authorities, to the extent practicable and subject to available resources, to prevent the introduction of invasive species, and provide for restoration of native species and habitat conditions in ecosystems that have been invaded. Agencies are not to carry out actions that they believe are likely to cause or promote the introduction or spread of invasive species unless the benefits of such actions clearly outweigh the potential harm, and all feasible and prudent measures to minimize risk of harm should be taken in conjunction with the actions.

Discussion: During redevelopment activities assumed under Alternatives 1-4, native plants would be incorporated into landscaping and open space areas, when feasible. Invasive species, such as the Himalayan blackberry bushes covering the steep slope in the SW Sector, would be removed prior to redevelopment under Alternatives 2 and 3. The proposal is not expected to cause or promote the introduction or spread of invasive species.

National Historic Preservation Act

Summary*: The National Historic Preservation Act of 1966 (Section 106) requires federal agencies or federally assisted undertakings to take into account the effect of their undertakings on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places.* The *process includes consultation among the lead agency and other parties with an interest in the effects of the proposed project on historic properties. Agencies are also required to afford the Advisory Council on Historic Preservation "a reasonable opportunity to comment with regard to such undertaking."*

Discussion: The Yesler Terrace Redevelopment Project is considered a federal undertaking subject to compliance with Section 106 of the National Historic Preservation Act. HUD has delegated its responsibilities as the lead federal agency to the City of Seattle, Human Services Department (DHS). In turn, under a 2008 Memorandum of Agreement between HSD and SHA, SHA is responsible for consultation with the State Historic Preservation Officer (SHPO) under Section 106. The historic resource evaluation included in **Appendix L** was performed pursuant to Section 106 and Section 106 consultation with the State Historic Preservation Officer is underway regarding the potential historic status of individual buildings on the Yesler Terrace site. See Section 3.11, **Historic Resources**, for additional information.

State of Washington Plans, Policies, and Regulations

The Washington Coastal Zone Management Program

Summary*: Congress passed the Federal Coastal Zone Management Act in 1972 to encourage the appropriate development and protection of the nation's coastal and shoreline resources. The Coastal Zone Management Act gives states the primary role in managing these areas. To assume this role, the state must prepare a Coastal Zone Management Program (CZMP) document that describes the State's coastal resources and how these resources are managed. Washington was the first state to receive federal approval of a Coastal Zone Management*

Program in 1976. The Department of Ecology's Shorelands and Environmental Assistance Program is responsible for implementing Washington's Program.

Washington's Program defines the State's coastal zone to include the 15 counties with marine shorelines; they include: Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Wahkiakum, and Whatcom counties. Under Washington's Program, certain activities that affect any land use, water use or natural resource of the coastal zone must comply with the enforceable policies within the six laws identified in the Program document: the Washington State Shoreline Management Act (SMA), the State Environmental Policy Act [SEPA], the Clean Water Act, the Clean Air Act, the Energy Facility Site Evaluation Council [EFSEC], and the Ocean Resource Management Act [ORMA].

Discussion: The site is located outside the jurisdiction of the SMA; the proposed EIS alternatives would be consistent with applicable provisions of the Clean Water Act and the Clean Air Act, and the EFSEC and ORMA do not apply to this project. The Seattle Housing Authority will submit a CZM Certification application to the Washington State Department of Ecology, with supporting documentation in the form of this EIS. The Department of Ecology, in consultation with the Corps of Engineers, will make a determination of consistency with CZM. If the onsite wetlands are determined to be isolated, and not under the jurisdiction of the U.S. Army Corps of Engineers, then CZM Certification will not apply.

Growth Management Act

Summary: *The Growth Management Act (GMA) (RCW 36.70A), adopted in 1990 and subsequently amended, provides a comprehensive framework for managing growth and coordinating land use planning with the provision of infrastructure. The general goals of the GMA include, in part: directing growth to urban areas; reducing sprawl; encouraging economic development consistent with adopted comprehensive plans; protecting private property rights; providing efficient multi-modal transportation systems; encouraging a variety of housing types and densities affordable to all economic segments of the population; protecting the environment; and ensuring that public facilities and services necessary to support development meet locally established minimum standards at the time development is in place (RCW 36.70A.020).*

Jurisdictions subject to GMA must prepare and adopt: countywide planning policies; comprehensive plans containing policies with specific elements for land use, transportation, housing, capital facilities, utilities, rural lands, and economic development; and development regulations implementing those plans. The Growth Management Act requires that each city and county in Washington comprehensively review and revise its comprehensive plan and development regulations as necessary every seven years to ensure that they comply with the GMA.

Discussion: Consistent with the GMA, the City of Seattle has adopted a Comprehensive Plan to guide future development and fulfill the City's responsibilities under the GMA (latest major update in 2005; annual updates since then). Except for the No Action Alternative and Alternative 4, the Proposed Actions and Alternatives, as identified in **Chapter 2** of this Draft EIS, would encourage economic development and provide a variety of housing types and densities within the Urban Growth Boundary consistent with the GMA goals and policies outlined above. The relationship of the Proposed Actions and Alternatives to the City of Seattle Comprehensive Plan is discussed in greater detail below, under City of Seattle Comprehensive Plan.

Regional Plans, Policies and Regulations

Puget Sound Regional Council Vision 2040

Summary: *VISION 2040 (updated in 2008) is the long-range growth management, economic and transportation strategy for the central Puget Sound region encompassing King, Kitsap, Pierce and Snohomish counties. VISION 2040 provides a regional framework for achieving the goals of the Growth Management Act and meets the multi-county planning requirements of the Growth Management Act for King, Kitsap, Pierce and Snohomish counties. The vision is for diverse, economically and environmentally healthy communities framed by open space and connected by a high-quality, multimodal transportation system that provides effective mobility for people and goods. VISION 2040 calls for locating development in urban growth areas so services can be provided efficiently, and farmlands, forests and other natural resources are conserved.*

Discussion: Alternatives 1 - 3 are consistent with VISION 2040 in that it would redevelop the site into a mixed use, mixed-income community with increased density of development within an urban growth area. Alternative 4 would redevelop the site into a slightly denser, mixed-income housing community – but no new mixed use or employment generating uses would be added to the site, other than a small amount of neighborhood commercial uses in the East of Boren Sector. The No Action Alternative would essentially represent a continuation of the site in its present condition and could be considered inconsistent with VISION 2040. Under that alternative, the site would not be redeveloped into a higher density, mixed use mixed-income neighborhood, and would remain under-developed from the perspective of the site's proximity to Downtown Seattle and future mass transit opportunities (i.e. streetcar).

King County Countywide Planning Policies

Summary: *The King County Countywide Planning Policies (CPP) were developed and adopted by the King County Growth Management Planning Council in 1991 (and were last updated in October of 2008) consistent with Growth Management Act mandates to provide policies to guide development of jurisdictional comprehensive plans. The CPP include guidance on topics such as urban growth areas, affordable housing, open space, economic development, rural character, public facilities and services and a regional transit plan.*

Discussion: The City of Seattle Comprehensive Plan was developed and updated to be in compliance with the Growth Management Act and the King County Countywide Planning Policies. The Plan designates six urban centers which meet the Countywide Planning Policies' criteria for urban centers, including the potential for high levels of job and housing growth. The proposed project's consistency with the Seattle Comprehensive Plan is discussed below.

City of Seattle Comprehensive Plan (1994, as amended)

The City of Seattle's Comprehensive Plan – Toward a Sustainable Seattle, was adopted in 1994 to meet the requirements of the State Growth Management Act (GMA) and has been amended nearly every year. The plan contains the elements that are required by GMA, Multiple Urban Center concepts associated with the PSRC Vision 2040 Multi-County Planning Policies, King County's *Countywide Planning Policies* (King County, 1992), and Seattle's *Framework Policies* (Seattle 1992).

GMA requires a review of the 20-year plan every 7 years with action taken to revise the plan, if necessary. The City completed its last revision in December 2004 and the next Comprehensive Plan update must be completed by 2011.[4] The 2004 update involved the City working with King County, other cities in the County, and the Growth Management Planning Council to establish new growth estimates. In addition, during the update process the City's Planning Commission and City departments analyzed the effectiveness of policies contained in the current plan, and an extensive community outreach/public participation effort occurred. Annual updates to the *Comprehensive Plan* also occur in order to provide the opportunity to amend the Plan to address changing conditions or to manage new issues. The following is an overview of applicable policies that are contained in the updated plan.

The City's updated *Comprehensive Plan* consists of eleven major elements – urban village, land use, transportation, housing, capital facilities, utilities, economic development, neighborhood, human development, cultural resources and environment. Each element contains goals and policies that are intended to "guide the development of the City in the context of regional growth management" for the next 20 years. While each element affects development on and adjacent to the project site, the *Urban Village, Land Use, Housing, Neighborhood Planning,* and *Environment Elements* are the most relevant.

The *Urban Village Element* includes the following major components:

- Urban Village Strategy;
- Distribution of Growth;
- Open Space Network; and
- Annexation.

The *Land Use Element* includes the following major components:

- Citywide Land Use Policies;
- Land Use Categories; and
- Location Specific Land Use Categories.

The *Housing Element* includes the following major components:

- Accommodating Growth and Maintaining Affordability;
- Encouraging Housing Diversity & Quality; and
- Providing Housing Affordable to Low Income Households.

The *Neighborhood Planning Element* includes the following major components:

- Introduction; and

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[4] The state legislature is considering legislation that would permit an extension of up to three years, of the 2011 deadline for the Seattle Comprehensive Plan update.

- Adopted Neighborhood Plans.

The *Environment Element* includes the following major components:

- Introduction;
- Relationship to Economic Development;
- Natural Systems Approach;
- Aquatic Areas;
- Climate Change;
- City Operations;
- Source Control; and
- Seattle's Trees.

The following goals and policies from the *Comprehensive Plan* are the most applicable to the proposed redevelopment of Yesler Terrace.

Urban Village Element

Urban Village Strategy

Goals

Goal UVG1 - Maintain and enhance Seattle's character as the city grows and changes. Seattle's character includes its built environment: large areas of detached single-family houses both inside and outside of urban villages, many thriving multi-family areas, mixed use commercial areas, industrial areas, major institutions, and a densely developed downtown with surrounding high-density neighborhoods. Seattle's character also includes its setting on Puget Sound, its lakes and mountain views, its hills and watercourses, and its many parks and open spaces.

Goal UVG2 – Respect Seattle's human scale, history, aesthetics, natural environment, and sense of community identity as the city changes.

Goal UVG4 – Promote densities, mixes of uses and transportation improvements that support walking, use of public transportation, and other transportation demand management (TDM) strategies, especially with urban centers and urban villages.

Goal UVG5 – Direct the greatest share of future development to centers and urban villages and reduce the potential for dispersed growth along arterials and in other areas not conducive to walking, transit use, and cohesive community development.

Goal UVG7 – Accommodate a range of employment activity to ensure employment opportunities are available for the city's diverse residential population, including maintaining healthy manufacturing and industrial areas.

Goal UVG9 – Use limited land resources more efficiently and pursue a development pattern that is more economically sound, by encouraging infill development on vacant and underutilized sites, particularly within urban villages.

Goal UVG13 – Promote physical environments of the highest quality, which emphasize the special identity of each of the city's neighborhoods, particularly within urban centers and villages.

Goal UVG15 – Encourage development of ground-related housing, which is attractive to many residents including families with children, including townhouses, duplexes, triplexes, ground-related apartments, small cottages, accessory units, and single-family homes.

Goal UVG16 – Provide parks and open space that are accessible to urban villages to enhance the livability of urban villages, to help shape the overall development pattern, and to enrich the character of each village.

Policies

Policy UV1 – Promote the growth of urban villages as compact mixed use neighborhoods in order to support walking and transit use, and to provide services and employment close to residences.

Policy UV2 – Promote conditions that support healthy neighborhoods throughout the city, including those conducive to helping mixed use urban village communities thrive, such as frequent transit service, vital business districts, a range of housing choices, a range of park and open space facilities, and investment and reinvestment in neighborhoods.

Policy UV3 – Consider the following characteristics appropriate to all urban village categories except Manufacturing and Industrial Centers:

1. *Clearly defined geographic boundaries that reflect existing development patterns, functional characteristics of the area, and recognized neighborhood boundaries.*
2. *Zoning sufficient to accommodate the residential and employment growth targets established for that village.*
3. *The ability to accommodate a range of employment or commercial activity compatible with the overall function, character, and intensity of development specified for the village.*
4. *Zoning that provides locations for commercial services convenient to residents and workers and, depending on the village designation, serving a citywide and regional clientele.*
5. *Zoning sufficient to allow a diversity of housing to accommodate a broad range of households.*
6. *Zoning regulations that restrict those public facilities that are incompatible with the type of environment intended in centers and villages.*
7. *Most future households accommodated in multi-family housing.*
8. *Additional opportunities for housing in existing single-family areas, to the extent provided through neighborhood planning, and within other constraints consistent with this Plan.*
9. *Public facilities and human services that reflect the role of each village category as the focus of housing and employment and as the service center for surrounding areas.*
10. *Parks, open spaces, street designs, and recreational facilities that enhance environmental quality, foster public health and attract residential and commercial development.*
11. *A place, amenity, or activity that serves as a community focus.*
12. *Neighborhood design guidelines for us in the City's design review process.*

Policy UV5 – Consider suitable for urban village designation areas where:

1. *Natural conditions, the existing development pattern, and current zoning are conducive to supporting denser, mixed use pedestrian environment where public amenities and services can be efficiently and effectively provided. In some instances, the urban village designation is intended to transform automobile-oriented environments into more cohesive, mixed use pedestrian environments, or within economically distressed communities to focus economic reinvestment to benefit the existing population.*
2. *Access to transportation facilities is good or can be improved.*
3. *Public and private facilities, services and amenities, such as parks, schools, commercial services, and other community services, are available, or can be provided over time.*
4. *Existing public infrastructure has capacity or potential to accommodate growth.*

Policy UV10 - Maintain and enhance retail commercial services throughout the city, especially in areas attractive to pedestrians and transit riders, to support concentrations of residential and employment activity, with special emphasis on serving urban villages.

Categories of Urban Villages – Urban Centers

Goals

Goal UVG17 – Guide public and private activities to achieve the function, character, amount of growth, intensity of activity, and scale of development of each urban village consistent with its urban village designation and adopted neighborhood plan.

Goal UVG18 – Designate as urban centers unique areas of concentrated employment and housing, with direct access to high-capacity transit, and a wide range of supportive land uses such as retail, recreation, public facilities, parks, and open space.

Goal UVG19 – Recognize areas that provide a regionally significant focus for housing and employment growth as urban centers. Enhance the unique character and collection of businesses and housing types of each center.

Policies

Policy UV16 – Designate the following locations as urban centers…

1. *Downtown Seattle*
2. *First Hill/Capitol Hill*
3. *Uptown Queen Anne*
4. *University Community*
5. *Northgate*
6. *South Lake Union*

Policy UV18 – Promote the balance of uses in each urban center or urban center village indicated by one of the following functional designations, assigned as follows:

1. *Primarily Residential - Capitol Hill*
3. *Mixed Residential and Employment - First Hill*

Distribution of Growth

Goals

Goal UVG30 - Encourage growth in locations within the city that support more compact and less land-consuming, high quality urban living;

Goal UVG31 - Concentrate a greater share of employment growth in locations convenient to the city's residential population to promote walking and transit use and reduce the length of work trips.

Goal UVG32 - Plan for urban centers to receive the most substantial share of Seattle's growth consistent with their role in shaping the regional growth pattern;

Goal UVG33 - Encourage growth in Seattle between 2004-2024, to be generally distributed across the City as follows:

1. In Urban Centers — *Residential Growth – 58 percent (27,450 households)*
Employment Growth – 73 percent (61,120 jobs)

Goal UVG35 - Achieve growth in urban centers that is consistent with the 20-year residential and employment growth targets contained in Urban Village Appendix A, below;

Table 3.9-1
2024 Household and Employment Growth Targets for First Hill/Capitol Hill Urban Center

First Hill/ Capitol Hill Center	Land Area (Acres)	Households (HH)				Employment (Jobs)			
		Existing (2004)	Existing Density (HH/ Acre)	Growth Target (HH Growth)	2024 Density (Est.)	Existing (2002)	Existing Density (Jobs/ Acre)	Growth Target (Job Growth)	2024 Density (Est.)
12th Ave.	160	1,450	9	700	13	4,040	25	700	30
Capitol Hill	397	12,250	31	1000	33	7,300	18	900	21
First Hill	228	6,020	26	1,200	32	22,020	97	2,000	105
Pike/Pine	131	2,800	21	600	26	4,580	35	1,000	43
Total	**916**	**22,520**	**25**	**3,500**	**28**	**37,940**	**41**	**4,600**	**46**

Source: City of Seattle Comprehensive Plan Appendix A.
****See Discussion below how the Redevelopment Alternatives contribute to these growth targets.***

Goal UVG36 - Achieve development within urban villages at a pace appropriate to current conditions in the area.

Open Space

Goals

Goal UVG38 - Provide safe and welcoming places for the people of Seattle to play, learn, contemplate, and build community. Provide healthy spaces for children and their families to play; for more passive activities such as strolling, sitting, viewing, picnicking, public gatherings, and enjoying the natural environment; and for active uses such as community gardening, competitive sports, and running;

Goal UVG40 - Encourage the urban village strategy through the provision of

1. *Amenities in more densely populated areas;*
2. *recreation opportunities for daytime populations in urban centers;*
3. *mitigation of the impacts of large scale development;*
4. *increased opportunities to walk regularly to open spaces by providing them close by;*
5. *Connections linking urban centers and villages, through a system of parks, boulevards, community gardens, urban trails, and natural areas;*
6. *A network of connections to the regional open space system;*
7. *Protected environmentally critical areas;*
8. *Enhanced tree canopy and understory throughout the city;*

Discussion: According to the *2009 City of Seattle Comprehensive Plan* and its *Future Land Use Map*, the Yesler Terrace site is located in the First Hill/Capitol Hill Urban Center. There are two Urban Center Villages located within that Urban Center: First Hill and Capitol Hill. Under UVG 18, the functional designation of the First Hill Urban Center Village is "mixed residential and employment." Uses that are to be established in the First Hill Urban Center Village should thus include mixed residential and employment uses. For comparison purposes, it is noted that the functional designation of the Capitol Hill Urban Center Village is "primarily residential."

Consistent with the goals and policies identified for Urban Centers, the redevelopment concept for the site (Alternatives 1-3) would increase residential density and would provide a mix of employment generating uses onsite in a compact, mixed use pattern. The range of potential employment uses, including office/hotel, neighborhood commercial and neighborhood services uses, would contribute to providing a broad spectrum of job types for the City's diverse residential population.[5] The Alternatives (1-3) would also concentrate employment growth in a location with direct access to the new First Hill Streetcar and in a location convenient to offsite residential populations in neighborhoods such as First Hill, Capitol Hill, Downtown and the Central Area.

Of the five redevelopment EIS Alternatives, Alternative 3 would provide the most jobs, the highest population density and the greatest number of housing units. Alternative 3 would also supply the highest number of low income housing units. Alternatives 1, 1A and 2 would also provide increased jobs, population density, housing units and low income housing, but at a lower level than Alternative 3. Alternative 4 would increase residential density to the extent allowed under Lowrise-3 (L3) zoning, which would be much less than what could occur under Alternatives 1-3 with a rezone of the site. See **Table 2-3** (in **Chapter 2**) for a comparison of

[5] No hotel uses would be provided under Alternative 1A.

housing units per acre under each alternative by sector. No new employment generating uses would be provided under Alternative 4 within the West of Boren Sectors.

Alternatives 1-3 would redevelop a site that is currently underutilized in terms of density, consistent with the goal to use limited land resources in Urban Centers more efficiently and would contribute towards meeting or exceeding established growth targets identified in the Comprehensive Plan for housing and employment for the 12th Avenue and First Hill Urban Villages. See **Tables 3.9-2 and 3.9-3** for a comparison of the redevelopment alternatives to the Comprehensive Plan growth targets.

Table 3.9-2
Redevelopment Alternatives Contribution to the 2024 Household Growth Targets

First Hill/ Capitol Hill Center	Households (HH) Growth						
	Growth Target (2024 HH Growth)	Alternative 1	Alternative 1A	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
12th Ave.	700	213	213	213	263	264	0
Capitol Hill	1,000	n/a	n/a	n/a	n/a	n/a	n/a
First Hill	1,200	2,226	2,226	3,226	4,176	699	0
Pike/Pine	600	n/a	n/a	n/a	n/a	n/a	n/a
Total	**22,520**	**2,439**	**2,439**	**3,439**	**4,439**	**963**	**0**

Table 3.9-3
Redevelopment Alternatives Contribution to the 2024 Employment Growth Targets

First Hill/ Capitol Hill Center	Employment (Jobs) Growth						
	Growth Target (2024 Job Growth)	Alternative 1	Alternative 1A	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
12th Ave.	700	8	8	8	22	8	0
Capitol Hill	900	n/a	n/a	n/a	n/a	n/a	n/a
First Hill	2,000	2,668	1,338	3,371	4,074	-9	0
Pike/Pine	1,000	n/a	n/a	n/a	n/a	n/a	n/a
Total	**4,600**	**2,676**	**1,346**	**3,379**	**4,096**	**-1**	**0**

In the East of Boren Sector, the Redevelopment Alternatives contribute approximately 15-18 percent of the 12th Avenue Urban Village household growth and a very small fraction of the 12th Avenue Urban Village employment growth target.

In the West of Boren Sectors, Alternative 4 contributes approximately 58 percent of the First Hill Urban Village household growth while Alternatives 1-3 exceed the household growth target by 185 percent (Alternatives 1 and 1A) to almost 350 percent (Alternative 3). While Alternative 1A

contributes approximately 69 percent of the job growth in the First Hill Urban Village, Alternatives 1-3 meet or exceed the job growth target, with Alternative 3 essentially doubling the growth target.

See Section 3.16, **Socioeconomics**, for additional information about the City's employment and household growth targets. Such infill redevelopment would consume less land than would lower density development (such as Alternative 4) and could be viewed as being more efficient from a land use perspective. As mentioned above, the highest density levels would be achieved under Alternatives 3, with lower levels under Alternatives 1, 1A and 2, respectively. Alternative 4 would also redevelop the site by replacing existing housing and adding market rate housing, and would increase residential density to the extent allowed under the existing L3 zoning, which would be much less than would occur under Alternatives 1-3.

The location of the site is conducive to walking and the use of mass transit. The new First Hill Streetcar would run through the site. Access to numerous bus routes is possible from many streets on and near the site. Yesler Terrace is also within walking distance of Downtown Seattle as well as both employment locations and commercial amenities in the First Hill and Central District Neighborhoods. See Section 3.13, **Transportation**, for additional information on mass transit.

Redevelopment of the site under Alternatives 1-3 would increase residential densities and employment to levels in accordance with the above Comprehensive Plan policies and goals. The onsite residential population in the West of Boren Sectors would increase from approximately 1,231 residents to:

- 7,773 residents under Alternative 3
- 6,362 residents under Alternative 2 and
- 4,779 residents under Alternatives 1 and 1A.

Employment would increase the most under Alternative 3 (to 4,216 jobs), and least under Alternative 1A (to 1,480 jobs).

The proposal would improve pedestrian circulation throughout the site by creating a system of pedestrian linkages to connect public open spaces, streets and key commercial nodes. Onsite intersection crossing improvements would be provided to aid safety and to enhance walkability and connectivity of the site sectors. Woonerf-type streets would be created to allow pedestrian activity along the entire street. (Woonerf, a Dutch word, describes a street where bikes and pedestrians have priority over cars and is used as a way to slow down traffic and enhance the streetscape.) Sidewalks would be improved or built to meet or exceed current City of Seattle design standards for required width, and curb ramps would meet Americans with Disabilities Act (ADA) requirements. All alternatives would improve pedestrian access to the International District/Little Saigon Neighborhood by creating a new pedestrian connection to S Main Street.

Yesler Terrace presently contains no commercial or retail development space: redevelopment under Alternatives 1-3 would introduce 30,000 to 70,000 SF of neighborhood commercial space in the West of Boren Sectors, consistent with the policy to enhance retail commercial services in areas attractive to pedestrians and transit riders.

Mixed use redevelopment, including residential and employment uses, would be integrated with parks and open spaces, allowing employment and residential populations to be located in proximity to outdoor amenities. The open space concept for the redevelopment would be based

on providing a variety of public, semi-private and private open space areas of various types and sizes in order to accommodate different uses and user populations. Areas of the site with steep topography would also be addressed in order to facilitate connections within the site and to adjacent neighborhoods. See Section 3.15, **Public Services**, for additional information about parks and recreation.

The No Action Alternative would essentially represent a continuation of the site in its present condition, including the East of Boren Sector. The existing low income public housing units would be repaired or replaced in the same location and configuration as necessary. No additional housing units would be added to the site. This alternative would not redevelop the site into a higher density, mixed use mixed-income neighborhood, nor would it create an environmentally sustainable community integrating uses, activities and incomes. Additionally, no employment opportunities or retail amenities would be created through this alternative.

Land Use Element

The City of Seattle *Future Land Use Map* designates the West of Boren Sectors as a Multi-Family Residential area. The East of Boren Sector is also primarily designated as a Multi-Family Residential area, with the east part of the Sector, along 12th Avenue, designated a Commercial/Mixed Use area. The following are goals and policies which have been identified for these areas.

Multi-Family Residential Areas

Goals

Goal LUG11 – Encourage the development and retention of a diversity of multi-family housing types to meet the diverse needs of Seattle's present and future populations.

Goal LUG12 – Promote a residential development pattern consistent with the urban village strategy, with increased availability of housing at densities that promote walking and transit use near employment concentrations, residential services and amenities.

Policies

Policy LU71 – Designate as multi-family residential areas, existing areas predominantly occupied by multi-family development, as well as areas where greater residential development is desired to increase housing opportunities and promote development intensities consistent with the urban village strategy.

Policy LU72 – Maintain a variety of multi-family zoning classifications to permit development at low, moderate, and high densities with a variety of scales and configurations appropriate to the specific conditions and development objectives of different areas within the city.

Policy LU77 – Establish multi-family residential uses as the predominant use in multi-family areas, to preserve the character of multi-family residential areas and preserve development opportunities for multi-family use.

Policy LU78 – Limit the number and type of non-residential uses permitted in multi-family residential areas to protect these areas from negative impacts of incompatible uses.

Policy LU79 – Providing zoning classifications that permit limited amounts of commercial use in what are otherwise residential zones in order to provide retail and service uses in close proximity to residents in the densest multi-family environment or to create transitions between commercial and multi-family areas.

Policy LU80 – Limit density to provide greater predictability about the allowed intensity of development…

Policy LU81 – Limit building heights to establish predictable maximum heights, maintain a consistent height limit throughout the building envelope, maintain scale relationships with adjacent buildings, and limit view blockage….

High Density Multi-family Areas

LG16 – Accommodate the greatest concentration of housing in desirable, pedestrian-oriented urban neighborhoods having convenient access to regional transit stations, where the mix of activity provides convenient access to a full range of residential services and amenities, and opportunities for people to live within walking distance of employment.

Mixed use Commercial Areas

Goals

Goal LUG17 – Create strong and successful commercial and mixed use areas that encourage business creation, expansion and vitality by allowing for a mix of business activities, while maintaining compatibility with the neighborhood-serving character of business districts, and the character of surrounding areas.

Goal LUG18 – Support the development and maintenance of areas with a wide range of characters and functions that provide for the employment, service, retail and housing needs of Seattle's existing and future population.

Goal LUG19 – Include housing as part of the mix of activities accommodated in commercial areas in order to provide additional opportunities for residents to live in neighborhoods where they can walk to services and employment.

Goal LUG20 – Encourage diverse uses that contribute to the city's total employment base and provide the goods and services needed by the city's residents and businesses to locate and remain in the city's commercial areas.

Policies

Policy LU104 – Consistent with the urban village strategy, prefer the development of compact concentrated commercial areas, or nodes, in which many businesses can be easily accessed by pedestrians.

Policy LU113 – Allow residential use in commercial areas to encourage housing in close proximity to shopping, services, and employment opportunities. Encourage residential uses in and near pedestrian-oriented commercial areas to provide housing close to employment and services.

Policy LU114 – Encourage residential development in mixed use buildings to ensure healthy business districts that provide essential goods, services, and employment to the residents of Seattle.

Discussion:

West of Boren

As mentioned above, the City of Seattle *Future Land Use Map* designates the West of Boren Sectors as a Multi-Family Residential area. In order to meet the Proposal's objectives, Alternatives 1-3 would introduce a mix of uses, building heights and densities within the West of Boren Sectors which are not consistent with the current land use designation depicted on the Future Land Use Map.

As part of the City's annual Comprehensive Plan Amendment cycle, in May 2010 the City's Department of Planning and Development proposed a Comprehensive Plan Amendment to establish Master Planned Community sites and policies. The intent was to establish a mechanism in the City's Comprehensive Plan to consider planning for large sites, such as Yesler Terrace, and also to designate Yesler Terrace as a Master Planned Community on the Future Land Use Map in the Plan. In July 2010, the City Council made a threshold decision to include the Master Planned Community amendment on the docket for further consideration. The City is conducting its own environmental review on the package of annual Comprehensive Plan Amendments, including the Master Planned Community amendment, separate from this Draft EIS. A City Council decision on whether to adopt this package of Amendments is anticipated to occur in March 2011. If this action is approved, it would resolve the inconsistency with the current land use designation for the site.

The redevelopment concept proposed under Alternative 4 would be consistent with the current Multi-family Residential land use designation. The site would continue to be devoted primarily to multi-family residential uses and no new office or neighborhood commercial development would be allowed.

The No Action Alternative would also be consistent with the current Multi-family Residential designation.

East of Boren Sector

The redevelopment concept proposed in the East of Boren Sector under Alternatives 1-4 would be consistent with the current Multi-family Residential and Mixed Use Commercial land use designations identified on the Future Land Use Map. Use of the site would shift from strictly multi-family residential uses to mixed uses, including housing and neighborhood commercial uses. Neighborhood commercial uses could include (but would not be limited to) offices, and small to medium retail uses such as a grocery store, dry cleaners, restaurant and bookstore. Such uses would be consistent with the neighborhood-serving character of the area, and would contribute to fulfilling employment, service and retail needs for surrounding populations, both on and offsite.

The No Action Alternative would also be consistent with the current Multi-family Residential designation. Under the No Action Alternative, there would continue to be undeveloped land in the east section of the Sector, which is designated Mixed Use Commercial.

Housing Element

The Housing Element contains goals for the percentage of housing units that will be affordable to lower income households and identifies incentives and other tools the City can use to achieve these goals.

Accommodating Growth & Maintaining Affordability

Goals

Goal HG1 – Accommodate 47,000 additional households over the 20 years covered by this Plan;

Policies

Policy H2 – Maintain sufficient zoned development capacity to accommodate Seattle's projected share of King County household growth over the next 20 years;

Policy H9 – Promote housing preservation, development and affordability in coordination with the Seattle Transit Plan, particularly in proximity to light rail stations and other transit hubs. Coordinate housing, land use, human services, urban design, infrastructure and environmental strategies to support pedestrian-friendly communities that are well-served by public transit;

Encouraging Housing Diversity & Quality

Goals

Goal HG4 – 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 HG5 – Promote households with children and attracting a greater share of the county's families with children;

Goal HG7 – Accommodate a variety of housing types that are attractive and affordable to potential home buyers;

Goal HG10 – Ensure that housing is safe and habitable;

Goal HG 11.5 – Ensure a range of housing opportunities affordable to those who work in Seattle;

Policies

Policy H10 – Reflect anticipated consumer preferences and housing demand of different sub-markets in the mix of housing types and densities permitted under the City's Land use Code. Encourage a range of housing types….which are needed to accommodate most of the growth over the 20-year life of this Plan;

Policy H11 – Strive to make the environment, amenities and housing attributes in urban villages attractive to all income groups, ages and household types;

Policy H14 – Strive to have each hub urban village and residential urban village include some ground-related housing capacity;

Policy H16 – Allow and encourage greater ethnic and economic integration of neighborhoods in the city in a manner that does not promote the displacement of existing low income residents from their communities…;

Policy H17 – Encourage SHA to seek federal, state and private resources to continue preserving, rehabilitating or redeveloping its properties in a manner that best serves the needs of Seattle's low income population, addresses social and economic impacts on surrounding neighborhoods, and results in no net loss of housing affordable to households earning up to 30 percent of area median income.

Policy H21 – Allow higher residential development densities in moderate density multi-family zones for housing limited to occupancy by low income elderly and disabled households, because of the lower traffic and parking impacts this type of housing generates.

Providing Housing Affordable to Low Income Households

Goals

Goal HG13 – Provide new low income housing through market rate housing production and assisted housing programs.

Goal HG14 – Preserve existing low income housing, particularly in urban centers and urban villages where most redevelopment pressure will occur.

Goal HG16 – Achieve a distribution of household incomes in urban centers and urban villages similar to the distribution of incomes found citywide.

Goal HG17 – Encourage safe, habitable and affordable housing for existing residents of distressed areas through such means as rehabilitation.

Discussion: The Proposal, including the proposed zoning changes under Alternatives 1-3 that would be necessary to accommodate mixed use redevelopment, would increase the City's zoned development capacity and would contribute to accommodating Seattle's share of King County's projected household growth.

Redevelopment of the site provides the opportunity to increase housing capacity to 5,000 units under Alternative 3, with lower levels of housing under Alternatives 1, 1A, 2 and 4. Consistent with the Housing Element goals and policies, these households would be affordable to a diversity of incomes, household types, and household sizes.

As described in Section 2.5.1 of **Chapter 2**, the purpose of the Yesler Terrace Redevelopment Proposal is to redevelop this community into a mixed-income, mixed use community that better serves existing and future residents. Consistent with Policy H17, no net loss of housing would occur, and all existing extremely low income housing units would be replaced onsite. New low income housing would be added to the site under Alternatives 1-3, over and above the one-for-one replacement of the existing extremely low income housing units. The new low income housing would be provided for a range of low income levels including very low income and low income. The new very low income housing would be affordable to households earning at or

below 50 percent of the AMI and could be developed by SHA or other non-profit providers. The new low income housing would be affordable to households earning at or below 80 percent the AMI. All levels of affordable housing would be provided on the site in conjunction with market rate housing production.

Alternatives 2 and 3 would provide the greatest increase in affordable housing with 335 new very low income units and 950 (Alternative 2) to 1,231 (Alternative 3) new low income units. Alternatives 1 and 1A would provide 239 new very low income units and 660 new low income units.

All the redevelopment alternatives (1-4) would also add market rate housing to the site, which would economically diversify the community over existing conditions, wherein the site is entirely occupied by extremely low income households. Market rate units would be developed as follows: 1,540 units under Alternatives 1 and 1A; 2,154 units under Alternative 2; 2,873 units under Alternative 3; and, 962 units under Alternative 4.

Under Alternatives 1-3, new affordable and market rate housing would be developed in proximity to the new First_Hill Streetcar line, which will traverse the site on Broadway and E Yesler Way. The redevelopment would be intended to support a pedestrian-friendly community, as described further below, and would have excellent connections to public transit. Under Alternative 4, new market rate housing would be developed onsite, but no additional affordable housing would be provided, beyond the replacement of existing extremely low income units.

Redevelopment would be intended to enhance and revitalize the quality and character of the site by replacing deteriorating housing and establishing a more pedestrian friendly community with intersection crossing improvements, woonerf-type streets, and curb ramps meeting Americans with Disabilities Act (ADA) requirements. A variety of open space types and sizes would be provided throughout the site in order to accommodate a mix of uses and user populations under Alternatives 1-4. Alternatives 2 and 3 would further improve access to and circulation within and beyond the site by comprehensively reconfiguring the circulation infrastructure across the site. This new configuration would enhance connections to surrounding neighborhoods and provide an internal circulation loop of secondary rights-of-way which would connect all of the site sectors without the need to travel on primary rights-of-way (Broadway, Yesler Way and Boren Avenue).

Some ground related housing capacity at the base of residential buildings would be included under all the redevelopment alternatives for ADA accessibility purposes, and to provide large households with direct access to yards or open space.

Alternatives 1 - 3 would develop a compact, mixed use community with job creating spaces such as: neighborhood commercial, office, hotel and neighborhood services. This range of uses would provide services, amenities and potential employment opportunities for residents of the site as well as the greater community. Alternative 3 would provide the greatest amount of neighborhood commercial space (88,000 SF) and office/hotel space (1.2 million SF), with lower levels under Alternatives 2 and 1, and the least amount under Alternative 1A (40,000 SF neighborhood commercial and 401,000 SF of office).[6]

[6] No hotel uses would be provided under Alternative 1A.

Alternative 4 would provide some neighborhood commercial space in the East of Boren Sector (10,000 SF), but the majority of the Yesler Terrace site would remain devoted to residential uses, similar to existing conditions.

As mentioned previously, the No Action Alternative would essentially represent a continuation of the site in its present condition. Existing onsite housing would be repaired or replaced in the same location and configuration as needed or on a programmed schedule by SHA. No additional housing units would be provided, and the opportunity to increase the amount of low income housing onsite and within the city as a whole would be lost, as would the opportunity to develop workforce housing adjacent to the Downtown Seattle core and other major employers and institutions.

Neighborhood Planning Element

The *Neighborhood Planning Element* details the role of neighborhood planning in the City's growth management efforts, and contains all of the City's adopted neighborhood plans. The West of Boren Sectors of the Yesler Terrace site are located within the First Hill Neighborhood while the East of Boren Sector is located within the 12th Avenue Urban Center Village within the Central Area Neighborhood. The Downtown Urban Center Plan is also discussed in this section because the Chinatown/International District Urban Village, which is part of the Downtown Urban Center, is located adjacent to and directly south of the Yesler Terrace site. Relevant goals and polices contained within these three neighborhood plans are detailed below.

First Hill Neighborhood Plan

The First Hill Neighborhood Plan area is generally bounded by E Union Street on the north, Broadway and Boren Avenue S on the east, S Main Street on the south and I-5 on the west. The First Hill Neighborhood Plan was adopted in 1999 and portions of the plan have been incorporated into the City's Comprehensive Plan. The following goals and policies from the First Hill Neighborhood Plan are the most applicable to proposed development on the Yesler Terrace project site.

Community Character

Goals

Goal FH-G1 – A community with a culturally and economically diverse residential population that is also a major employment center, home to many of the region's state of the art medical centers and related facilities.

Goal FH-G2 – An active, pedestrian-friendly Urban Center Village that integrates residential, commercial, and institutional uses, and maintains strong connections to surrounding neighborhoods and the Urban Center.

Policies

Policy FH-P3 – Seek opportunities to provide additional community facilities to serve the existing diverse population and the new residents and employees projected to move into the neighborhood within the next fifteen years.

Policy FH-P4 – Encourage the implementation of public safety measures to provide a safe environment for residents, employees, and patrons.

Policy FH-P5 – Encourage……public projects to work to preserve, maintain, and enhance the important qualities of the neighborhood plan, i.e. open space, housing, and pedestrian environment.

Economic Development

Goals

Goal FH-G3 – A thriving business district which serves the needs of residents, employees, and visitors to First Hill.

Policies

Policy FH-6 – Encourage … an increased variety of businesses in First Hill.

Housing

Goals

Goal FH-G4 – A neighborhood which provides a variety of housing opportunities that are compatible with other neighborhood goals, and maintains the economic mix of First Hill residents.

Policies

Policy FH-P7 – Encourage new housing development on underutilized sites.

Policy FH-P8 – Explore joint housing development opportunities with the private sector, major public institutions and other public agencies.

Policy FH-P9 – Encourage the retention and preservation of existing housing.

Policy FH-P10 – Support a neighborhood infrastructure of attractive amenities and public facilities that attracts the development of new housing and preserves existing housing.

Policy FH-P11 – Support the development of a strong commercial district that also serves the needs of the residential areas.

Public Safety

Goals

Goal FH-G5 – A safe community for residents, employees, visitors, and shoppers.

Policies

Policy FH-P12 – Encourage a 24-hour activity climate and increased street activity throughout the neighborhood as a crime deterrent by promoting eyes-on-the-street surveillance.

Policy FH-P13 – Support community-based organizations and encourage partnerships with law enforcement agencies to make the neighborhood more safe and secure.

Policy FH-P14 – Encourage the use of crime prevention through environmental design techniques for buildings, streets, and parks to minimize the ability for crime to take place.

Human Needs & Development

Goals

Goal FH-G6 – A neighborhood that recognizes and meets the diverse and distinctly different human service needs of a culturally and economically diverse population.

Policies

Policy FH-P15 – Promote community connections and cohesion by encouraging opportunities for people to come together, interact, support, and get to know each other and participate in a range of activities.

Policy FH-P16 – Seek to improve communication between people, organizations and communities dealing with human needs and development issues.

Parks, Open Space, and Community Facilities

Goals

Goal FH-G7 – A neighborhood with safe, accessible, and well-maintained parks, open space, and community facilities that meet the current and future needs of a growing community.

Policies

Policy FH-P19 – Seek new opportunities for the creation of useable and safe parks and open space.

Transportation

Goals

Goal FH-G8 – A neighborhood which provides for the safe and efficient local- and through-traffic circulation of automobiles, transit, bicycles, and pedestrians.

Discussion: The West of Boren Sectors are located within the First Hill Neighborhood and the First Hill Neighborhood's Urban Center Village, except for a small portion of the site, to the south of S Main Street, which is located within the Chinatown-International District (see **Figure 3.8-1** in Land Use) The City's proposed new Livable South Downtown zoning, however, does not apply to this portion of the Yesler Terrace site (see Executive Recommendations, Livable South Downtown Planning Study) and therefore, this portion of the site is assumed to be part of the First Hill Neighborhood for purposes of this EIS analysis.

Alternatives 1 - 3 would establish a mixed use, mixed-income residential community in First Hill integrating residential, neighborhood commercial, office/hotel, and neighborhood services uses.[7] These uses would contribute to further creating an active, pedestrian-friendly Urban Center Village, consistent with the goals and policies identified for the neighborhood.

Under Alternatives 1-3, approximately 30,000 to 70,000 SF of neighborhood commercial development, and 400,000 to 1.2 million SF of office/hotel space would be accommodated onsite.[8] This new development would allow for an increased variety of businesses and employment opportunities within the First Hill neighborhood, and would contribute to a more active street environment.

Usable open space for public use would be enhanced under all the redevelopment alternatives (1-4). A variety of open space types and sizes would be provided throughout the site in order to accommodate the mix of assumed uses and user populations. Public open space would be open to all members of the public and would include both active and passive recreational opportunities including community gardens, children's play areas, open lawns, tree groves and other uses. Each sector would contain a Sector Park, which would serve as a hub. A larger Commons park would also be established to serve as the community's central gathering place.

Although the existing Yesler Terrace housing would not be retained under Alternatives 1-4, housing would be enhanced by the replacement of deteriorating units, and all extremely low income housing units would be replaced onsite. An increased number of low income housing units would be built as part of the proposed redevelopment under Alternatives 1-3. As mentioned previously, Alternatives 2 and 3 would provide the greatest increase in affordable housing with 335 new very low income units and up to 950 (Alt. 2) to 1,231 (Alt. 3) new low income units. Alternatives 1 and 1A would provide up to 239 new very low income units and up to 660 new low income units.

Residential units would include a range of configurations (medium and high-rise structures in Alternatives 1-3, low-rise structures in Alternative 4) and unit sizes, and would add to the diversity of housing stock available in the City. Redevelopment of the Yesler Terrace site and the increased housing density would accommodate a portion of the housing growth projected for the City of Seattle over the next 20 years.

The redevelopment alternatives (1-4) would improve pedestrian facilities and connections throughout the site by providing amenities such as wider sidewalks, bike lanes, bike parking areas, streetscape improvements and curb bulbs. New internal pedestrian connections would be provided linking development with community nodes such as the community center and commercial areas. The redevelopment could improve public safety by increasing street activity throughout the site due to the increased residential population and additional office/hotel and neighborhood commercial development.

Safe and efficient local- and through-traffic circulation for automobiles could be accommodated by providing traffic calming devices such as traffic circles, speed humps, chicanes, and curb-bulbs, as well as internal woonerf-type streets, which help reduce traffic speeds, and locating internal driveway access points where they minimize conflicts with pedestrians. Alternatives 2 and 3 would further improve access to and circulation within and beyond the site by

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[7] No hotel uses would be developed under Alternative 1A.

[8] Ibid.

comprehensively reconfiguring the circulation infrastructure across the site. This new configuration would enhance connections to surrounding neighborhoods and provide an internal circulation loop of secondary rights-of-way which would connect all of the site sectors.

Under the No Action Alternative, the site would continue in its present condition and no redevelopment to a mixed-income, mixed use community is assumed. The existing onsite residential, office and neighborhood service uses would remain. No new internal pedestrian connections would be provided, no improved connections to surrounding areas would be provided, and public safety would not be improved with better lighting, incorporating crime prevention through environmental design (CPTED) planning principles or as a result of increasing activity throughout the site.

Central Area Neighborhood Plan/12th Ave. Urban Center Village

The Central Area Neighborhood Plan was adopted in 1998 and incorporated as part of the City's Comprehensive Plan. The Central Area Neighborhood contains three Urban Villages including the 12th Avenue Urban Center Village, the Madison-Miller Residential Urban Village, and the 23rd and S Jackson-Union Residential Urban Village. As mentioned previously, the East of Boren Sector is located within the 12th Avenue Urban Center Village, which is generally bounded by E Madison Street on the north, 14th and 15th Avenues on the east, Boren Avenue S on the south and Broadway on the west. The following goals and policies from the Central Area Neighborhood Plan are most applicable to proposed development on the East of Boren portion of the Yesler Terrace project site.

Goals

Goal CA-G2 – A Community where residents, workers, students and visitors alike can choose from a variety of comfortable and competitively convenient modes of transportation including walking, bicycling, and transit and where our reliance on cars for basic transportation needs is minimized or eliminated.

Goal CA-P24 - Create a viable business base that will attract investment, focusing on neighborhood retail, professional and personal services, restaurants, and entertainment. Support the urban design element of the Central Area Neighborhood Plan that strengthens development and enhances the pedestrian nature of each area.

Policies

Policy CA-P36 – Encourage increased housing density where appropriate, such as on 12th Ave. and on E Yesler Way, and in mid-rise zoned areas.

Discussion: As mentioned previously, the East of Boren Sector is located within the Central Area Neighborhood's 12th Avenue Urban Center Village.

Under Alternatives 1-4, the East of Boren Sector would be redeveloped according to the existing zoning (see the Land Use Code discussion below for more information). The redevelopment would establish a mixed use, mixed-income community with approximately 250 to 300 residential units and 10,000 (Alternatives 1, 1A, 2 and 4) to 18,000 SF (Alternative 3) of neighborhood commercial space. The new development would contribute to a thriving mixed

use residential and commercial area which is called for within this Urban Center Village and would improve on existing conditions.

The redevelopment would provide additional mixed use housing along both 12th Avenue and E Yesler Way, consistent with the policy to encourage increased housing density in these areas. Public open space in the form of a 0.1 acre sector park would be provided within the East of Boren Sector. This park would serve the daily needs of surrounding neighbors and onsite building residents and employees.

Under the No Action Alternative, the East of Boren Sector would continue to be used by the YWCA for its Fir Street Shelter. A mixed use, mixed-income community would not be established.

Downtown Urban Center – Chinatown/International District Urban Village Plan

The Downtown Urban Center Plan was adopted in 1999 and incorporated as part of the City's Comprehensive Plan. The Downtown Urban Center contains five Urban Villages including Belltown, Denny Triangle, Commercial Core, Pioneer Square, and Chinatown/International District. As mentioned previously, the Chinatown/International District Urban Village is located adjacent to and directly south of the Yesler Terrace site. The following goals and policies from the Chinatown/International District Downtown Urban Village Plan are most applicable to proposed development on the Yesler Terrace site.

Cultural & Economic Vitality

Goals

Goal ID-G1 – Thriving businesses, organizations, and cultural institutions.

Policies

Policy ID-P1 – Support marketing activities that promote neighborhood businesses, events and cultural opportunities.

Policy ID-P3 – Encourage new business development and location within the neighborhood.

Policy ID–P4 – Emphasize night-time activity to tap into a new market for business.

Policy ID-P5 – Support development of a multi-purpose community recreation center with space for community programs and associations.

Housing Diversity & Affordability

Goals

Goal ID-G2 – A neighborhood with diverse and affordable housing.

Policies

Policy ID-P7 – Seek to diversify housing stock to include more moderate income and family housing.

Policy ID-P8 – Seek additional affordable housing strategies to preserve existing low income units and households.

Policy ID-P9 – Explore resources and strategies for upgrading existing sub-standard and vacant buildings.

Safe & Dynamic Public Spaces

Goals

Goal ID-G3 – Create safe and dynamic public spaces.

Policies

Policy ID-P10 – Support specific programming to deliberately activate the parks, especially Kobe Park.

Policy ID-P11 – Look for ways to incorporate design elements for crime prevention throughout the neighborhood, especially in parks, parking facilities, and alleyways.

Policy ID-P12 – Increase pedestrian safety…

Policy ID-P13 – Build on partnerships which can work together to provide additional pedestrian amenities, such as pedestrian street lighting, street trees, street furniture, and informational kiosks that enhance the pedestrian environment.

Policy ID-P14 – Target Jackson Street, Dearborn Street, and 5th Avenue for pedestrian improvements.

Accessibility

Goals

Goal ID-G4 – An accessible neighborhood, with access within and to the neighborhood, for all transportation modes, while encouraging less dependence on cars and greater use of transit, bikes and walking.

Discussion: As mentioned previously, the Chinatown/International District Urban Village is located adjacent to and directly south of the Yesler Terrace site. Alternatives 1 through 3 would create a new pedestrian connection to the south of the site to S Main Street, which would improve pedestrian access to the Chinatown/International District Urban Village as well as key transit routes along S Jackson Street or at the International District and King Street Stations. Under Alternatives 1 and 1A, this new pedestrian connection would extend south along the 10th Avenue S right-of-way. Under Alternatives 2 and 3, this new pedestrian connection would align with Broadway and would curve east to meet S Main Street at 10th Avenue S. Stairs that

provide a more direct route for able-bodied pedestrians on this steep slope could also be considered. This pedestrian connection at S Main Street would allow for a future connection to Jackson Street as envisioned in the Livable South Downtown Plan (see below). The pedestrian connection would also improve access to the new streetcar stop for people traveling to and from the Chinatown/International District. See Section 3.13, **Transportation**, and **Figures 2-11** through **2-14** in **Chapter 2** for further information. All new pedestrian connections would be designed to maximize personal safety through proximity to proposed buildings and lighting.

Environment Element

The *Environment Element* provides general guidance to other elements of the Plan regarding how the City can be a steward of the natural environment, while accommodating more urban growth. Relevant goals and policies that apply are as follows:

Goals

Goal EG1 – Protect and improve the quality and function of the City's air, land, and water resources because of their relationship to human health, wildlife, and the region's natural heritage.

Policies

Policy E1 – Explore ways for City actions and decisions to have positive effects on the natural environment and human health, and to avoid or offset potential negative effects, including those caused by private projects permitted by the City;

Relationship to Economic Development

Goals

Goal EG2 – maintain a healthy natural environment as central to Seattle's economic development and as a competitive advantage in attracting and retaining family-wage jobs and workers.

Policies

Policy E3 – Promote the sustainable management of public and private open spaces and landscaping by preserving or planting native vegetation and removing invasive plants, engaging the community in long-term maintenance activities, and using integrated pest management;

Policy E4 – Strive to protect and retain certain trees and groups of trees that enhance Seattle's historical, cultural, environmental and aesthetics character;

Policy E7 – Control the impacts of noise, odor, and light, litter, graffiti, junk cars, trash and refuse in order to protect human health;

Natural Systems Approach

Goals

Goal EG3 – Use natural systems to maintain and enhance environmental quality by having them perform such functions as cleaning air and water, and controlling storm water runoff.

Policies

Policy E9 – Work to achieve a sustainable urban forest that contains a diverse mix of tree species and ages in order to use the forest's abilities to reduce storm water runoff and pollution, absorb air pollutants, provide wildlife habitat, absorb carbon dioxide, provide shade, stabilize soil, and increase property values;

Policy E10 – Strive to increase the amount of permeable surface and vegetative cover in the city in order to mitigate the heat island effect of developed areas, control storm water flows and reduce pollution;

Climate Change

Goals

Goal EG7 – To control the impact of climate change globally and locally, reduce emissions of carbon dioxide and other climate-changing greenhouse gases in Seattle by 30 percent from 1990 levels by 2024, and by 80 percent from 1990 levels by 2050.

Policies

Policy E15 – Work with private and public sector partners in seeking to achieve goal EG7 for reducing climate-changing greenhouse gas emissions from private and public sources to control the impacts of global warming on the City's water supply, electrical energy supply, ecosystems, public health, and economy. Work to establish a standard for greenhouse gas emissions for privately owned buildings.

Source Control

Policies

Policy E19 - Reduce consumption of resources and promote conservation of energy, water and material resources among all sectors of the community;

Seattle's Trees

Policies

Policy E21 – Strive to protect and retain certain trees and groups of trees that enhance Seattle's historical, cultural, environmental and aesthetic character.

Discussion: Creating an environmentally sustainable community is one of the objectives of the proposal (see **Chapter 2** for further information on objectives) and sustainable design is and will

be a guiding principle for Yesler Terrace (see **Appendix A** for a definition of sustainability as it pertains to Yesler Terrace). Sustainable design would be incorporated in the approach to design of the neighborhood as a whole, in the future design of the street and infrastructure systems, and in the future design of buildings. Sustainable design opportunities will be explored in the areas of: natural drainage and green roofs, tree protection, urban agriculture, native landscaping, district infrastructure systems for energy, water and waste, and building design. See **Chapter 2**, Section 2.8.2, and Section 3.3, **Water Resources**, for additional information.

The redevelopment would be designed to provide population densities and a mix of uses that would promote walking and increased transit use, thus reducing the need for automobile transportation and the occurrence of related air pollution.

The redevelopment concept would also contain a tree retention plan that would retain as many exceptional trees as feasible onsite, while replanting more trees after construction. Landscaping with native plants would be provided to reduce water demand and integrate with the local ecosystem. See Section 3.4, **Plants and Animals**, for additional information.

LIVABLE SOUTH DOWNTOWN PLANNING STUDY – Executive Recommendations – December 2009

In 2006, the Department of Planning and Development (DPD) initiated the Livable South Downtown Planning Study, a planning effort to focus on the neighborhoods of South Downtown. The South Downtown Study is a project of the "Center City Seattle" strategy, which focuses on encouraging economic growth, transportation, new housing and great urban neighborhoods in Seattle's downtown core and the nine centrally located neighborhoods immediately around it. The study was initiated to examine land use conditions in South Downtown and to propose amendments to encourage future investment in development sufficient to meet growth targets and consistent with neighborhood plan goals.

The South Downtown planning project examines growth and planning issues specific to the following neighborhoods:

- *Pioneer Square;*
- *Chinatown/International District (including the Little Saigon area east of Interstate 5);*
- *Areas around the stadiums; and,*
- *The northernmost edges of the Greater Duwamish Manufacturing and Industrial Center.*

The overall goal of the South Downtown project is to stimulate housing and related development consistent with the Center City Seattle Strategy for great urban neighborhoods. Specific goals for the project include:

- *Stimulate housing and jobs through zoning and land use decisions*
- *Respect neighborhood character and neighborhood plans*
- *Promote an integrated mix of uses*
- *Support quality connections between neighborhoods and the 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 for the project include:

- *Evaluate zoning opportunities and constraints, particularly in regard to achieving more housing and jobs*

- *Identify the desired character of areas currently lacking clear development direction*
- *Recommend and implement City land use actions to support an emerging residential/employment community*
- *Consider opportunities for sustainable practices in future development*
- *Recommend public and private investments that would contribute to a well-balanced community in South Downtown*

The South Downtown Draft Land Use Recommendations Report, completed in 2008, included extensive public process with a diversity of opinions expressed. The study identifies specific recommendations associated with the Yesler Terrace Project site, and the Little Saigon Neighborhood, which is adjacent to and directly south of the Yesler Terrace site, as follows:

- *Planning for connections to Yesler Terrace, including open space connections to Little Saigon*
- *Hill climb to Yesler Terrace Field and Yesler Community Center*

As a result of the Livable South Downtown Planning Study, an Ordinance has been drafted for the South Downtown neighborhood to (see DPD – South Downtown Zoning Proposal, March 16, 2010, Version 5) and is expected to be reviewed by the City Council in 2010. Accordingly, the zoning of the Little Saigon neighborhood to the south of the site will likely be revised to Downtown Mixed-use Residential/Commercial (DMR/C 65/65-85 (150). These zoning changes are intended to encourage residential and job growth development while allowing existing small businesses to adapt, retaining the existing neighborhood character and improving livability.

Discussion: The redevelopment of the site under Alternatives 1-3 would provide increased residential and employment density on the Yesler Terrace site. This increased population would be located in close proximity to South Downtown neighborhoods, and would be directly adjacent to Little Saigon to the south, and the Chinatown International District and Japantown to the west. The increased residential and employment population onsite could provide an increased customer base for businesses in these nearby neighborhoods. An increased residential population would also occur under Alternative 4, although not to the same extent as would occur with Alternatives 1-3.

Redevelopment of Yesler Terrace could contribute to broad changes in land use trends, or increased property values and rental rates. Such impacts were considered during the South Downtown planning process, and strategies to support the small business community are included in the recommended Land Use Code amendments for South Downtown. See Section 3.16, **Socioeconomics**, for additional information.

Improved circulation between Little Saigon and the Yesler Terrace site would also be accommodated by the site redevelopment under Alternatives 1-3. As mentioned previously these alternatives would create a new pedestrian connection to the south of the site to S Main Street, which would improve pedestrian access to the Little Saigon Neighborhood. This new pedestrian connection would link to Yesler Terrace's new internal pedestrian circulation system, which would link to key community nodes such as the Yesler Community Center, the Commons Park, commercial areas and the First Hill streetcar stop on E Yesler Way. Thus, these alternatives for Yesler Terrace are consistent with the Livable South Downtown objectives.

City of Seattle Consolidated Plan for Housing and Community Development, 2009-2012

Summary: *The Consolidated Plan for Housing and Community Development is a four year plan, updated annually, which outlines Seattle's housing and community development needs, and provides strategies for meeting identified needs. The Plan also provides policy guidance for implementing City programs funded by four U.S. Department of Housing and Urban Development (HUD) grants.*

The three primary HUD goals outlined in the 2009-2012 Plan are:

1. *Promote suitable living environments;*
2. *Support decent housing; and,*
3. *Promote economic opportunity.*

City strategies for achieving these goals that are relevant to the proposed Yesler Terrace redevelopment include:

1 – C. Increase availability of affordable housing.
1 – D. Increase use of affordable housing as a catalyst for distressed neighborhood economic development.
1 – E. Improve infrastructure and community resources in distressed neighborhoods to promote economic development and quality of life.
2 – A. Prevent homelessness
2 – F. Develop and maintain Seattle's supply of affordable rental housing
2 – G. Increase opportunities for low income households to purchase and/or maintain their own home.

Discussion. Alternatives 1 - 4 would promote a high quality living environment by replacing deteriorating housing and developing an improved and sustainable system of streets with sidewalks and planters meeting or exceeding current City of Seattle design standards for required width, and curb ramps meeting Americans with Disabilities Act requirements. Increased employment opportunities would be provided on the site over time under Alternatives 1-3 by providing jobs related to office, hotel, neighborhood commercial and neighborhood services uses.[9] Overall, the redevelopment would be intended to create a diverse community integrating uses, activities and incomes.

As mentioned previously, Alternative 3 would provide the greatest amount of neighborhood commercial space (88,000 SF) and office/hotel space (1.2 million SF), with lower levels under Alternatives 2 and 1, and the least amount under Alternative 1A (40,000 SF neighborhood commercial and 400,000 SF of office).[10] Alternative 4 would also replace deteriorating housing and provide an improved system of streets and public open space, but it would not significantly increase the potential for employment opportunities. Under Alternative 4, no new office or neighborhood commercial space would be provided in the West of Boren Sectors. Alternatives 2 and 3 would further improve circulation and access to surrounding neighborhoods by comprehensively reconfiguring the circulation infrastructure across the site. This would be

[9] No hotel uses would be developed under Alternative 1A.
[10] No hotel uses would be provided under Alternative 1A.

achieved by vacating some existing streets, dedicating new streets, and expanding some existing right-of-ways across the site.

Low income housing opportunities on Yesler Terrace would be preserved under all the alternatives (1-4) and expanded under Alternatives 1-3. The 561 existing extremely low income housing units would be replaced on the site, and approximately 240 to 335 new low income housing units affordable to households earning at or below 50 percent of the area median income (AMI) would be provided by SHA or an another affordable housing provider. An additional 660 to 1,231 units would be developed by a private developer for households earning at or below 80 percent of the AMI. Overall, approximately 43 to 49 percent of the total housing units provided onsite under Alternatives 1-3 would consist of low income housing, affordable to households earning between 0 and 80 percent of the AMI. The remaining units would be market rate housing.

The new low income housing developed onsite under Alternatives 1-3 would be over and above the one-for-one replacement of the existing extremely low income housing units and would increase the City's overall stock of affordable rental/for-sale housing. These additional low income housing units would represent an approximately 4 to 7 percent increase (4 percent under Alternative 1, 7 percent under Alternative 3) of the City's stock of 22,000 existing subsidized units in Seattle.

No new low income housing units are assumed under Alternative 4 – the existing 561 extremely low income housing units would be replaced, and market rate housing would be developed onsite. See Section 3.16, **Socioeconomics**, for additional information on housing under Alternatives 1-4.

The No Action Alternative would essentially represent a continuation of the site in its present condition, no new low income housing would be developed and affordable housing opportunities would not be expanded. Existing buildings, streets, utilities and other infrastructure would be repaired or replaced in the same location and configuration as necessary over time and would be built consistent with City of Seattle Code requirements. Under the No Action Alternative, the amount of existing public housing units on-site may be reduced over time due to rehabilitated units needing to meet building and zoning code requirements

Harborview Medical Center Compiled Major Institution Master Plan – October 2000

The Harborview Medical Center Major Institution Master Plan (MIMP) was prepared to satisfy requirements of the City's Major Institution Code, as well as to fulfill the Medical Center's need for a comprehensive plan to direct continued improvement of the campus in order to meet their mission of providing and teaching exemplary patient care and to provide health care for those patients for whom King County has obligation. The current MIMP, adopted in 2000, outlines the existing campus development and development capacity and identifies future planned and potential projects. Development standards and a Transportation Management Program are also described.

The multi-block Harborview campus is directly to the north of the site and is generally bounded by Terry Avenue to the east, Alder Street to the south, I-5 to the west and James Street to the north. The MIMP identifies planned projects, which include development likely to occur from 2000 through 2010, including approximately 442,900 SF of new building construction, and

demolition of 270,746 SF of existing buildings. An additional 526,000 SF of potential projects are identified in the MIMP. These potential projects are projects that could be developed over the long-term, between 2010 and 2020. Demolition of the East Clinic building, which is adjacent to Yesler Terrace, is a planned project identified in the MIMP. Construction of a 7-story, 100,000 SF Clinical Services/Research Building is a listed potential project for this site. To date, the East Clinic has not been demolished.

Discussion: Alternatives 1-3 would allow for redevelopment of the Yesler Terrace site to a new dense, urban mixed use, mixed-income community with higher buildings heights, particularly along and near the north boundary of the site, adjacent to the Harborview campus. The redevelopment as proposed is consistent with the Comprehensive Plan's Urban Center goals and policies, and would be compatible with the Harborview MIMP. See Section 3.8, **Land Use**, for further information about land use compatibility under the alternatives.

Seattle Land Use Code

The City of Seattle Department of Planning and Development administers a land use code that regulates the type and scale of development within the City. The following is an overview of the zoning and development code requirements for the Yesler Terrace site, together with discussion of project consistency with these provisions.

West of Boren Sectors

***Existing Zoning** – Multi-Family Residential Low-rise 3 (L3)*

- **Key Development Standards** – *The L3 zoning classification provides for moderate scale multi-family housing opportunities in multi-family neighborhoods where it is desirable to limit development to infill projects and conversions compatible with the existing mix of houses and small to moderate scale apartment structures.*

***Proposed Zoning** - The City of Seattle is currently considering changes to the L3 zoning code intended to provide a broader array of housing types and improve housing designs. These changes are assumed to be adopted by the end of 2010. Based on the May 2010 version of the draft L3 changes, building heights and FAR requirements are as described below. If adopted, these would be the allowable building heights and densities for the site redevelopment under Alternative 4.*

- *Building height: for apartments inside Designated Growth Areas (which includes Urban Centers), the proposed building height limits for the Yesler Terrace site would be 40 ft. +5 ft. for roof with minimum 6:12 pitch and +4 ft. for partially below-grade floor.*
- *Density: The basic Floor Area Ratio (FAR) is proposed to be 1.4, with an increase to 1.5 allowed for buildings that meet special design standards. The number of units per square foot of lot area is 1/800 for buildings that do not meet special design standards, and there is no density limit for buildings that meet those design standards.*

Discussion: Within the West of Boren Sectors, the new uses assumed under Alternatives 1-3, including office/hotel and neighborhood commercial development, as well as assumed building heights and densities, would be inconsistent with the existing and proposed L3 zoning.

Zoning changes would be necessary in order to accommodate the mixed use redevelopment, including a Land Use Code text amendment and map change (legislative rezone). See **Chapter 2**, Section 2.3, for additional information.

Under Alternative 4, the site would be redeveloped in accordance with the new L3 zoning development standards that are assumed to be adopted by the end of 2010. The EIS analysis was based on the May 2009 version of the proposed L3 zoning development standards (the available version at the time the EIS alternatives were developed), which included a slightly lower maximum height of 37 feet for buildings with a flat roof, and 42 feet with a sloped roof. Assuming adoption of the current proposal, building heights would be to a maximum of 45 feet for buildings with a roof with a minimum 6:12 pitch and 49 feet for buildings with a partially below-grade floor. Multi-family residential density would increase, but no new office/hotel or neighborhood commercial uses would be introduced to the site.

East of Boren Sector

The East of Boren Sector is zoned Multi-Family Residential, Mid-Rise (MR) and Neighborhood Commercial (NC3P-65).

***Zoning** – MR*

- ***Key Development Standards** – the MR zoning classification provides for concentrations of housing in desirable pedestrian-oriented urban neighborhoods having convenient access to regional transit stations where the mix of activity provides convenient access to residential services and amenities and opportunities for people to live within walking distance of employment. The maximum building height in this zone is 75 feet.*

***Zoning** – NC3P-65*

- ***Key Development Standards** - Neighborhood Commercial 3 (NC3) zones are intended to support or encourage a pedestrian-oriented shopping district that serves the surrounding neighborhood and a larger community, citywide, or regional clientele; that provides comparison shopping for a wide range of retail goods and services; that incorporates offices, business support services; and residences that are compatible with the retail character of the area. "P" designations are applied to NC zones along pedestrian-oriented commercial streets. The maximum building height in this zone is 65 feet.*

Discussion*:* Under Alternatives 1-4, the East of Boren Sector would be redeveloped according to the existing MR and NC3P-65 zoning. Building heights on the east section of the sector, along 12th Avenue, would be to a maximum height of 65 feet, and building heights on the west section of the sector, along Boren, would be to a maximum height of 75 feet. Under Alternatives 1, 1A, 2 and 4, 10,000 SF of neighborhood commercial space would be provided in the NC3P-65 zoned area in the East of Boren Sector, consistent with the intent of this zoning to support pedestrian-oriented shopping districts that serve the surrounding neighborhood and a larger community. Under Alternative 3, 18,000 SF of neighborhood commercial space would be provided. Neighborhood commercial uses could include (but are not limited to) offices, and small to medium retail such as grocery, dry cleaners, restaurants and/or bookstores. See **Figure 3.8-3** in Section 3.8, **Land Use**, for a figure showing the zoning in the East of Boren Sector.

Chapter 23.34 – Amendments to Official Land Use Map - rezones

As noted previously, zoning changes would be necessary in order to accommodate the proposed mixed use redevelopment in Alternatives 1-3, including a Land Use Code text amendment and map change (legislative rezone).

DMC 23.34.008 sets forth general rezone criteria for rezoning property within the City of Seattle. The following is a summary of the criteria, together with discussion of the proposal's consistency with these criteria.

A. To be approved a rezone shall meet the following standards:

1. In urban centers and urban villages the zoned capacity for the center or village taken as a whole shall be no less than one hundred twenty-five percent (125%) of the growth targets adopted in the Comprehensive Plan for that center or village.

2. For the area within the urban village boundary of hub urban villages and for residential urban villages taken as a whole the zoned capacity shall not be less than the densities established in the Urban Village Element of the Comprehensive Plan.

Discussion: This criterion applies to rezones which decrease development potential; it does not limit rezones that result in growth that is greater than the growth targets established by the Comprehensive Plan. Nonetheless, for comparison purposes, the applicable growth targets are discussed below.

The growth targets identified for the First Hill Urban Village are 1,200 new households and 2,000 new jobs by 2024. Housing units under Alternatives 1-3 would, at full buildout, result in a 185-350 percent increase in the aforementioned growth targets. Jobs under Alternative 1A would contribute 67 percent of the jobs growth target, while Alternatives 1-3 would, at full buildout, result in a 133-200 percent increase in the aforementioned growth targets. See **Table 3.9-2 and 3.9-3** for details. The residential densities assumed under Alternatives 1-3, would exceed the First Hill residential density target of 32 households per acres, with a resulting 36 – 45 units per acre for the First Hill Urban Village.

B. Match Between Zone Criteria and Area Characteristics. The most appropriate zone designation shall be that for which the provisions for designation of the zone type and the locational criteria for the specific zone match the characteristics of the area to be rezoned better than any other zone designation.

Discussion: As part of the City's annual Comprehensive Plan Amendment cycle, in May 2010 the City's Department of Planning and Development proposed a Comprehensive Plan Amendment to establish Master Planned Community sites and policies. The intent was to establish a mechanism in the City's Comprehensive Plan to consider planning for large sites, such as Yesler Terrace, and also to designate Yesler Terrace as a Master Planned Community on the Future Land Use Map in the Plan. In July 2010, the City Council included this City-initiated Comprehensive Plan amendment on the docket for consideration in the annual cycle of Comprehensive Plan amendments. Council action on the amendments is anticipated in March 2011.

In order to allow higher residential densities and non-residential uses, such as single-use office buildings, hotel or retail uses in the West of Boren Sectors, a Land Use Code text amendment and legislative rezone of the West of Boren sectors will be necessary. On a preliminary basis, DPD staff have identified the option of creating a new zone to govern development on the West of Boren Sectors. The Land Use Code text amendment would establish the new zone. Then, the new zone designation would need to be applied to the site through a legislative rezone approved by the City Council. The elements of the new zone would, in part, be informed by the analysis in this EIS. The City may decide, for uniformity purposes, to rezone the entire site to a new zone designation, even though the East of Boren Sector is proposed to be developed under existing zoning..

C. Zoning History and Precedential Effect. Previous and potential zoning changes both in and around the area proposed for rezone shall be examined.

Discussion: The West of Boren Sectors of the Yesler Terrace site are presently zoned L3. As mentioned previously, the City of Seattle is currently considering changes to the L3 zoning code, which are intended to provide a broader array of housing types and improve housing designs. These changes are assumed to be adopted by the end of 2010 and would increase building heights and establish FAR and other requirements.

The zoning of the Little Saigon neighborhood to the south of the site is currently under review by the City Council and is likely to be revised to Downtown Mixed use Residential/Commercial (DMR/C 65/65-85 (150) from the current C1-65 and NC3-65 zoning. These zoning changes are proposed as part of the *Livable South Downtown Plan*, and are intended to encourage residential and job growth development while allowing existing small businesses to adapt, retaining the existing neighborhood character and improving livability. The *Livable South Downtown Plan* states that one objective of the proposed zoning changes is to retain the small and medium size character of the area between S Main Street and Weller Street, which is adjacent to the southern portion of the site.

A change in zoning of the Yesler terrace site would not necessarily create a precedential effect, as the Yesler Terrace site is unique in many respects. It is very large in size, under single ownership, and with a history of master planning of the site. In recognition of its uniqueness, DPD is considering creation of a new zone to govern development on the site.

D. Neighborhood Plans.

1. For the purposes of this title, the effect of a neighborhood plan, adopted or amended by the City Council after January 1, 1995, shall be as expressly established by the City Council for each such neighborhood plan.

2. Council adopted neighborhood plans that apply to the area proposed for rezone shall be taken into consideration.

3. Where a neighborhood plan adopted or amended by the City Council after January 1, 1995 establishes policies expressly adopted for the purpose of guiding future rezones, but does not provide for rezones of particular sites or areas, rezones shall be in conformance with the rezone policies of such neighborhood plan.

4. If it is intended that rezones of particular sites or areas identified in a Council adopted neighborhood plan are to be required, then the rezones shall be approved simultaneously with the approval of the pertinent parts of the neighborhood plan.

Discussion: The First Hill Neighborhood Plan contained within the City's Comprehensive Plan is the Council adopted neighborhood plan which applies to the West of Boren Sectors, and the Central Area Neighborhood Plan applies to the East of Boren Sector). These plans do not establish policies to guide future rezones, nor does it provide for rezones of particular sites or areas.

E. Zoning Principles. The following zoning principles shall be considered:

1. The impact of more intensive zones on less intensive zones or industrial and commercial zones on other zones shall be minimized by the use of transitions or buffers, if possible. A gradual transition between zoning categories, including height limits, is preferred.

2. Physical buffers may provide an effective separation between different uses and intensities of development. The following elements may be considered as buffers:

a. Natural features such as topographic breaks, lakes, rivers, streams, ravines and shorelines;

b. Freeways, expressways, other major traffic arterials, and railroad tracks;

c. Distinct change in street layout and block orientation;

d. Open space and greenspaces.

3. Zone Boundaries.
a. In establishing boundaries the following elements shall be considered:

(1) Physical buffers as described in subsection E2 above;

(2) Platted lot lines.

b. Boundaries between commercial and residential areas shall generally be established so that commercial uses face each other across the street on which they are located, and face away from adjacent residential areas. An exception may be made when physical buffers can provide a more effective separation between uses.

4. In general, height limits greater than forty (40) feet should be limited to urban villages. Height limits greater than forty (40) feet may be considered outside of urban villages where higher height limits would be consistent with an adopted neighborhood plan, a major institution's adopted master plan, or where the designation would be consistent with the existing built character of the area.

Discussion: Redevelopment of the Yesler Terrace site would result in the creation of a new dense, urban mixed use community in the First Hill Urban Center Village over the approximately 20-year buildout period. This redevelopment would be consistent with and a continuation of the current trend of intensification in the First Hill neighborhood, as described in Section 3.8.1, **Land Use**. In general, the Yesler Terrace site is geographically isolated from adjacent land uses along the western boundary by I-5 and is bordered by varied land uses to the north, east and

south. It is anticipated that the site would be designed so that neighborhood commercial uses are clustered together to provide concentrated centers of activity, and would face each other across the street, and be oriented away from residential uses. See Section 3.8, **Land Use**, for further information about the relationship of the proposed Yesler Terrace Redevelopment to surrounding land uses.

While height limits of greater than 40 feet are proposed, these heights would be achieved within an urban village, consistent with the criteria described above. The maximum building heights differ among the redevelopment alternatives, with the highest building heights under Alternatives 2 and 3, and lower building heights under Alternatives 1 and 1A. **Table 2-2** (in **Chapter 2**) summarizes the maximum building heights under the EIS alternatives by sector. While this table compares the maximum building heights that would be allowed, only a few buildings would be built to this maximum height in each sector. See the height, bulk and scale subsection of Section 3.10, **Aesthetics/Light and Glare/Shadows**, for a specific analysis of maximum building heights and building heights modeled under each alternative and the relation to surrounding properties, as well as proposed mitigation measures within identified transition areas.

F. Impact Evaluation. The evaluation of a proposed rezone shall consider the possible negative and positive impacts on the area proposed for rezone and its surroundings.

1. Factors to be examined include, but are not limited to, the following:

a. Housing, particularly low income housing;

b. Public services;

c. Environmental factors, such as noise, air and water quality, terrestrial and aquatic flora and fauna, glare, odor, shadows, and energy conservation;

d. Pedestrian safety;

e. Manufacturing activity;

f. Employment activity;

g. Character of areas recognized for architectural or historic value;

h. Shoreline view, public access and recreation.

Discussion: As described in Section 2.5.1 of **Chapter 2**, the purpose of the Yesler Terrace Redevelopment Proposal is to redevelop this community into a mixed-income, mixed use community that is intended to better serve existing and future residents. No net loss of housing would occur, and all alternatives assume that existing low income housing units would be replaced onsite. New low income housing would also be added to the site under Alternatives 1-3, over and above the one-for-one replacement of the existing extremely low income housing units. Additionally, market rate housing would be developed onsite. See Section 3.16, **Socioeconomics**, for additional information about housing.

No significant adverse impacts to public services including schools, parks, fire, police, solid waste or community services would be expected. See Section 3.15, **Public Services**, for

additional information on public services. As well, no significant earth, water resources, plants and animals, energy, or environmental health impacts would be anticipated. For additional information see Section 3.1, **Earth**; 3.3, **Water Resources**; 3.4 **Plants and Animals**; 3.5, **Energy**; and 3.10, **Aesthetics/Light and Glare/Shadows**. With respect to noise conditions on the site, no significant noise impacts are expected as a result of redevelopment under Alternatives 1-4 (i.e. due to increased traffic on area roadways or due to heating, venting and air-conditioning and mechanical equipment associated with new buildings). However, the site suitability analysis indicates that portions of the site would be deemed unacceptable under HUD noise criteria without implementation of noise mitigation, including extraordinary noise attenuation measures in an area within the SW Sector, due to the proximity of 1-5 and other major roadways to the site. See Section 3.7, **Noise**, for further information. Similarly, regarding air quality conditions on the site, no significant air quality impacts are expected as a result of redevelopment under Alternatives 1-4 (i.e. due to increased traffic on area roadways). However, the site suitability analysis indicates that certain toxic air pollutants associated with roadways in the vicinity of the Yesler Terrace site would exceed health-based standards. See Section 3.2, **Air Quality**, for additional information.

The proposal would improve pedestrian circulation throughout the site by creating a system of pedestrian linkages to connect public open spaces, streets and key commercial nodes. Onsite intersection crossing improvements would be provided to aid safety and to enhance walkability and connectivity of the site sectors. Woonerf-type streets would be created to allow pedestrian activity along the entire street. Sidewalks would be improved or built to meet or exceed current City of Seattle design standards for required width, and curb ramps would meet Americans with Disabilities Act (ADA) requirements. The improved streets would also improve connections to the First Hill, Central Area and Little Saigon areas. Access to the new First Hill streetcar on onsite streetcar stop would enhance the mobility of low income households.

Redevelopment under Alternatives 1-3 would likely increase employment opportunities on the site over time by providing space for jobs related to office, hotel, neighborhood commercial and neighborhood services uses. See Section 3.16, **Socioeconomics**, and **Table 3.16-8** specifically, for additional information about employment

2. Service Capacities. Development which can reasonably be anticipated based on the proposed development potential shall not exceed the service capacities which can reasonably be anticipated in the area, including:

a. Street access to the area;

b. Street capacity in the area;

c. Transit service;

d. Parking capacity;

e. Utility and sewer capacity;

f. Shoreline navigation.

Discussion: The development assumed under Alternatives 1-3 would not be expected to exceed street access to the area or street capacity in the area. Under Alternatives 2 and 3, certain street vacations and new street dedications are assumed in order to evaluate the

potential for a more connected street grid network internally and to/from the surrounding community. See **Chapter 2**, and Section 3.13, **Transportation**, for additional information.

The redevelopment alternatives would increase demands on transit service, however, the new First Hill Streetcar would traverse the Yesler Terrace site and would help to accommodate some of the assumed increases in transit demands. The streetcar could be used for transfers to Link light rail at the Capitol Hill Station (when complete) or the International District Station. Redevelopment over the long-term would provide an opportunity to respond to an increase in transit trips as new high capacity transit comes on line and bus routes are restructured. SHA would also work with King County Metro and the City of Seattle transit needs as ridership increased over time. See Section 3.13, **Transportation**, for additional information on transit impacts.

Redevelopment Alternatives 1-3 assume that parking for all uses would be provided at a ratio of 0.85 parking stall per residential unit. Under Alternatives 2 and 3 parking would be in below grade garages under buildings, plazas and open space. Under Alternatives 1 and 1A, approximately 75 percent of parking could be provided in above-grade garages; parking garages would be screened from view. Parking for neighborhood commercial and service uses would be provided at a parking ratio of 2 stalls/1,000 SF, parking for office uses would be provided at 1.5 stalls/1,000 SF and parking for hotel uses would be .25 stall per room. It should be noted that parking is not required for residential and commercial uses in residential and commercial zones in Urban Centers (SMC 23.54.020.M.); as noted previously, Yesler Terrace is within the Capitol Hill/First Hill Urban Center.

A preliminary analysis performed by the Seattle Public Utilities department determined that the downstream combined sewer/stormwater systems from Yesler Terrace may have limited capacity. A hydraulic analysis of drainage and wastewater systems will be required during the design phase of the Yesler Terrace Redevelopment to determine if improvements are necessary to the City's drainage and wastewater infrastructure. Improvements could include additional upsizing of the combined sewer pipe downstream of the Yesler Terrace Redevelopment in Main Street and 7th Avenue S, as well as green stormwater infrastructure (GSI) and stormwater flow control at the site (see Section 3.14, **Public Utilities**, for more information on utility capacity).

G. Changed Circumstances. Evidence of changed circumstances shall be taken into consideration in reviewing proposed rezones, but is not required to demonstrate the appropriateness of a proposed rezone. Consideration of changed circumstances shall be limited to elements or conditions included in the criteria for the relevant zone and/or overlay designations in this chapter.

Discussion: There are several changed circumstances to be considered. When the L3 zone designation was applied to the West of Boren Sectors of the Yesler Terrace site in the 1980's, it was largely because the existing development was of a lowrise scale, and there was no consideration at that time of future development. Since that time, the City has adopted a Comprehensive Plan that designates Urban Centers and Urban Villages as areas targeted for growth. The entire Yesler Terrace site (including the East of Boren Sector) is located within a designated Urban Center.

In addition, the structures at Yesler Terrace have aged significantly, and continuing incremental repairs of units is not considered by SHA to be a cost-effective or physically efficient way of

providing quality affordable housing to its residents. Also, based on modern planning principles, redevelopment provides significant opportunities to improve onsite conditions and connections to offsite neighborhoods and facilities.

Finally, conditions in nearby neighborhoods have changed in recent years. The level of development in the First Hill neighborhood north of the site is intensifying over time. Several major institutions in the First Hill neighborhood, including Harborview Medical Center, Swedish Medical Center – First Hill Campus, Seattle University and Virginia Mason Medical Center have updated or are in the process of updating their Major Institution Master Plans including boundary expansions, increases in the intensity and density of development, increases in building heights and the provision of additional parking facilities. Redevelopment of these major institution campuses would occur incrementally over the next 10-20 years. Other existing, non-institutional and underdeveloped properties in the First Hill neighborhood north of Yesler Terrace are also being redeveloped more intensively (e.g., increased number of units or square footage, and increased height, bulk and scale), consistent with the Comprehensive Plan. New non-institutional office and residential development that is occurring is typically in mid- to high-rise buildings.

The International District's Little Saigon neighborhood is located in the area south of Yesler Terrace. Through the *Livable South Downtown Plan* (2009), the City has targeted this area for increased residential and job growth.

H. Overlay Districts. If the area is located in an overlay district, the purpose and boundaries of the overlay district shall be considered.

Discussion: The Yesler Terrace site is not located within an overlay district.

I. Critical Areas. If the area is located in or adjacent to a critical area (SMC Chapter 25.09), the effect of the rezone on the critical area shall be considered.

Discussion: Several critical areas have been mapped on the Yesler Terrace site, within the West of Boren Sectors, including geologic hazards (landslide prone areas, steep slopes, seismic hazards). No mapped wetland critical areas are currently identified by the City on the Yesler Terrace Site, but onsite reconnaissance conducted for this EIS analysis identified two potential onsite wetlands. Redevelopment of Yesler Terrace would be designed to comply with all applicable Environmental Critical Areas requirements. See the discussion below for details.

Environmentally Critical Areas

Washington State's Growth Management Act (Chapter 36.70A RCW) requires all cities and counties to identify critical areas within their jurisdictions and to formulate development regulations for their protection.

The City of Seattle has adopted codes (SMC 25.09) to define and regulate critical areas to avoid adverse environmental impacts and potential harm on the parcel and to adjacent property, the surrounding neighborhood, and the drainage basin. SMC 25.09.020 defines six types of environmentally critical areas including: geologic hazard areas, steep slope areas, flood-prone areas, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills. Of these areas, only geologic hazard areas and wetlands have been identified on the site. Further description of these critical areas is provided below.

Wetlands

SMC 25.09.020 identifies wetlands as:

> *…those areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and stormwater ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands include those artificial wetlands intentionally created from nonwetland areas to mitigate conversion of wetlands. The method for delineating wetlands shall follow the "Washington State Wetlands Identification and Delineation Manual" as adopted by the State Department of Ecology (Publication #96-94.)*

Wetland development may occur within or over isolated Category IV wetlands less than 1,000 square feet, when it can be demonstrated that one of the following measures, which must occur on site, will mitigate wetland function lost by development:

a. *Construct a wetland of equal function to the lost wetland function.*
b. *Plant an area of native vegetation equal or greater in size to the area of the developed wetland, and remove invasive species in the area to be planted.*
c. *Construct a bioengineered/infiltration facility, such as a bioretention cell or bioretention plant, that replicates the hydrologic and/or water quality benefit of the developed wetland. This facility shall be designed according to the requirements of Chapters 22.800 through 22.808, Stormwater Code and associated Director's Rules.*
d. *Construct a green roof or roof garden that replicates the hydrologic and/or water quality benefit of the developed wetland. These facilities shall be designed according to the requirements of Chapters 22.800 through 22.808, Stormwater Code and associated Director's Rules.*

Discussion: No wetland critical areas have been mapped by the City on the Yesler Terrace site. However, during onsite reconnaissance performed for this EIS analysis, two potential small, Category IV wetlands were identified in the southern portion of the SW Sector. The hydrology of these potential wetlands may have been influenced by a leaking irrigation pipe located upslope that has subsequently been repaired. Further investigation would be required to determine the role of the leaking pipe in the hydrology of the potential wetlands.

- Wetland A is a 645 square foot Category IV palustrine emergent wetland immediately downslope of the irrigation pipe. This wetland is rated as a slope wetland providing low habitat function.

- Wetland B is a 38 square foot Category IV palustrine emergent wetland located east of Wetland A. Hydrology from Wetland B was observed to originate from the base of the slope, but is not likely influenced by the irrigation line, based on distance from the irrigation line. This wetland is rated as a slope wetland providing low habitat function.

In accordance with SMC 25.09.160, Wetland A and Wetland B do not have required buffers, but mitigation for removal of these wetlands would be required, if the hydrology of the wetlands is determined to be from sources other than the leaking irrigation pipe. Under Alternatives 2 and 3, the area of the SW Sector where the potential wetlands are located would be graded and redeveloped with new uses. If Wetland A and/or B are determined to be wetlands and are filled during redevelopment, mitigation would be provided in accordance with SMC 25.09.020. Under Alternatives 1, 4, and the No Action Alternative, no development would occur in this area of the site and therefore no impacts would be anticipated.

Geologic Hazard Areas

The City of Seattle defines geologic hazard areas (liquefaction-prone areas, landslide prone areas [including steep slope areas], peat settlement-prone areas, seismic hazard areas and volcanic hazard areas) in Seattle Municipal Code 25.09.020 and maps them in the City's environmentally critical areas (ECA) map folio.

Landslide Prone Areas. *Per SMC 25.09.020(A)(3)(a) and (b), landslide prone areas are defined as known landslide areas identified by documented history, or areas that have shown significant movement during the last ten thousand (10,000) years or are underlain by mass wastage debris deposited during this period; or are potential landslide areas as follows:*

(1) Those areas that are described as potential slide areas in "Seattle Landslide Study" (Shannon & Wilson, 200 & 2003).
(2) Areas with indications of past landslide activity, such as landslide headscarps and sidescarps, hummocky terrain, areas with geologic conditions that can promote earth movement, and areas with signs of potential landsliding, such as springs, groundwater seepage, and bowed or backtilted trees.
(3) Areas with topographic expression of runout zones, such as fans and colluvial deposition at the toes of hillsides.
(4) Setbacks at the top of very steep slopes or bluffs, depending on soil conditions.
(5) Slopes with an incline of forty (40) percent or more within a vertical elevation change of at least ten feet (10').

Discussion: A portion of the southern half of the SW Sector and terrain along the south margin of the SE Sector along S Main Street are mapped by the City as a Known and Potential Slide Areas. Additionally, an area at 1019 S Washington Street is mapped as a Known Slide Area. Site-specific analysis would be completed during the future design and permit approval process for any redevelopment proposed in that area to identify appropriate methods for mitigating potential landslide impacts. Stabilization of all portions of the site that are disturbed or affected by redevelopment would be required. See Section 3.1, **Earth**, for additional information about landslide areas.

Steep Slopes. *Per SMC 25.09.020(A)(5), steep slopes are defined as slopes with an incline of forty percent or more within a vertical elevation change of at least ten feet. Steep slopes can result in landslide risks. Only limited development on steep slopes is allowed, unless a steep slope exemption is obtained. The criteria for approval of a steep slope exemption include circumstances where steep slopes were created by prior legal grading, such as for streets.*

Discussion. Several small steep slope areas are mapped by the City in and near the NW and NE Sectors of the site. However, site specific topographic surveying and field reconnaissance revealed that these areas are typically related to small rockeries or retaining walls, and appear to have been misidentified. The City also identifies several steep slope areas in the SW Sector

and adjacent to the S Main Street right-of-way just south of the SE Sector. As part of this environmental review process for the Yesler Terrace redevelopment, SHA has submitted documentation to support a request for a steep slope exemption, based on the steep slopes having been created by prior legal grading associated with the Jackson Street regrade in the early 1900s. See Section 3.1, **Earth**, for additional information about steep slopes.

Seismic Hazards. *Per SMC 25.09.020 (A)(6), seismic hazard areas are areas of the City subject to ground shaking from seismic hazards that are addressed by the Building Code (SMC Title 22); the Seattle Fault Zone; areas at risk of tsunamis and tsunami inundation; and, areas at risk for seiches (standing waves in an enclosed or partially enclosed body of water).*

Discussion: The entire Puget Sound region lies within a seismically active area, and moderate to high levels of ground shaking would be anticipated during the design life of structures at the Yesler Terrace site. Structures at the site would likely be founded on dense to very dense, glacially overridden soils, medium dense to dense recessional outwash, or on very stiff to hard, glacially overridden silt and clay. Ground motion amplification due to soft soil conditions does not present a significant risk at the site. Seismic design using current design codes and generally accepted engineering standards and practices would be conducted during the design phase of the future site improvements (buildings and utilities). This includes use of the current version of the International Building Code (IBC), as amended by the City of Seattle, which contains provisions to address life safety issues and incorporates data obtained from recent seismic events in its seismic design standards. See Section 3.1, **Earth**, for additional information about seismic hazards.

Tree Protection Ordinance

Summary: *The City of Seattle regulates activities that affect trees through Seattle Municipal Code (SMC) Chapter 25.11 – Tree Protection. The City adopted a new tree protection ordinance amending this portion of the code, which became effective on April 1, 2009. In addition, DPD Director's Rule 16-2008 was implemented to clarify the definition of 'exceptional tree,' and to clarify the City's SEPA Plants and Animals Policy (SMC subsection 25.05.675.N.2.c) relative to 'rare, uncommon, unique or exceptional' trees.*

Four categories of trees are identified under these regulations:

- *Significant trees, which are defined as any tree greater than or equal to 6 inches DSH (diameter at standing height) for both evergreen and deciduous trees;*
- *Tree groves which are defined as a group of 8 or more trees 12 inches in diameter or greater that form a continuous canopy;*
- *Hazardous trees; and,*
- *Exceptional trees, which are a tree or group of trees that, because of its unique historical, ecological or aesthetic value constitutes an important community resource.*

The ordinance prohibits removal of 'exceptional trees' and limits the removal of trees six inches in diameter (at breast height [DBH]) or larger on lots in specific zones, except in conjunction with a building or grading permit.

- *SMC 25.11.050 provides general provisions for exceptional tree determination and tree protection covering the following requirements: inclusion on site plans; development standards waivers; tree protection reports; and requirements for tree protection.*
- *SMC 25.11.070 provides guidance for tree protection on sites in areas zoned Low-rise 3 (such as the West of Boren Sectors). See Section 3.4,* ***Plants and Animals****, for details.*
- *SMC 25.11.080 provides guidance for tree protection on sites in mid-rise and commercial zones (such as the East of Boren Sector). See Section 3.4,* ***Plants and Animals****, for details.*
- *SMC 25.11.090 provides requirements for tree replacement and site restoration. This section states that exceptional trees and trees over 2 feet in diameter that are removed in association with development shall be replaced by one or more new trees, as approved by the City. No tree replacement would be required if the tree is hazardous, unhealthy, or relocated to another suitable planting site approved by the City.*

As stated in DR16-2008, "exceptional tree" means a tree or group of trees that because of its unique historical, ecological, or aesthetic value constitutes an important community resource, and is determined as such by the Director according to standards and procedures promulgated by the Department of Planning and Development. An exceptional tree is a tree that:

1. *Is designated as a heritage tree by the City of Seattle; or*
2. *Is rare or exceptional by virtue of its size, species, condition, cultural/historical importance, age, and/or contribution as part of a grove of trees.*

Discussion: During the tree survey completed in support of this Draft EIS analysis (see **Appendix F**), 410 onsite trees were identified, of which 22 were determined to be "exceptional". As indicated in Section 3.4, **Plants and Animals**, exceptional trees could be removed during redevelopment activities associated with Alternatives 1-4. For trees designated for retention, construction methods would be implemented to preserve and protect trees during construction, such as installing fencing around trees. To the extent feasible, existing exceptional trees would be preserved. Trees that could not be preserved would be mitigated by planting new trees, as approved by the City.

City of Seattle Urban Forest Management Plan

The City of Seattle Urban Forest Management Plan (Seattle 2007) guides a broad range of actions that will achieve a sustainable urban forest in Seattle. This is a 30-year plan that recommends the steps the City of Seattle must take to preserve Seattle's trees. The City-wide goal for sites that are zoned for multi-family uses is 20 percent canopy cover and 15 percent canopy cover for sites zoned for commercial and mixed-use. This Plan has not been adopted by the City, but Resolution No. 31138 states that the City supports many of the findings, conclusions and recommendations in the Plan (City of Seattle 2009). Because it has not been adopted by the City, the Plan is not considered a requirement or regulation applicable to the proposed Yesler Terrace Redevelopment project.

Discussion: Presently, approximately 22 percent of the total site is covered in tree canopy. More than half of the onsite trees have been identified as being unhealthy or having a low preservation value. Of the 410 onsite trees, 22 have been identified as exceptional. Under the EIS alternatives, the tree canopy would be reduced; it would be lowest at 4.3 percent under Alternative 3 and highest at 5.7 percent under Alternative 4. To the extent feasible, existing

exceptional trees would be preserved, transplanted or mitigated by installing one or more trees for every exceptional tree destroyed, as approved by the City. These new trees would contribute to the City's overall 30-year canopy coverage goals. See Section 3.4, **Plants and Animals**, for further information.

City of Seattle Street Vacation Policies

Summary: *The Yesler Terrace Redevelopment project could potentially include street vacations of on-site streets under Alternatives 2 and 3. No street vacations are proposed under Alternatives 1, 1A and 4. Please refer to Chapter 2 of this Draft EIS for specific detail regarding locations of proposed street vacations under Alternatives 2 and 3. The following is a summary analysis of project consistency with the City's adopted street and alley vacation policies.*

The City of Seattle Street Vacation Policies (Clerk File 310078) provides policies to guide City Council decisions regarding the vacation of public rights-of-way. In making the decision regarding street vacations, the Council weighs three components of the public interest including

> *One – Impact of the proposed vacation upon the circulation, access, utilities, light, air, open space and views provided by the right-of-way;*
>
> *Two – Land use impacts of the proposed vacation, including consistency of development involving the vacated right-of-way with relevant city land use policies; and,*
>
> *Three – Benefits accruing to the public from the vacation of the right-of-way. Benefits include such things as making land available for public uses other than transportation and benefits from post-vacation development.*

In addition, the City Council considers the recommendation from SDOT, comments received from DPD, the Seattle Design Commission, Public Utilities, other City departments, other public agencies, and interested parties.

Analysis of the relationship of the potential alley vacations with the components of the public interest is provided in the discussions of specific policies below.

Specific policies and guidelines for street vacations relevant to the proposed Yesler Terrace Redevelopment project include:

Summary: Policy 1 – Circulation and Access*. Vacations may be approved only if they do not result in negative effects on the City's vehicular, bicycle, or pedestrian circulation systems or on access, unless the negative effects can be mitigated.*

A. *Streets designated as Arterials may be vacated only when an alternative circulation route is substituted and long-term public benefit would result from the vacation.*

B. *Petitions for the vacation of streets designated as Access Streets may be approved only if: 1) access is retained to properties on the block where the right-of-way is located; 2) circulation to properties on neighboring streets is retained; 3) the right-of-way does not provide a necessary link in the continuity of a route to arterials; and, 4) public parking provided by the right-of-way is not needed, can be absorbed on nearby rights-of-way or can be replaced.*

C. *Streets which contribute to the integrity and continuity of the public transit system will be considered for vacation by the City Council only after review and comment by relevant public transportation agencies.*

D. *Proposed alley vacations will be considered according to the following guidelines: 1) alley vacations may be approved only when they would not interrupt an established pattern in a vicinity, such as continuity of an alley through a number of blocks or grid which is a consistent feature of neighborhood scale; 2) alleys in residential zones may only be vacated when steep topography prevents development and use of an unimproved alley for access, the alley is not needed for service functions, and off-street parking access which meets land use code requirements can be provided otherwise; and 3) alleys in commercial zones may be vacated only when the loading service, delivery and access to parking functions are retained on the petitioner's property, and the number of curb cuts along commercial frontage is not likely to be increased as a result of vacation.*

Discussion: The proposed street vacations associated with Alternatives 2 and 3 would result in improved vehicular, bicycle and pedestrian circulation, and improved access in the neighborhood. The existing street network is characterized by lack of connection between the Yesler Terrace community and the surrounding neighborhood. Project planning determined that a more connected street concept was preferred over the existing street layout, as it could be easier in terms of navigation (wayfinding). It will also promote a more pedestrian-oriented community and streetscape. The street vacations associated with Alternatives 2 and 3 would establish an internal loop of secondary streets, which would connect all of the site sectors without the need to travel on primary streets such as E Yesler Way and Broadway. This internally connected loop of streets would eliminate dead-end and unimproved rights-of-way, and would be developed with shared bike/auto lanes and sidewalks that encourage pedestrian and bicycle activity and increased use of public transit. Proposed land uses and densities further support non-automobile transportation choices. Vacation of the existing streets onsite would improve circulation and access in this part of Seattle, and would substitute an alternative, improved circulation route as a long-term public benefit.

More specifically, Alternatives 2 and 3 propose to vacate 9th Avenue between E Yesler Way and 9th Avenue. This section is currently designated as a "Minor Arterial." The street would be replaced by a newly dedicated 9th Avenue parallel to the existing 8th Avenue alignment. The new street will be designed to a Minor Arterial standard. The new alignment would eliminate the existing bend in the arterial street and allow for a more conventional traffic control where through-traffic is allowed to flow freely. In addition, King County Metro has expressed interest in realigning this arterial connection so that it could operate transit on it in the future. Thus, the vacation of the arterial section of 8th Avenue and rededication of 9th Avenue would meet this policy's intent by providing an improved alternative route.

Alternatives 2 and 3 propose to vacate several Access Streets. For most of these, a new street in a parallel alignment would be dedicated to replace the function of the street, but in a location that improves the street grid by aligning at intersections or providing better connectivity to adjacent parcels. Three street segments would not be replaced with nearby dedications: S Main Street, the stub of 9th Avenue south of Main Street, and Terry Avenue. S Main Street currently dead-ends into I-5. It and the stub of 9th Avenue provide no access purpose in the proposed redevelopment plan. Because of steep slopes, buildings in this area would be accessed from S Washington Street and/or 10th Avenue S. Terry Avenue between Alder Street and Broadway is also proposed for vacation. The street grid shifts at Broadway—to the west, avenues are oriented at an angle to true north and to the east, the avenues are oriented due north.

Therefore, Terry Avenue currently intersects Broadway at an acute angle in close proximity to other intersections. Vacating this segment of Terry Avenue would improve the grid. A newly dedicated Fir Street and 9th Avenue north of Fir Street would provide a good alternative route to access Broadway. Parking along the streets to be vacated and not replaced will be accommodated by on-site parking within the redeveloped site.

None of the streets proposed for vacation is currently used by transit. However, as described above, the vacation of 8th Avenue north of E Yesler Way and dedication of a parallel 9th Avenue would improve this arterial's alignment, which would enhance its ability to accommodate transit in the future.

Summary: Policy 2 – Utilities. *Rights-of-way which contain or are needed for future utility lines or facilities may be vacated only when the utility can be adequately protected with an easement, relocation, fee ownership or similar agreement satisfactory to the utility owner.*

Discussion: The utilities contained in the streets proposed for vacation in conjunction with the Alternatives 2 and 3 currently serve the existing residential community structures on the project site. The existing utilities in these streets would be replaced and rerouted to new streets that will be dedicated to the city or relocated within easements acceptable to the service provider.

Summary: Policy 3 – Light, Air, Open Space and View. *When the City Council determines that the light, air, open space or view provided by a particular street or alley should be retained, the right-of-way may be vacated only if the public open space, light, air and view can be retained or substituted by dedication to the public of other comparable street right-of-way or other property such as open space property or on future development on the vacated and abutting property.*

Discussion: Under Alternatives 2 and 3, more overall right-of-way would be expanded or dedicated than would be vacated. See **Figure 2-6** and **Figure 2-7** in **Chapter 2** for details. The vacation of 8th Avenue/8th Avenue S would be replaced by the dedication of 9th Avenue, and the vacation of Spruce Street would be replaced by the dedication of Fir Street. These new dedications would substitute rights-of-way with similar qualities of light, air, open space and views as are present in the existing rights-of-way. The vacation of S Washington Street east of 10th Avenue would be replaced by the dedication of Washington Street west of 10th Avenue. S Main Street west of 10th Avenue is currently undeveloped and generally inaccessible due to blackberry bushes. Limited views to the west are possible at this location due to topography. Views to the south from S Main Street are currently available, but would likely be lost or obscured if a building were developed on the offsite parcel directly to the south in the Little Saigon neighborhood.

Summary: Policy 4 – Land Use. *A proposed vacation may be approved only when the increase in development potential that is attributable to the vacation would be consistent with the land use policies adopted by the City Council. The criteria considered for making individual vacation decisions will vary with the land use policies and regulations for the area in which the right-of-way is located. The City Council may place conditions on a vacation to mitigate negative land use effects.*

Discussion: The increase in development potential for housing, office and neighborhood commercial uses would not be attributable to the proposed street vacations, but instead would be due to the Land Use Code text amendment and rezone that would allow mixed use redevelopment.

Summary: Policy 5 – Public Benefit*. A vacation petition shall include a public benefit proposal. The concept of providing a public benefit is derived from the nature of street right-of-way. Proposed vacations may be approved only when they provide a long-term public benefit. Vacations will not be approved to achieve short-term public benefits or for the sole benefit of individuals. Mitigation of the adverse effects of a vacation does not in itself constitute a public benefit. Public benefits may include but are not limited to:*

A. On-site Public Benefits: on-site benefits are favored as the provision of the public benefit can also act to offset any increase in scale from the development. On-site public benefits may include:

- Publically accessible plazas or other green spaces, including public stairways;
- Streetscape enhancements beyond that required by codes such as widened sidewalks, additional street trees or landscaping, street furniture, pedestrian lighting, wayfinding, art, or fountains;
- Pedestrian or bicycle trails;
- Enhancement of the pedestrian or bicycle environment;
- View easement or corridors; or
- Preservation of landmark buildings or other community resources.

B. Off-site Public Benefits: where it is not practicable to provide the public benefit or more than a portion of the public benefit on the development site, the public benefit may be provided off-site. This may include:

- Pedestrian or bicycle trails or public stairways;
- Enhancement of the pedestrian or bicycle environment;
-Enhancement of existing public open space such as providing playground equipment in a City park;
- Improvements to designated Green Streets;
- Funding an element from an adopted Neighborhood Plan;
- Providing wayfinding signage; or
-- Providing public art.

In certain circumstances the City may accept real property as a public benefit (C.), or where it is not practicable to provide or develop public benefits such as those listed above, the City may accept the payment in-lieu of funds dedicated for a specific purpose consistent with these policies as a public benefit (D.).

Discussion: If Alternatives 2 or 3 are selected**,** a street vacation petition would be prepared for City Council consideration. Specific public benefits which could be provided would be determined at that time. However, in general the existing street system within Yesler Terrace lacks internal and external connectivity due to the presence of several dead-end streets and unimproved rights-of-way. Vacation of existing streets under Alternatives 2 and 3 would allow the existing street system to be reconfigured. The reconfiguration would be a long term public benefit in that it would provide better connections to surrounding neighborhoods and would enhance way-finding and safety by eliminating dead end streets (such as S Main Street and 8th Avenue S) and improving access and circulation for emergency vehicles. Internal connectivity of the roads would make navigation within the site easier and more intuitive. An internal circulation loop of secondary access streets would connect all of the site sectors without the need to travel on arterials (E Yesler Way and Broadway). These secondary streets would be developed as complete streets with shared bike/auto lanes and sidewalks, which would enhance pedestrian and bike circulation. Although right-of-way would be vacated to

accomplish the street reconfiguration concept, more total area onsite would be expanded or dedicated as public streets (see **Figure 2-6** in **Chapter 2** for total SF of vacated v. new or expanded right-of-way).

3.10 AESTHETICS/LIGHT AND GLARE/SHADOWS

This section of the Draft EIS contains three separate subsections including visual character, light and glare, and shadows.

3.10.1 VISUAL CHARACTER

This subsection describes the existing visual character of the Yesler Terrace site and surrounding area and evaluates the impacts of the redevelopment proposal on site character, public viewsheds, and height, bulk and scale along the boundaries of the site.

3.10.1.1 Affected Environment

Site Character

The general visual character of Yesler Terrace is that of a site that is developed with linearly arranged low-rise wood-frame residential buildings and yards surrounded by chain link fences. The existing residential buildings onsite are primarily 2-stories in height and are mostly set in long rows oriented north and south or east and west, with 40 to 50 feet of private open space in between buildings. Small surface parking lots are interspersed throughout the site, and vegetation consists of mature trees, shrubs and other landscaping.

Visually, Yesler Terrace is defined by its topography and the site generally slopes from north to south and also from west to east on the eastern portion of the site. Overall, the site has an elevation change of 150 feet from the lowest point south of the Main Street right-of-way to the highest points near Harborview Hospital. The western portion of the site is characterized by steep grades sloping to the I-5 retaining wall. The southern section of the site also includes an area of steep slopes. The Yesler Terrace site offers many views of Downtown Seattle, Elliott Bay, the Olympic Mountains and Mount Rainier.

In summary, the general character of the site can be characterized as a multi-family residential area with fenced lawns, landscaping and mature trees, together with several community buildings. The following summarizes the visual and aesthetic characteristics of the site by Sector.

West of Boren

NW Sector

The visual character of the NW Sector reflects primarily residential uses. This area contains the greatest concentration of buildings, with 27 residential buildings, 2 storage buildings, the Jesse Epstein office building, and the Steam Plant. The residential buildings are two stories in height and are constructed of wood. The Jesse Epstein office building and the Steam Plant are located within the center of this sector, at a high elevation where 8th Avenue and Spruce Street curve together. This sector is intersected by several roads including 8th Avenue, Spruce Street, 9th Avenue and Terry Avenue. The Jesse Epstein building is a rectangular 3-story, brick structure. The Steam Plant has an irregular shape with a curving façade at the northwest corner and a 111-foot tall stack.

NE Sector

The visual character of the NE Sector primarily reflects residential uses. A total of 12 buildings are located in this Sector including 10 residential buildings that are used for housing, one residential building that serves as SHA's management office, and one small storage building. The NE Sector is bisected by 10th Avenue.

SE Sector

The visual character of the SE Sector reflects entirely residential uses. A total of 16 residential buildings and one storage building are located in this Sector. The SE Sector is bisected by S Washington Street.

SW Sector

The SW Sector has a slightly different visual character as compared to the other three sectors and reflects both residential and community uses, as well as larger open space areas. Residential uses are concentrated in the northwest area, and community use buildings are located in the central and northeast area of the sector. In total there are 17 buildings on this part of the site, including 11 residential buildings, 4 community services/non-residential buildings, and 2 storage buildings. Public open space in the SW Sector consists of four community gardens/P-patches located at the south/southwest border of the Sector, the Yesler Community Center enclosed play area and the SHA athletic field, which is located to the southwest of the Community Center. The south part of the sector also contains some undeveloped area due to steep topography.

East of Boren Sector

The visual character in the East of Boren Sector is of residential buildings surrounded by a chain link fence. The area contains a total of five buildings, including four residential buildings and a common use building. The buildings in this area of the site are three-stories in height, and vegetation consists of mature trees and landscaping. The east section of the East of Boren Sector is undeveloped, and contains vacant land where two buildings were recently demolished.

Area Context

The visual character of the area surrounding the site is varied. The visual character to the northwest of the site includes the Harborview Medical Center buildings and a multifamily residential building (Hilltop House). A mix of modern and historic high-rise buildings are present in addition to a structured parking garage and the low-rise Fire Station building, which is part of the Harborview campus. The area to the north of E Fir Street and east of Broadway is more reflective of mixed use neighborhood buildings with multi-family residential buildings, a single family residence, church, medical office, surface parking and Horiuchi Park. The visual character to the east of the site (the area generally bounded by E Fir Street, 13th Avenue, E E Yesler Way and 12th Avenue) is reflective of a mix of uses in low-rise buildings including multifamily residential uses (duplexes), an auto repair shop, a retail store and warehouses. The area to the southeast (generally bounded by E Yesler Way, 14th Avenue, S Main Street and 12th Avenue/Boren Avenue) reflects a mixed use neighborhood character and contains several 1-story restaurant buildings, the Bailey-Gatzert Elementary School and schoolyard, the Orient Center retail store, and a medical clinic. An undeveloped steep slope area is located along the southern boundary of the site, south of Main Street. South of this slope, immediately adjacent

to the site, is a 7-story mixed use building (the Pacific Rim Center), a parking lot, and other low-rise, retail, commercial and restaurant buildings.

3.10.1.2 Impacts

This section describes changes to the visual character of the built environment that could occur as a result of Yesler Terrace redevelopment, and is organized into three separate sections including site character, viewshed and height bulk and scale.

Construction activities associated with redevelopment of the Yesler Terrace site would generally be similar for Alternatives 1-4 and would consist of three primary activities: demolition of existing buildings, utilities and paved areas; construction of new site infrastructure, including roadways, utilities and parks; and, construction of new buildings. The Yesler Terrace Redevelopment Project is assumed to be built out by the year 2030, however, a phasing schedule for individual buildings has not been determined and would depend upon market conditions and the availability of applicable funding from local, state and/or federal sources (see Section 2.8.4, **Phasing**).

Construction activities, as described above, would be ongoing on portions of the site for extended periods of time and could temporarily affect the aesthetic character of the site and surrounding area. Measures to control air, noise, light intrusion and other construction related disturbances could lessen aesthetic impacts. See Section 3.10.2, **Light and Glare**, Section 3.2, **Air Quality**, and Section 3.7, **Noise**, for further details.

Site Character

Alternatives 1 through 3 were developed to demonstrate a range of densities and building heights that could occur on the site over the long-term. Based on proposed land use concepts developed for Yesler Terrace, character sketch renderings were developed to represent the visual character of potential redevelopment on the site through street-scape illustrations (See **Figures 3.10.1-1 through 3.10.1-4**).

These sketches are intended to convey a sense of the potential visual conditions of redevelopment under Alternatives 1 through 3 and to identify similar visual characteristics that could result on the site with the various mix of land uses and open spaces proposed under Alternatives 1-3. These sketches are not meant to represent definitive design details, but rather to express the possible visual character of the site. As illustrated, the site would represent a dense, mixed use urban character with pedestrian-oriented areas, private, semi-private and public open space areas, street trees and landscaping. The character sketches are described further below. Note that “interior streets” refer to those streets internal to the West of Boren Sectors, and not the streets bordering the outer edges of those sectors.

Sketch A (**Figure 3.10.1-1**) Internal streets with retail uses at ground level and housing above (mid-rise & high-rise buildings).
Sketch B (**Figure 3.10.1-1**) Ground level residential uses and internal streetscape (private exterior open space for units).
Sketch C (**Figure 3.10.1-2**) Mid-rise and high-rise residential buildings with ground related units at street level and semi-private open space between buildings.
Sketch D (**Figure 3.10.1-2**) Sector park with adjoining semi-private open space between buildings.

A. Internal streets with retail uses at ground level and housing above (mid-rise & high rise buildings)

B. Ground level residential uses and internal streetscapes (private exterior open space for units)

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Stephanie Bower, Architectural Illustration

C. Mid-rise and high-rise residential buildings with ground related units at street level and semi-private open space between buildings.

Steve Schlenker

D. Sector park with adjoining semi-private open space between buildings

Seattle Housing Authority · Collins Cerman · Blumen Consulting Group, Inc · SvR	Figure 3.10-2 Project Character Sketches	Yesler Terrace Redevelopment EIS

Sketch E (**Figure 3.10.1-3**) Character of internal streets (showing complete streets, which include natural drainage systems, on street parking, ground related private open space and building entries).
Sketch F (**Figure 3.10.1-3**) Residential uses and building entries along internal street.
Sketch G (**Figure 3.10.1-4**) Office uses as related to adjacent onsite residential buildings and semi-private open space.

In general, Alternatives 1-3 would, at full buildout, change the visual character of the site from its existing low-rise, primarily residential uses to a higher density, mixed use development with high-rise and mid-rise buildings. Alternative 4 would, at full buildout, change the visual character of the site from its existing low-rise, primarily 2-story residential uses to a development with increased residential density in slightly taller 4-story buildings. The visual character of the site would primarily reflect denser residential uses, with similar levels of neighborhood services and office development as occur under existing conditions.

The overall quality of building design under Alternatives 1 - 4 would likely be higher compared to existing site conditions. It is assumed that building design, construction and materials would be coordinated through adoption and implementation of consistent design standards over the long-term buildout period. Such design standards would be adopted by SHA as part of its decision on project implementation, and these would be further specified in the City's Land Use Code text amendment or the Planned Action Ordinance, or both. This would result in positive impacts relative to the visual character of the site.

Under the No Action Alternative, the visual character of the site would generally remain as described under existing conditions.

Viewshed

As part of the visual analysis for this Draft EIS, 17 viewpoint locations were selected and visual simulations of potential site redevelopment were prepared to show how certain existing views would change under the EIS Alternatives (1-4). These viewpoint locations were selected as the protected views to or from the site based on the City's view protection policies, which are described further below.

Several generally representative views of the site from surrounding and internal roadways and nearby parks are also included. These views are representative of how the site would be viewed by the primary viewer groups on and surrounding the site, which include motorists using area roadways; residents onsite and in the surrounding site vicinity; users of park/open space features; and, visitors and employees to the site and to the surrounding neighborhoods.

For purposes of the EIS analysis (including the evaluation of potential visual impacts from redevelopment to the maximum proposed heights and density), a potential capacity model (otherwise referred to as a massing concept in Chapter 2) was formulated to reflect the number of residential units and square footage of non-residential uses described for each of the redevelopment alternatives (Alternatives 1-4). Proposed uses would be accommodated in a mix of mid-rise and high-rise buildings under Alternatives 1 through 3, and in low-rise buildings under Alternative 4. As in some ways high-rise buildings have the potential for greater environmental impacts, the capacity model for Alternatives 1 through 3 included an assessment of where high-rise buildings could potentially be sited within the West of Boren Sectors. No high-rise buildings are proposed in the East of Boren Sector. See **Chapter 2** for further information and **Figures 2-15** through **2-18** for the potential high-rise locations. In the visual simulations, the capacity model building heights are represented by the gray building

E. Character of internal streets (showing complete streets which include natural drainage systems, on street parking, ground related private open space & building entries)

F. Residential uses at building entries along internal street

Seattle Housing Authority · Collins Cerkan · Blumen Consulting Group, Inc · SvR	Figure 3.10-3 Project Character Sketches	Yesler Terrace Redevelopment EIS

G. Office uses as related to adjacent onsite residential buildings and semi-private open space

simulations (and are referred to below as the capacity model development scenario). The capacity model concepts were developed with buildings at lower heights, in order to assess any differences in environmental impacts. This is because not all the buildings at these locations would necessarily be built to the maximum height limit. However, the maximum height limit is also evaluated at each of the potential high-rise locations in order to allow for the possibility of a maximum height building at any one of the identified high-rise locations. The maximum building height that could be developed under proposed new zoning for Yesler Terrace (referred to below as the maximum zoning height) is shown in yellow extensions above the buildings. In some cases, depending on the viewpoint, there is no visible difference between the capacity model development scenario and the maximum zoning building heights, and no yellow extensions appear in the simulations.

High-rise buildings would be distributed throughout the four West of Boren Sectors, and would be most heavily concentrated at the northwest end of the NW Sector, near other intense offsite non-housing uses, such as Harborview Medical Center and other medical office uses to the north. Buildings in this sector could be designed as stand-alone buildings or clustered to provide a campus type configuration with shared open space, parking and other facilities. In terms of the distribution of high-rise buildings within each of the West of Boren Sectors, certain criteria were applied to determine the spacing between high-rise buildings (See **Chapter 2**, Section 2.8.3 for further details). Mid-rise buildings would be distributed throughout the site. These assumptions are not necessarily intended to indicate a definitive development plan for the site, but are used instead as a basis for assessing the potential visual impacts of redevelopment in this EIS. The specific number, height, location and design parameters of future onsite buildings would be determined as part of the Proposed Actions and future redevelopment proposals. What is depicted in the visual analysis are building envelopes, without design features that would typically add visual interest and reduce the perception of building bulk.

The following viewshed analysis groups the 17 viewshed simulations and discussions by four categories of City protected views; other representative views are discussed separately at the end of this section. Each viewshed simulation describes the existing view depicted in the photograph and evaluates the changes to the view under Alternatives 1-4.

City Protected Views

The City of Seattle has adopted regulations (SMC 25.05.675) that protect views from specific viewpoints and scenic routes, and views of various landmarks, public places, the Space Needle, and skyline views. The City's public view protection policies are intended to:

> *protect public views of significant natural and human-made features: 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, from public places consisting of specified viewpoints, parks, scenic routes, and view corridors identified in Attachment 1"* to the SEPA code.[1]

There are four components to a viewshed analysis for projects in Seattle:

- Impacts from a City-designated viewpoints
- Impacts to designated views of the Space Needle;

[1] Seattle Municipal Code Chap. 25.05.675 P.2.a.i.

- Impacts of public views on other City-designated historic Landmarks; and,
- Impacts relative to designated scenic routes

Views associated with each of these protected view categories are described further below, and potential impacts are evaluated under the EIS Alternatives (1-4).

Designated Public Viewpoints

The City has 88 officially-designated public viewpoints, and of these, five have views that could be affected by the Yesler Terrace Redevelopment Proposal: Belvedere Viewpoint, Harborview Hospital Viewpoint, Kobe Terrace Park, Dr. Jose Rizal Park, and Pacific Medical Center[2]. See **Figure 3.10.1-5** for a map showing the location of these viewpoints in relation to the site. The site would not affect the remaining 83 officially-designated public viewpoints.

*Belvedere Viewpoint (**Figure 3.10.1-6** Viewpoint 1)*

Belvedere Viewpoint is located in West Seattle along Admiral Way SW approximately 3 miles to the southwest of the site. The current view from Belvedere Viewpoint is of Elliott Bay and the Downtown skyline; on very clear days, the Cascade Mountains and Mt. Rainier are visible behind the City.

Due to the distance to the Yesler Terrace site from this viewpoint, there would be no visible difference between the capacity model development scenario and the maximum zoning height.

Under Alternatives 1 and 1A, the redeveloped view of the site under the capacity model development scenario is barely visible in the mid-field view, directly to the southeast of the Downtown skyline. The height and scale of the proposed redevelopment would be similar to adjacent Harborview Medical Center buildings to the north, and less than the Downtown uses. The overall visual character of this viewpoint would not change from the existing view, and the redevelopment would not impact views of the Downtown skyline, the Cascade Mountains or Mt. Rainier.

Under Alternative 2, the redeveloped view of the site under the capacity model development scenario is slightly more visible in the mid-field view. However, similar to Alternative 1, the overall visual character of this viewpoint would not change from the existing view and views of the Downtown skyline, the Cascade Mountains and Mt. Rainier would not be affected.

Under Alternative 3, the redeveloped view of the site under the capacity model development scenario is more prominent than under Alternatives 1 and 2 and the height and scale of the proposed redevelopment appear slightly greater than Harborview Hospital uses to the north. Overall, the redevelopment would be less prominent than the Downtown skyline, and the overall visual character of this viewpoint would not change from the existing view and views of the Downtown skyline, the Cascade Mountains and Mt. Rainier would not be affected.

Under Alternative 4, the low-rise redevelopment would be barely visible in the mid-field view. The height and scale of the proposed redevelopment would be significantly less than the adjacent Downtown uses, and would be consistent with other low-rise land uses to the east, and less than Harborview Hospital uses to the north. The overall visual character of this viewpoint would not change from the existing view and views of the Downtown skyline, the Cascade Mountains and Mt. Rainier would not be affected.

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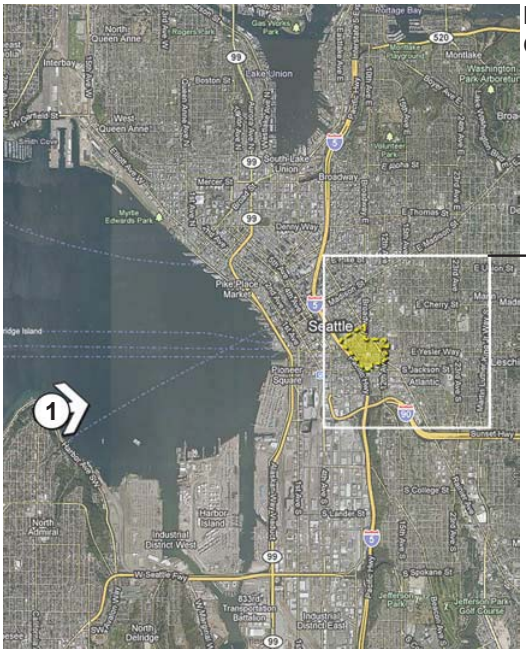
[2] Referred to as the "U.S. Public Service Health Hospital" in the City's Ordinance.

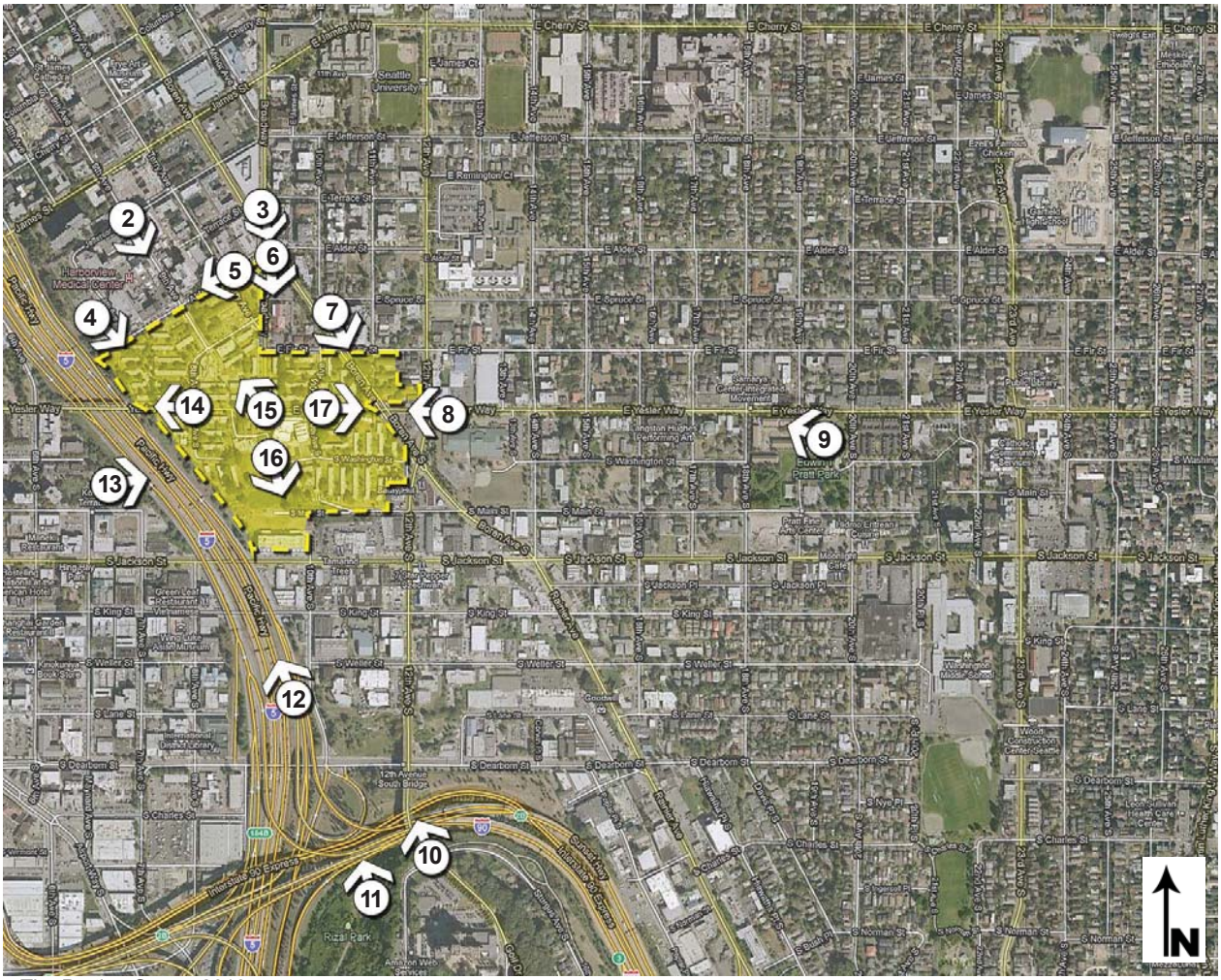


Location Map Overview

Area of Enlarged Map Below

Viewpoint Locations Legend

1 - Belveder Park
2 - 9th Ave / Jefferson Ave
3 - Boren Place
4 - Harborview Hospital
5 - Alder St / Terry Ave
6 - Broadway Ave / Alder St
7 - Horuichi Park
8 - Gatzert Elementary School
9 - Edwin T Pratt Park
10 - Pacific Medical Center
11 - Rizal Park
12 - I-5
13 - Kobe Park
14 - 8th Ave / Yesler Way
15 - Broadway Ave / Yelser Way
16 - Yesler Community Ctr Gymnasium
17 - 10th Ave / Yesler Way

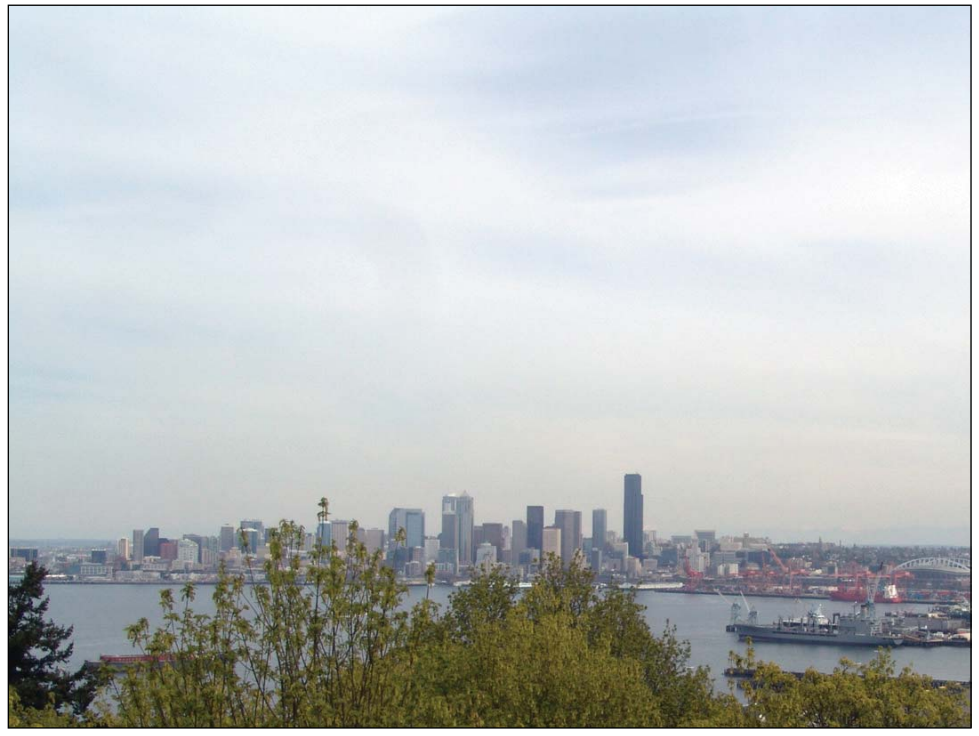


Source: The Portico Group, 2010

Location Map - Enlarged

Figure 3.10-5
Public Viewpoints

Yesler Terrace
Redevelopment EIS



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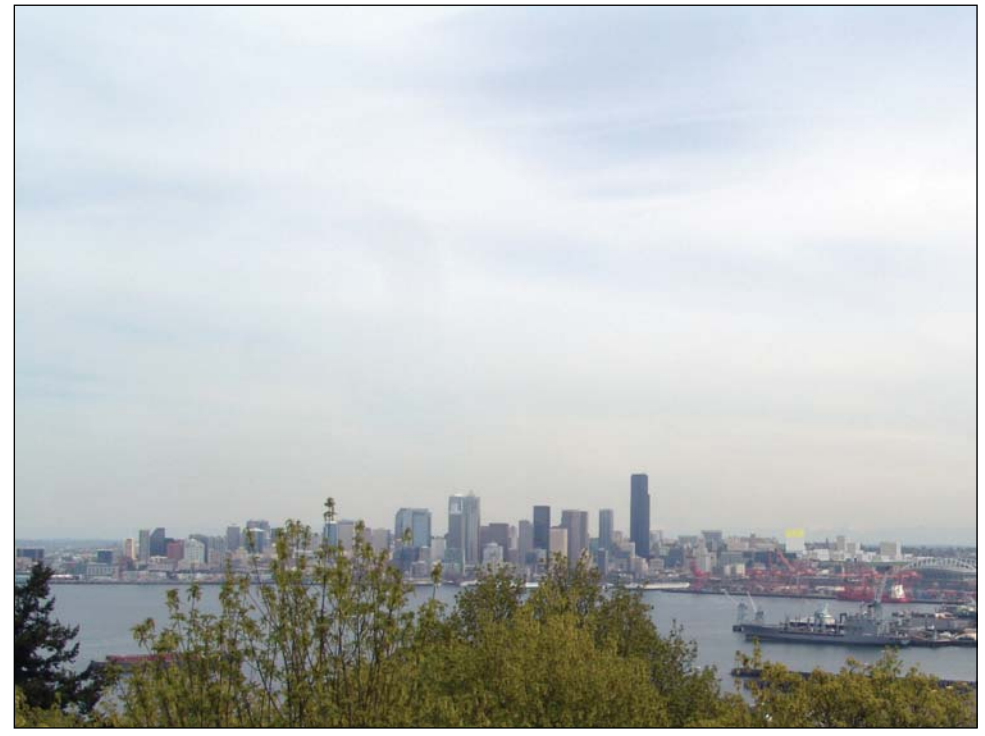
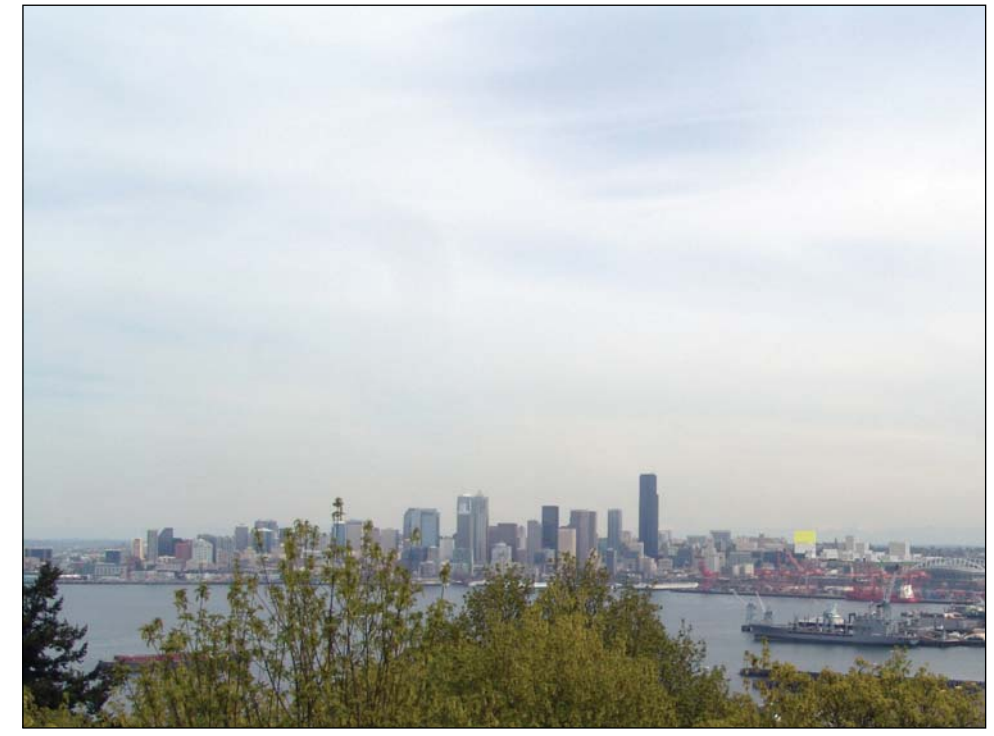
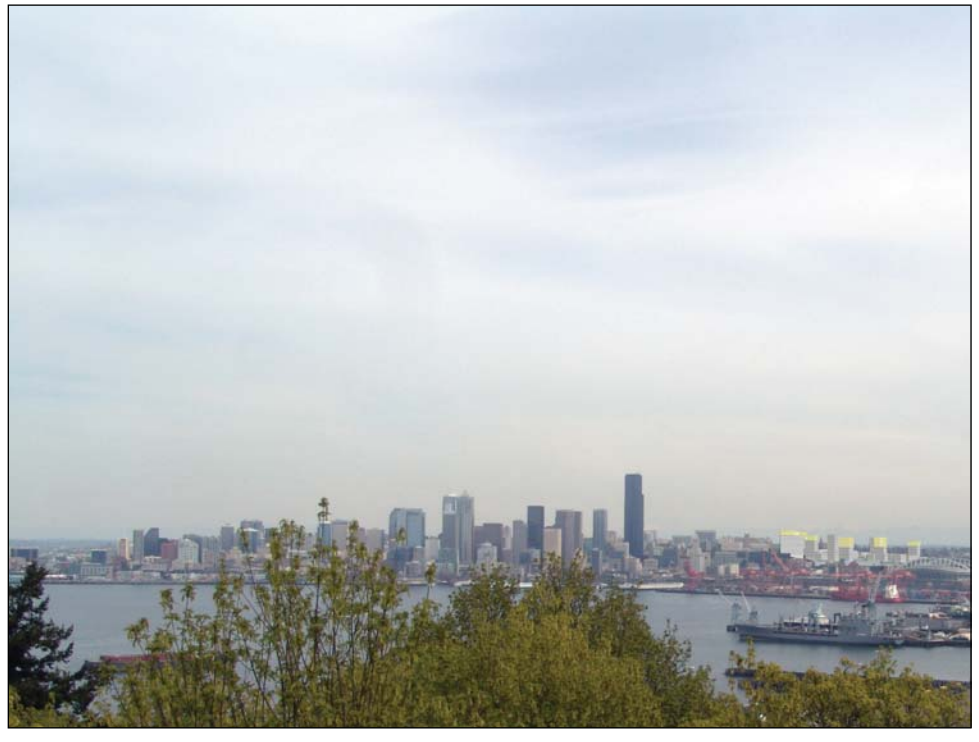


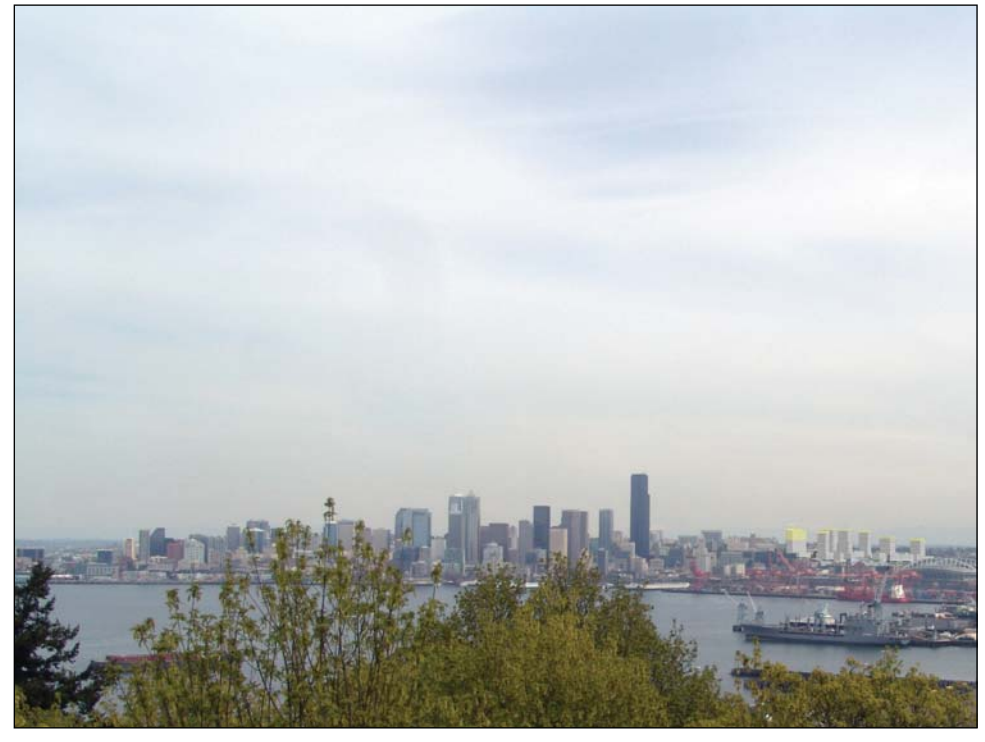
Alternative 1



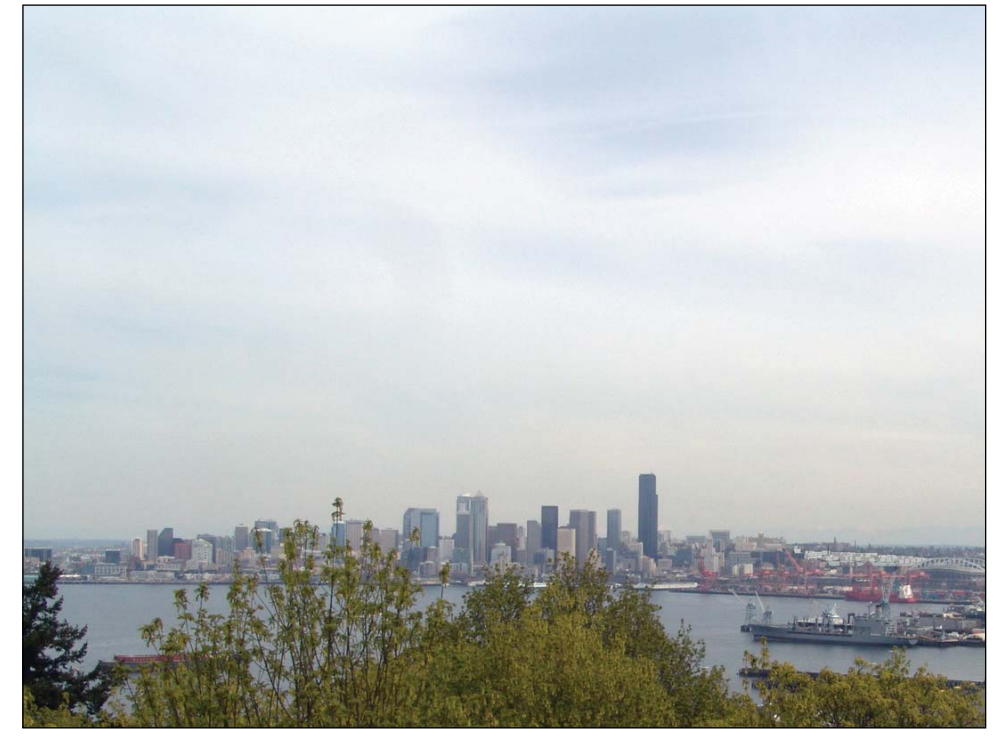
Alternative 1A



Alternative 2



Alternative 3



Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-6
Visual Simulations
Viewpoint 1 - Belvedere Viewpoint

Yesler Terrace Redevelopment EIS

*Harborview Viewpoint (**Figure 3.10.1-7**, Viewpoint 4)*

Harborview Viewpoint is located in the City's First Hill Neighborhood, adjacent to the north end of the site, atop a parking garage. The view from Harborview Viewpoint includes panoramic views of the Downtown skyline and the Olympic Mountains to the west, and this is the predominant view from this viewpoint. Views to the southeast across the Hospital helipad are also possible. This is the view which has the only potential to be impacted by the redevelopment alternatives. The current view from this location is of the helipad in the foreground, which is typically slightly obscured by a decorative steel security fence. Tree tops, a portion of a mid-rise Harborview Medical Center building and the Yesler Terrace Steam Plant smokestack are visible in the mid-field. A portion of the Pacific Medical Center building can be seen to the east (this is a designated City Landmark). Views of Mount Rainier are also available on clear days.

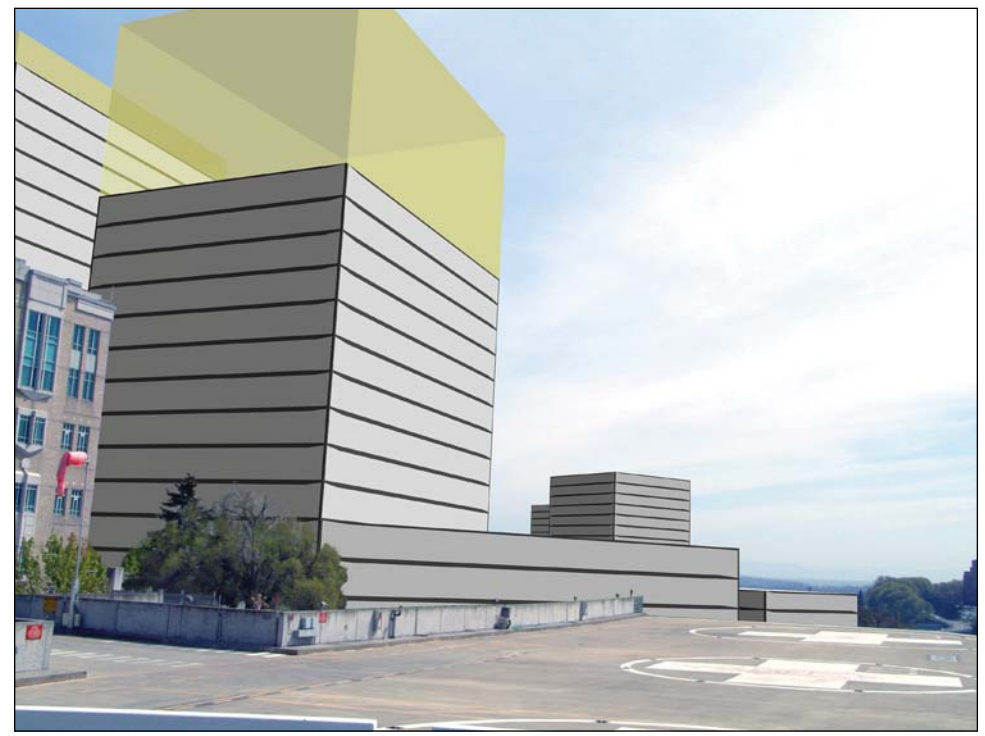
Under Alternative 1, several high-rise buildings would be prominently visible in the mid-field under the capacity model development scenario. The existing views of the southeast skyline, Steam Plant smokestack and Mount Rainier would be partially obscured; views of the Pacific Medical Center would not be affected. The overall visual character from this location of the viewpoint would change from a largely undeveloped view of the distant southeast skyline, Mount Rainier and trees, to a more densely developed urban site. The height and scale of the proposed development would be similar to but higher than the adjacent Harborview Hospital building. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that the two high-rise buildings in the mid-field view would appear slightly taller. The overall visual character of the viewpoint would generally change as described for the capacity model.

Under Alternative 1A, the redeveloped view of the site under the capacity model development scenario would feature portions of several new high-rise buildings, which would create a more continuous building mass in the mid-field view than the new buildings described under Alternative 1. These new buildings would partially obscure the southeast skyline and the view of Mount Rainier. Views of the Pacific Medical Center would not be affected. The height and scale of the proposed development would be similar to the adjacent Harborview Hospital building. The overall character of this viewpoint would change as described for Alternative 1. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that the two high-rise buildings in the mid-field view would appear taller. The overall visual character of the viewpoint would generally change as described for the capacity model.

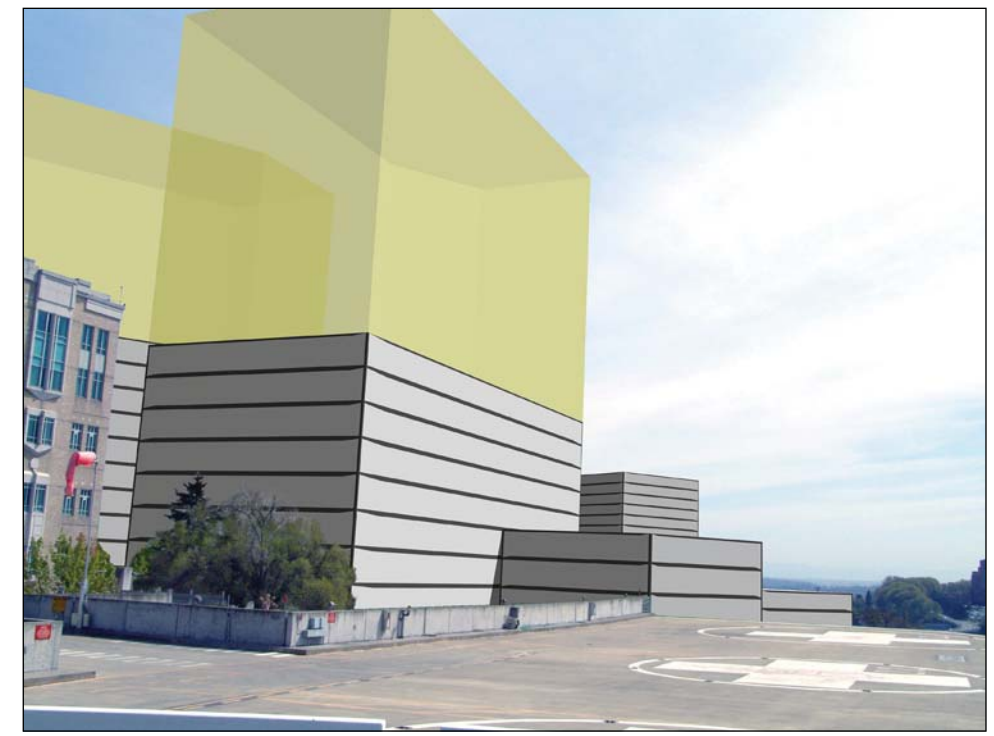
Under Alternative 2, the redeveloped view of the site under the capacity model development scenario would generally be similar to Alternative 1, except that the massing of the building closest to the helipad would be different, and this building would be taller. Also, the Yesler Terrace Steam Plant would be removed under Alternative 2, and therefore no views of the smokestack would be possible. The overall character of this viewpoint would change as described for Alternative 1. Under the maximum zoning height, the redeveloped view would be similar to the capacity model, except that the building closest to the helipad would be slightly taller, as would the two buildings in the center-background. The overall visual character of the viewpoint would generally change as described for the capacity model.

Under Alternative 3, the redeveloped view of the site under the capacity model development scenario would feature four high-rise buildings in the mid-field, which would create a more

Existing

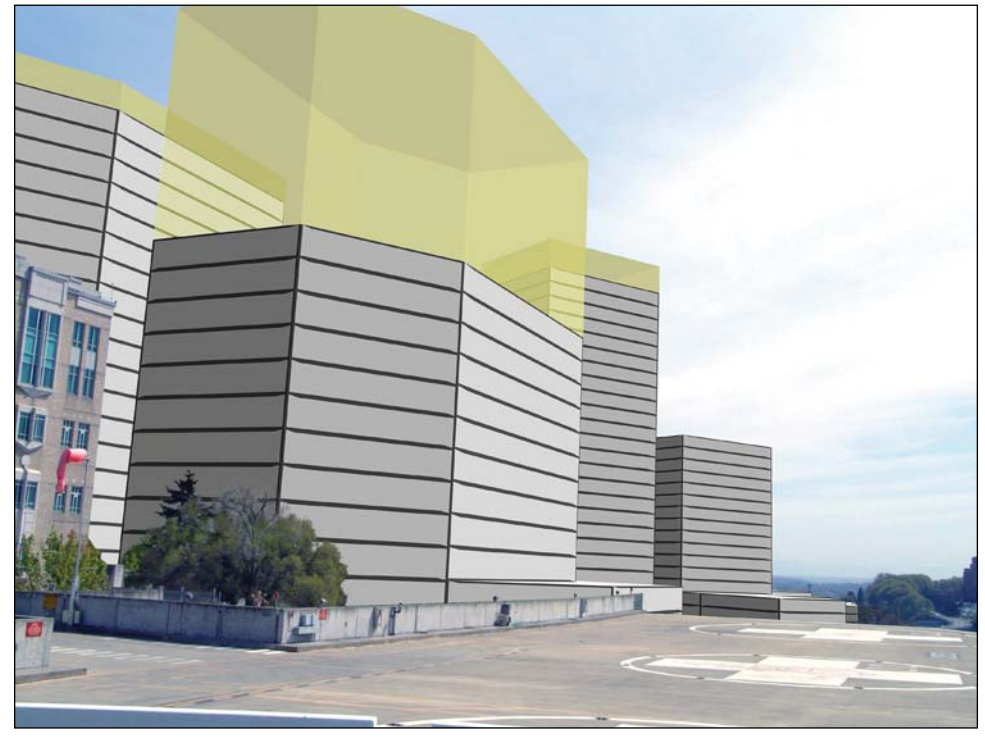


Alternative 1



Alternative 1A

Alternative 2



Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-7
Visual Simulations
Viewpoint 4 - Harborview Viewpoint

Yesler Terrace Redevelopment EIS

continuous building mass in the mid-field view than the new buildings described in Alternative 1 and 2. These new buildings would obscure most of the southeast skyline and the view of Mount Rainier; views of the Pacific Medical Center would not be affected. The Yesler Terrace Steam Plant would be removed under Alternative 3, and therefore no views of the smokestack would be possible. The height and scale of the new buildings would be similar to but higher than the adjacent Harborview Hospital building. The overall character of this viewpoint would change as described for Alternative 1. Under the maximum zoning height, the redeveloped view would be similar to the capacity model, except that the building closest to the helipad would be taller, and two other buildings would be approximately one story taller. The overall visual character of the viewpoint would generally change as described for the capacity model.

Under Alternative 4, the redeveloped view would be of the rooftops and upper floors of several low-rise buildings. These buildings would partially obscure a small portion of the skyline, but the overall visual character of this viewpoint would be similar to the existing view.

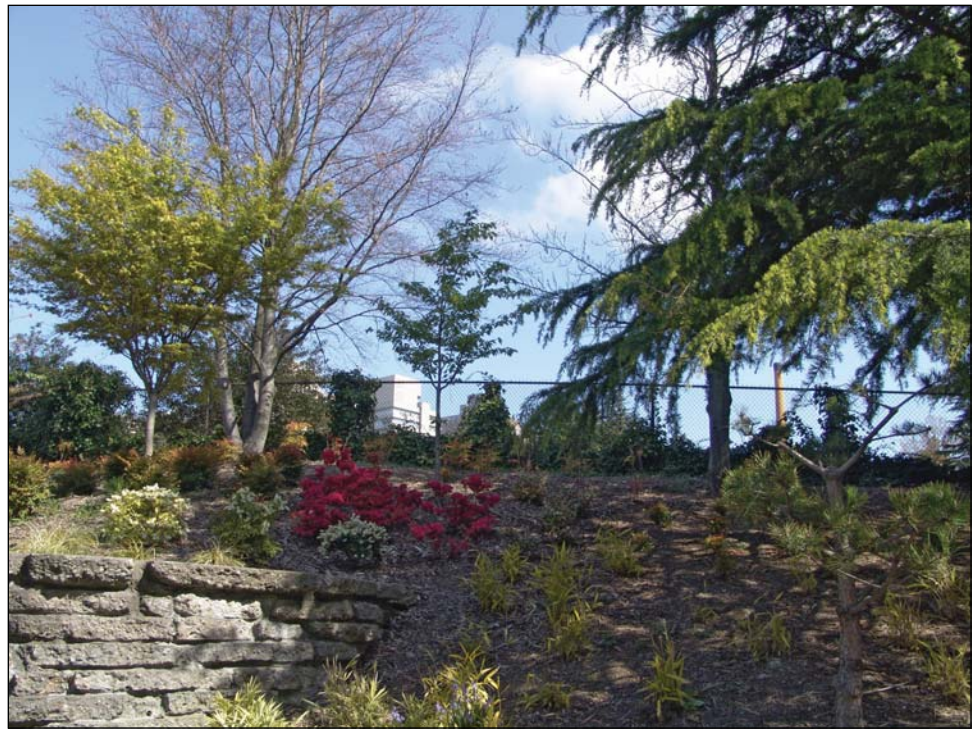
*Kobe Terrace Park (**Figure 3.10.1-8**, Viewpoint 13)*

Kobe Terrace Park is located directly to the west of the site, on the west side of I-5. Views to the west from Kobe Terrace Park include the Downtown skyline; Mount Rainier is visible to the south. Only views to the east, across I-5, could potentially be affected by the proposed redevelopment alternatives. The current view to the east includes a rock retaining wall, plantings, trees and vegetation in the foreground. A fence is visible in the mid-field view, and in the background, part of the Yesler Terrace Steam Plant smokestack can be seen to the east, and the top of a Harborview Medical building can be seen to the west.

Under Alternative 1, the redeveloped view of the site under the capacity model development scenario would include portions of new high-rise and mid-rise buildings, which would be partially obscured by existing trees and vegetation. Although the new buildings would be visible in the background, and would obscure portions of the skyline and the existing Steam Plant smokestack, the overall visual character from this viewpoint would be minimally affected. Protected views to the Downtown skyline and Mount Rainier to the south would not be affected. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model view, except that two of the high-rise buildings in the background would be taller. The overall visual character would change as described under the capacity model.

Under Alternative 1A, the redeveloped view of the site under the capacity model development scenario would include shorter buildings in the background than are depicted under Alternative 1. The overall visual character from this viewpoint would be as described for Alternative 1, and no impacts to protected views would occur. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model view, except that two of the high-rise buildings in the background would be taller. The overall visual character would minimally change as described under the capacity model.

Under Alternatives 2 and 3, the redeveloped view of the site under the capacity model development scenario would include taller buildings in the background than are depicted under Alternative 1. The overall visual character from this viewpoint would be as described for Alternative 1, except that the Steam Plant would be removed and no views of the smokestack would be possible. Overall, no impacts to protected views would occur. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model view, except that



Existing

Alternative 1

Alternative 1A

Alternative 2

Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-8
Visual Simulations
Viewpoint 13 - Kobe Terrace Park Viewpoint

Yesler Terrace Redevelopment EIS

one high-rise building in the background would be slightly taller. The overall visual character would minimally change as described under the capacity model.

Under Alternative 4, the redeveloped view and overall visual character of the site would generally remain the same as the existing view, except that portions of several low-rise buildings would be minimally visible in the background.

*Dr. Jose Rizal Park (**Figure 3.10.1-9**, Viewpoint 11)*

Dr. Jose Rizal Park is located in the Beacon Hill Neighborhood at the intersection of S Judkins Street and 12th Avenue S, approximately 0.5 miles southeast of the project site. The view from Dr. Jose Rizal Park to the west and north includes a panoramic view of south Downtown, the Downtown skyline, Elliott Bay, and views of the Olympic Mountains. The First Hill neighborhood and the Yesler Terrace site are visible in the distance to the north.

From this viewpoint, there would be no visible difference between the capacity model development scenario and the maximum zoning height, due to the distance to the site.

Under Alternatives 1 and 1A, the redeveloped view would prominently feature a number of new high-rise and mid-rise buildings. These new buildings would block the view of existing buildings located in First Hill, such as those based on the Harborview Hospital campus. The new buildings would be taller than existing development, but somewhat less than the existing adjacent uses Downtown to the northwest. Views of the Downtown skyline would continue to be possible. The overall visual character from this viewpoint looking to the northwest would remain that of a densely developed urban area, although the density and height of visible buildings would increase on First Hill.

Under Alternative 2, the redeveloped view would be similar to that described for Alternatives 1 and 1A, except that more buildings would be visible, and some of these buildings would appear slightly taller. Overall, changes in the character of this viewpoint would be as described for Alternatives 1 and 1A.

Under Alternative 3, the redeveloped view would be similar to that described for Alternatives 1 and 1A, except that more buildings would be visible, and some of these buildings would appear slightly taller than the buildings depicted under Alternative 2. Overall, changes in the character of this viewpoint would be as described for Alternatives 1 and 1A.

Under Alternative 4, the redeveloped view would feature new low-rise buildings in the mid-field view. The existing Harborview Hospital buildings and taller buildings in the First Hill neighborhood would continue to be visible behind the site. Although the height and scale of the new buildings would be greater than presently exists, the overall visual character from this viewpoint would remain that of an urban development as described under existing conditions.

*Pacific Medical Center/U.S. Public Health Service Hospital (**Figure 3.10.1-10**, Viewpoint 10)*

The Pacific Medical Center is a City Landmark building that is located on Beacon Hill, adjacent to Dr. Jose Rizal Park. This viewpoint is similar to that described for Dr. Jose Rizal Park, except that the 12th Avenue S corridor and bridge is visible in the foreground. The view to the east and north consists of a panoramic view of south Downtown, the Downtown skyline, Elliott Bay, and

Existing

Alternative 1

Alternative 1A

Alternative 2

Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-9
Visual Simulations
Viewpoint 11 - Dr. Jose Rizal Park Viewpoint

Yesler Terrace Redevelopment EIS

Existing

Alternative 1

Alternative 1A

Alternative 2

Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-10
Visual Simulations
Viewpoint 10 - Pacific Medical Center/U.S. Public Health Service Hospital Viewpoint

Yesler Terrace Redevelopment EIS

views of the Olympic Mountains. The view to the Yesler Terrace site is visible in the mid-field view, although the existing low-rise, 2-story residential buildings are barely discernable. Behind Yesler Terrace, taller buildings in the First Hill neighborhood are visible; many of these are Harborview Hospital campus buildings.

Under Alternatives 1, 1A, 2, 3 and 4, the redeveloped view from this viewpoint would generally be as described under existing conditions above for Viewpoint 11.

Historic Landmark Views and Space Needle Viewpoints

In addition to view protection policies associated with officially-designated viewpoints, it is also City policy to:

> *protect public views of historic landmarks designated by the City's 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 th e City and contribute to the distinctive quality or identity of their neighborhood or the City.*[3]

The most visible landmark from many parts of the City is the Space Needle, which is located approximately 2 miles northwest of the site. The City has identified ten viewpoints from which views of the Space Needle are to be protected.[4.] The majority of these viewpoints are located to the north of the site and, therefore, there would be no potential for the redevelopment proposed under any of the alternatives to affect views of the Space Needle from these locations. The remaining viewpoints are located in West Seattle, and the Yesler Terrace site would not be within the sightline of the Space Needle from any of these viewpoints.[5]

Other historic landmarks which are adjacent to or visible from the site include the Harborview Fire Station building to the north of the site and the Pacific Medical Center building on Beacon Hill to the southeast. Potential impacts to views of these Landmark buildings are discussed further below. The Harborview Medical Center Central Wing is another Landmark building which is close to the site (see Section 3.11, **Historic Resources**, and **Figure 3.11-3** for more information and for the location of this building). However, the Central Wing building is located internal to the Medical Center campus, and does not directly border the Yesler Terrace site. While portions of this Landmark building are visible from the south, the building is largely obscured by another Harborview Medical Center building (the East Wing).

*Alder Street/Terry Avenue -Harborview Fire Station (**Figure 3.10.1-11**, Viewpoint 5)*

The current view from this location is of the Alder Street/Terry Avenue intersection in the foreground. On the north side of the Alder Street corridor, the 3-story Harborview Fire Station building is visible in the mid-field, and the taller, larger Harborview Research and Training building can be seen behind the Fire Station. The Fire Station is a designated City Landmark building, and is also listed in the National Register of Historic Places and the Washington State Heritage Register (see Section 3.11, **Historic Resources**, for further information). On the south side of the Alder Street corridor, existing low-rise Yesler Terrace residential buildings are visible

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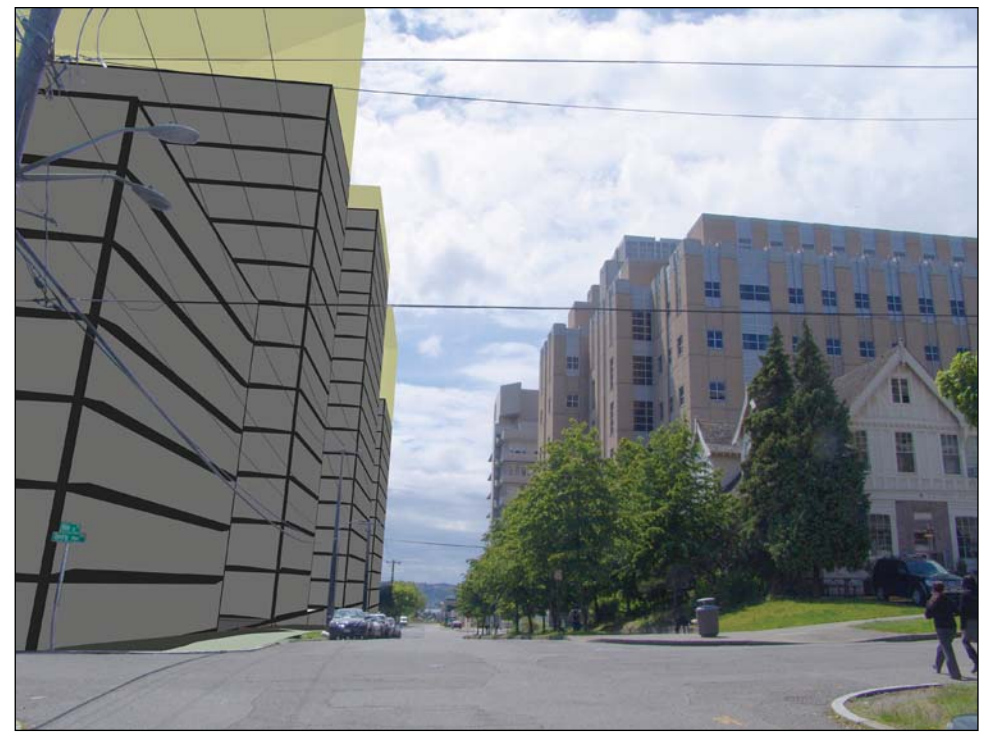
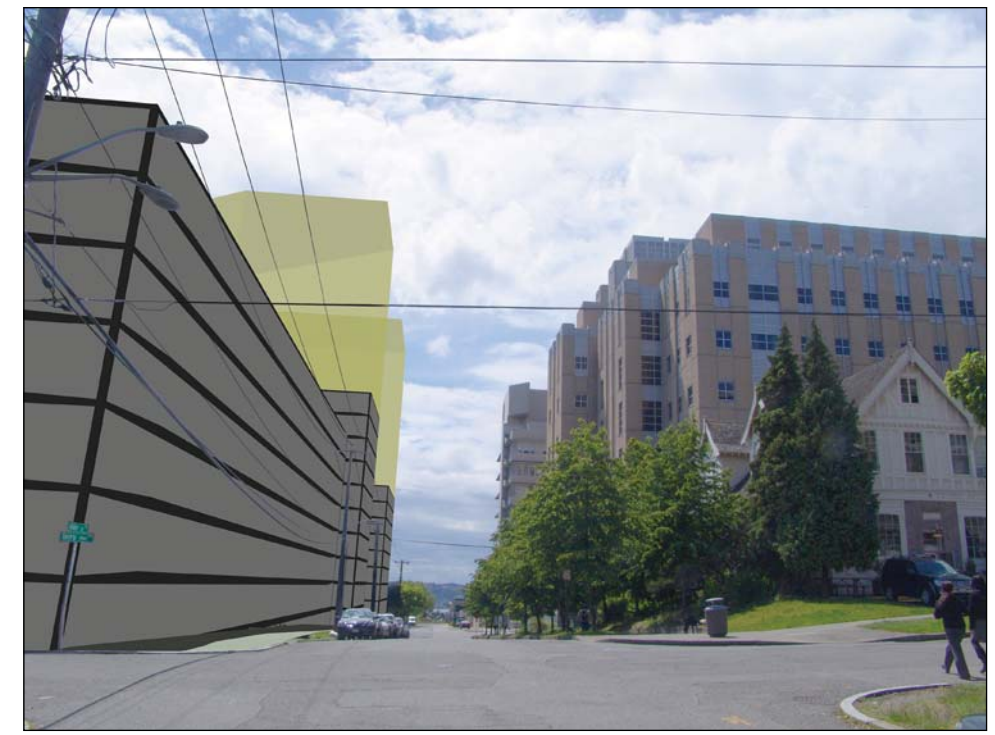
[3] Seattle Municipal Code Chap. 25.05.675 P.2.b.i.
[4] Seattle Municipal Code Chap. 25.05.675 P. and Seattle DCLU, 2001,
[5] City of Seattle, Viewpoints Locater Map.

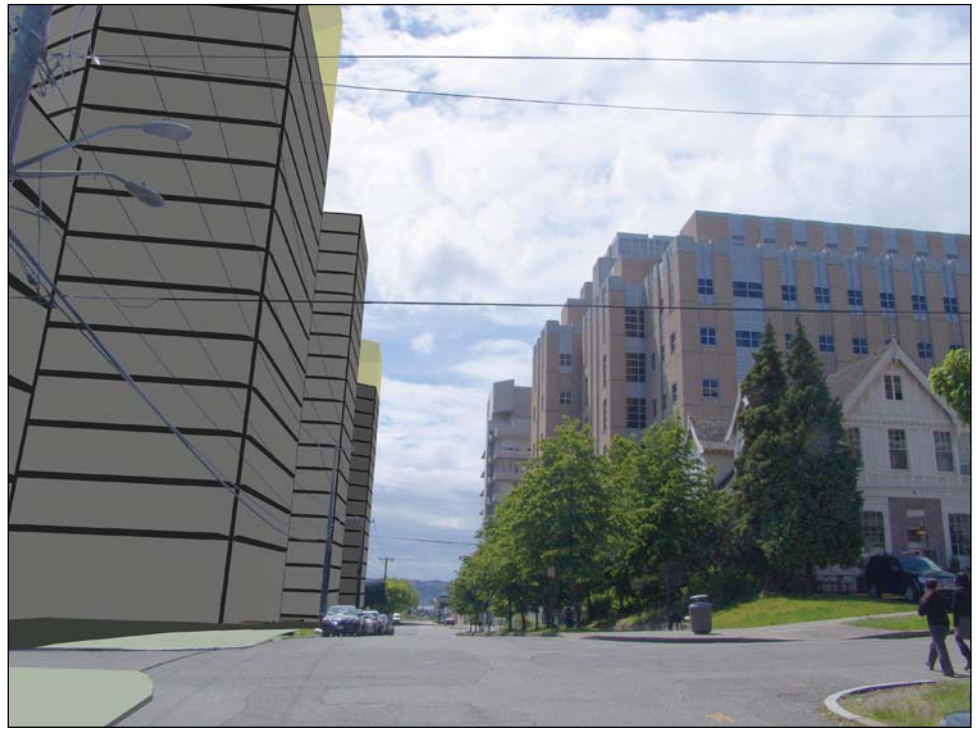
Existing



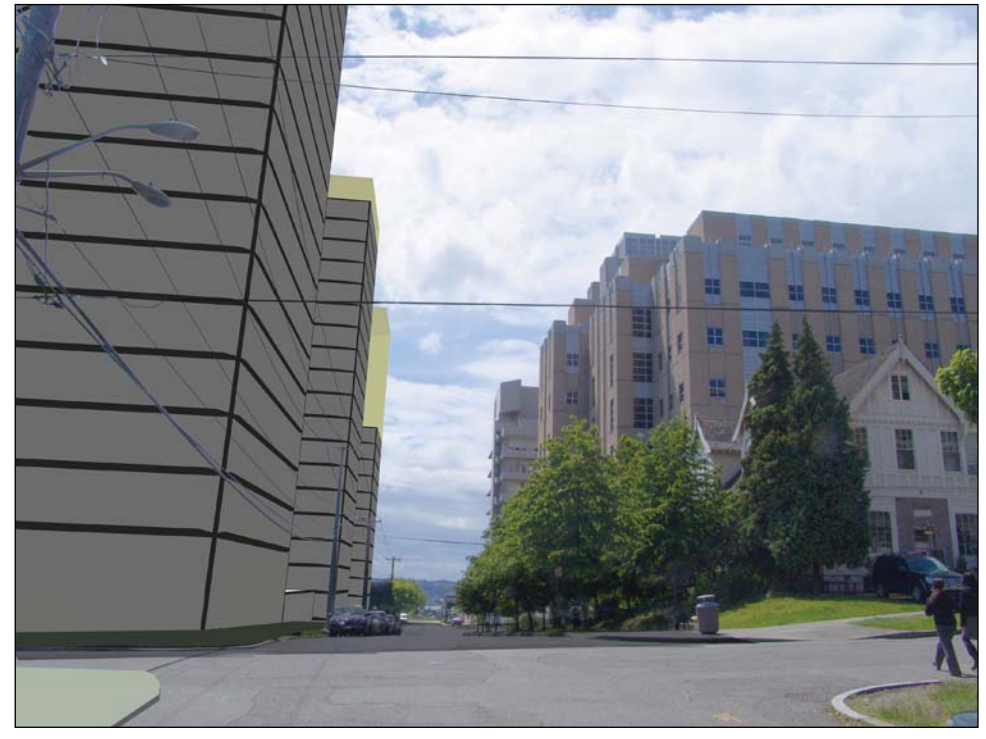
Alternative 1



Alternative 1A



Alternative 2



Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-11
Visual Simulations
Viewpoint 5 - Harborview/Firehouse Adjacency

Yesler Terrace Redevelopment EIS

in the foreground and mid-field view. The skyline and part of the South Downtown neighborhood are visible in the distant Alder Street corridor and views to the Olympic Mountains are available on clear days.

Under Alternative 1, the redeveloped view of the site under the capacity model development scenario would feature portions of a mid-rise building in the foreground, and several high-rise buildings in the mid-field view on the south side of Alder Street. The South Downtown neighborhood, skyline and mountain views would continue to be visible in the distance down the Alder Street corridor. The height and scale of the new buildings would be greater than the Fire Station building, but would generally be similar to the Harborview Research and Training building which is visible behind the Fire Station. The overall visual character of this viewpoint would change to a more urban development with larger, taller buildings on the Yesler Terrace site, and the overall visual effect would be to further vertically define the Alder Street corridor. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that the height of three of the new buildings would be taller. Changes to the overall visual character and visual effect of this viewpoint effect would be similar to that described for the capacity model.

Under Alternative 1A, the redeveloped view of the site under the capacity model development scenario would also feature a new mid-rise building in the foreground on the south side of Alder Street. This building would extend further to the southwest down Alder Street than the mid-rise building depicted in the foreground under Alternative 1A. Portions of a new high-rise and mid-rise building would also be visible in the mid-field view. The height and scale of the new buildings would be greater than the Fire Station building, but less than the Harborview Research and Training building which is visible behind the Fire Station. The overall visual character of this viewpoint would change as described for Alternative 1 and views down the Alder Street corridor would remain as described for Alternative 1. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that the mid rise and high-rise buildings in the mid-field view would appear as taller high-rise buildings. Changes to the overall visual character and visual effect of this viewpoint would be similar to that described for the capacity model.

Under Alternative 2, the redeveloped view of the site under the capacity model development scenario would be similar to Alternative 1, except that the new buildings would be taller. The height of the new buildings would be greater than the adjacent Fire Station, but generally consistent with the Harborview Research and Training building. The overall visual character of this viewpoint would change as described for Alternative 1 and views down the Alder Street corridor would remain as described for Alternative 1. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that the height of one building in the mid-field view would appear slightly taller. Changes to the overall visual character and visual effect of this viewpoint would be similar to that described for the capacity model.

Under Alternative 3, the redeveloped view of the site under the capacity model development scenario would generally be the same as described for Alternative 2, except that the building in the foreground would be taller. The overall visual character of this viewpoint would change as described for Alternative 1 and views down the Alder Street corridor would remain as described for Alternative 1. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that two of two buildings in the mid-field view would be taller. Changes to the overall visual character and visual effect of this viewpoint would be similar to that described for the capacity model.

Under Alternative 4, the redeveloped view would feature new low-rise residential buildings in the foreground and mid-field on the south side of Alder Street. These new buildings would be similar in height and scale to the Fire Station building, but less than the Harborview Research and Training building. The overall visual character of this site would be similar to the existing view.

*Yesler Community Center Gymnasium (**Figure 3.10.1-12**, Viewpoint 16)*

The current view from this location is of a portion of a storage building to the east and the Headstart building to the west and in the foreground. The Yesler ball field is visible in the mid-field view. In the background, the southern skyline and the Pacific Medical Center building, which is a designated City Landmark, can be seen, as well as portions of the Beacon Hill neighborhood.

From this viewpoint, there would be no visible difference between the capacity model development scenario and the maximum zoning height.

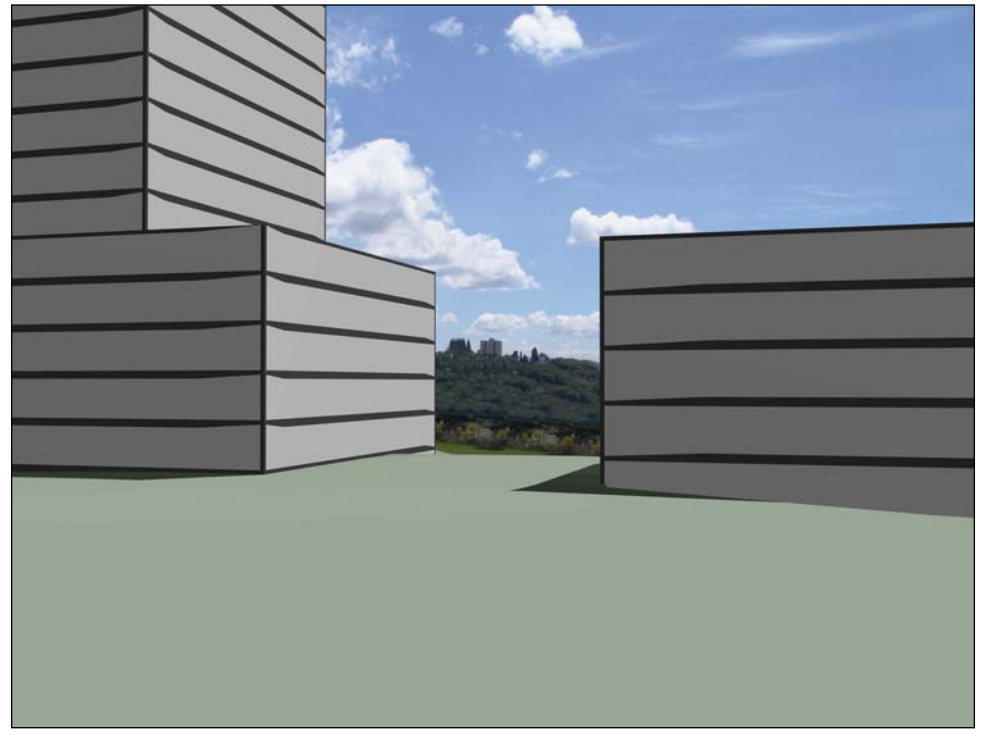
Under Alternatives 1 and 1A, the redeveloped view would prominently feature open space (the new Commons Park) in the foreground. In the mid-field, a mid-rise building would be visible to the west and a high-rise building would be visible to the east. The new buildings would obscure the existing view of the Pacific Medical Center building and portions of the skyline. Views of the Beacon Hill neighborhood would continue to be possible. The overall character of this viewpoint would change to feature open space in the foreground, and new buildings of a greater height and scale as compared to the existing view.

Under Alternative 2, the redeveloped view would prominently feature open space in the foreground. The mid-field view would be dominated by a high-rise building to the west and two mid-rise buildings to the east. These new buildings would obscure distant views of the Pacific Medical Center building, the Beacon Hill neighborhood and portions of the southern skyline. The overall visual character from this viewpoint would change as described for Alternatives 1 and 1A.

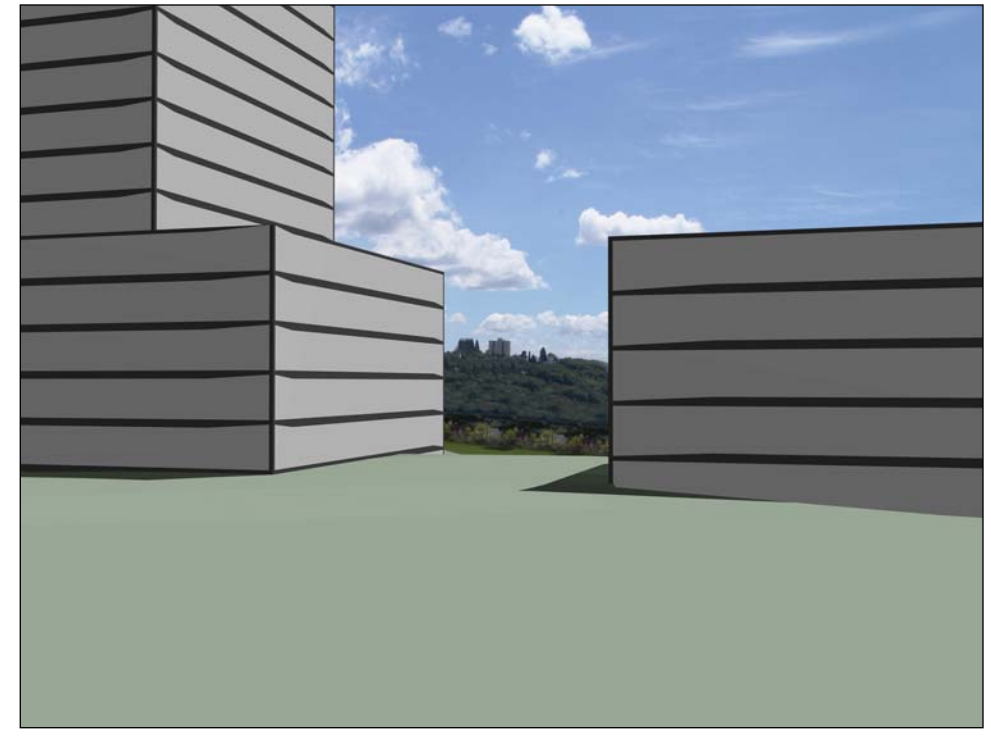
Under Alternative 3, the redeveloped view would also feature open space in the foreground and a high-rise building to the west and mid-rise building to the east. Another high-rise building would be visible in the background, and a mid-rise building would be seen in the center of the viewpoint. These new buildings would obscure distant views of the Pacific Medical Center building, the Beacon Hill neighborhood and portions of the southern skyline. The overall visual character from this viewpoint would change into a more densely developed site, with buildings of a greater height and scale as compared to the existing view.

Under Alternative 4, the redeveloped view would feature open space in the foreground and new low-rise buildings in the mid-field view. Existing views of the Pacific Medical Center building, the Beacon Hill neighborhood and portions of the skyline would be obscured. Overall, the visual character from this viewpoint would change to feature low-rise buildings in the mid-field view, as opposed to open space. The height and scale of the new buildings would be slightly taller than the existing development.

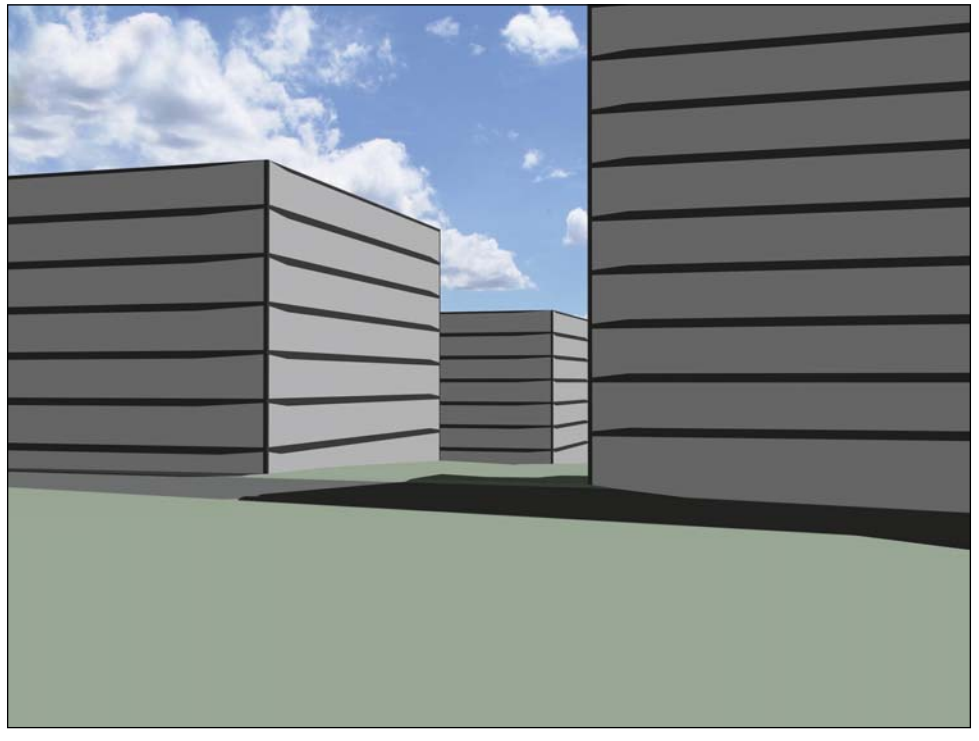
Existing



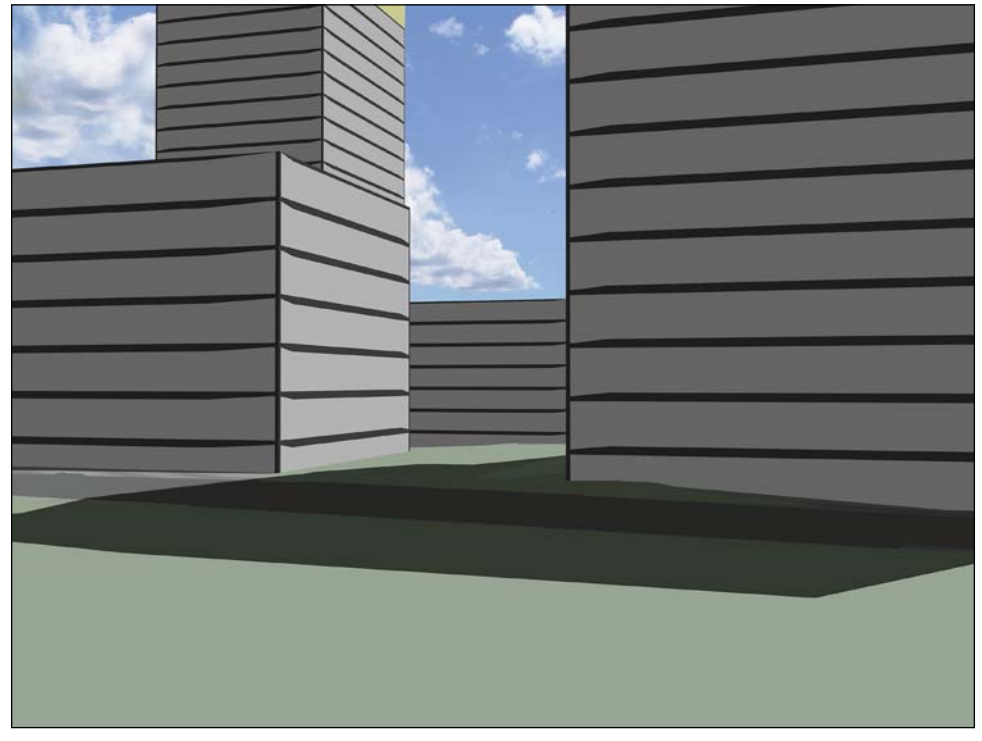
Alternative 1



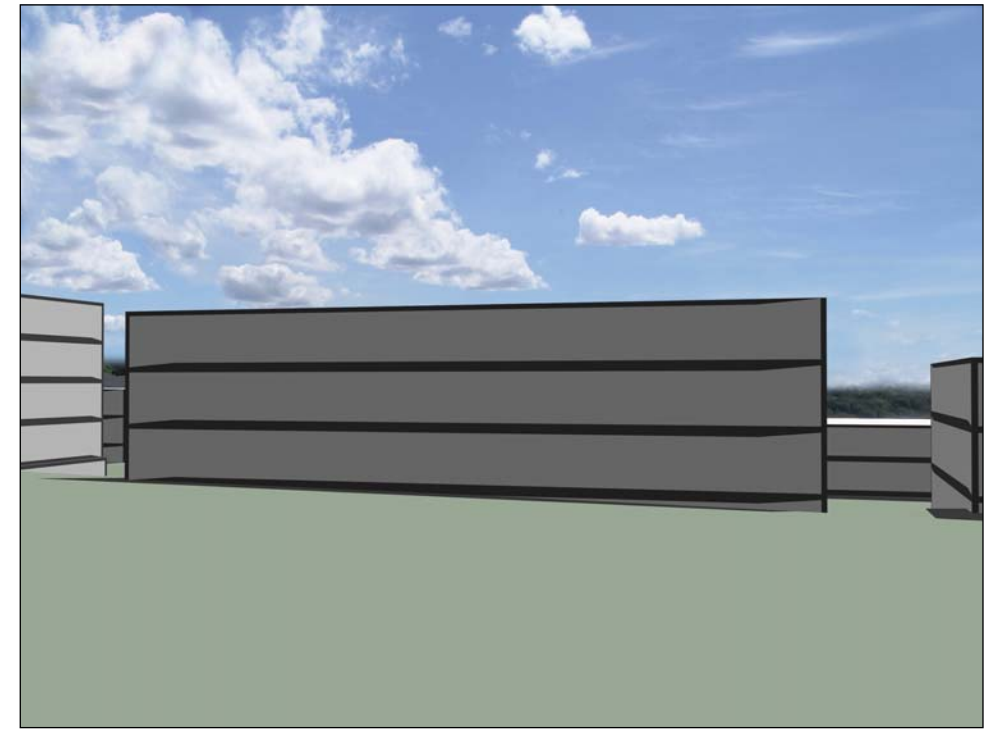
Alternative 1A



Alternative 2



Alternative 3



Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-12
Visual Simulations
Viewpoint 16 - Yesler Community Center Gymnasium

Yesler Terrace Redevelopment EIS

Scenic Routes

City ordinances[6] also identify specific scenic routes throughout the City in which view protection is to be encouraged. Several streets and major transportation corridors on or within proximity to the site have been designated as scenic routes; they include: Fifth Avenue, E Yesler Way, Jackson Street and I-5. Due to the location of the project site, only I-5 and Yesler Way could have views of redevelopment under the proposed alternatives; E Yesler Way bisects the site,

and I-5 is located directly to the west. Viewshed simulations are provided from these two roadways to illustrate potential visual impacts (see **Figure 3.10.1-5** for the viewpoint location map).

*I-5 (**Figure 3.10.1-13**, Viewpoint 12)*

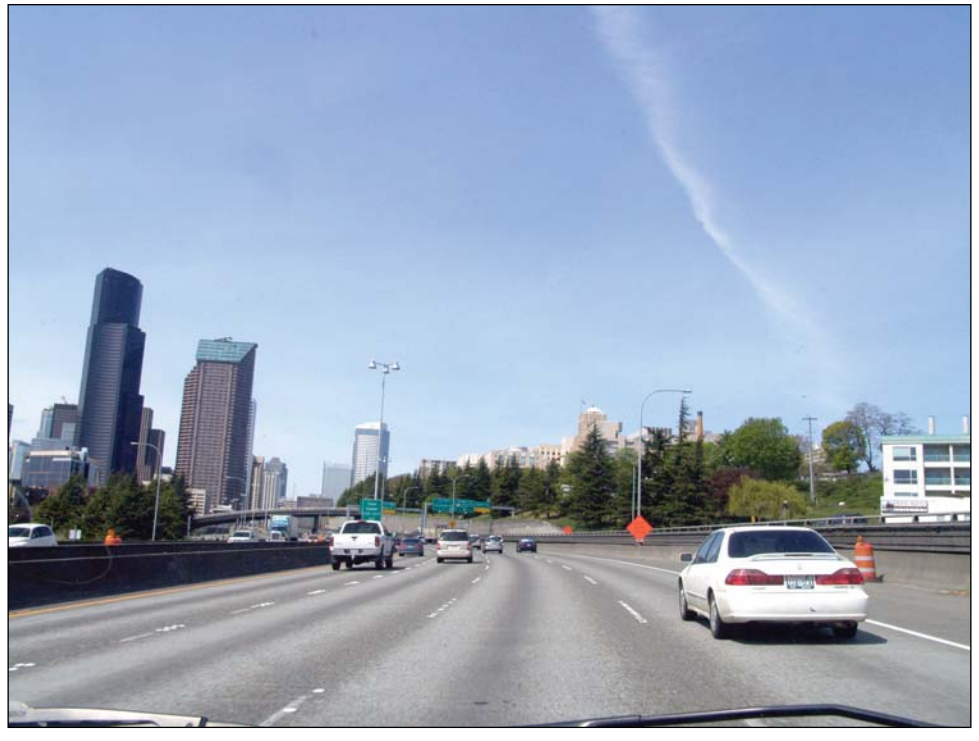
The current view traveling northbound on I-5 is of the highway corridor in the foreground and the Yesler Bridge in the mid-field. Downtown high-rise buildings are visible to the west, and the Yesler Terrace site is visible to the east. The view of the site from this location on I-5 is primarily of trees and a vegetated slope, with several partially obscured residential buildings visible behind the trees; some Harborview Medical Center buildings and the First Hill neighborhood are partially visible in the background, behind the site.

Under Alternative 1 the redeveloped view of the site under the capacity model development scenario would feature new mid-rise and high-rise buildings. These new buildings would block views of existing development in the First Hill neighborhood, including Harborview Medical Center buildings. The new buildings would be similar to or less than the height and scale of the existing uses to the west in Downtown Seattle. The overall visual character from this viewpoint would remain that of a densely developed urban setting, although the visual density and height and scale of buildings on the east side of the I-5 corridor would be greater. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that several of the new high-rise buildings would be taller. The overall visual character would remain similar to that described for the capacity model.

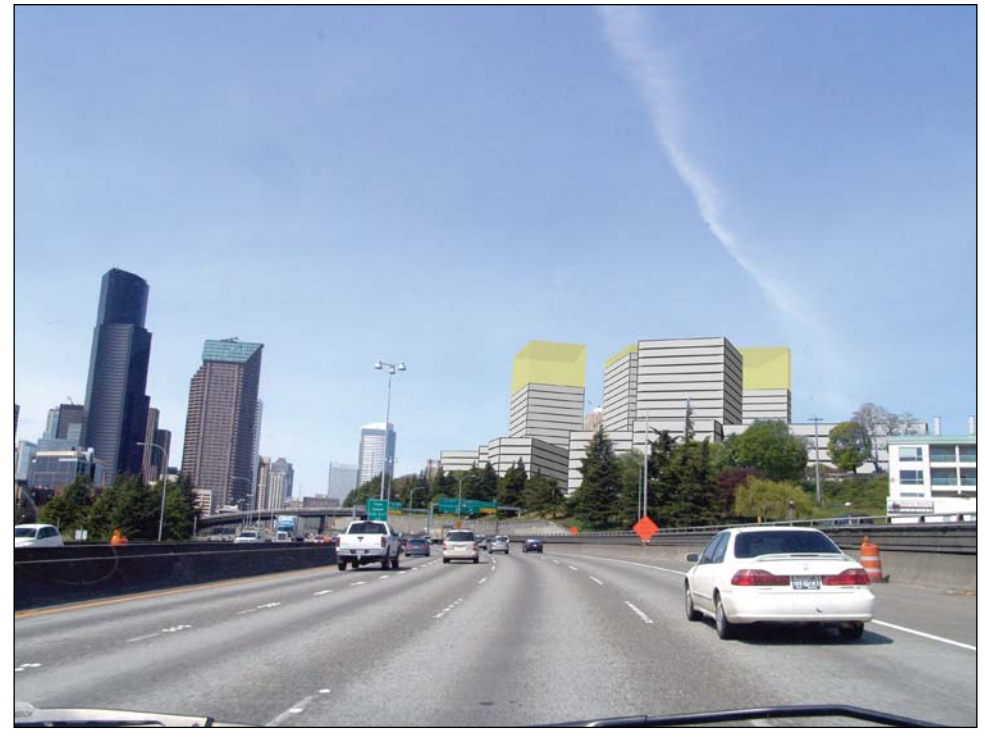
Under Alternative 1A, the redeveloped view of the site under the capacity model development scenario would be similar to Alternative 1, except that slightly fewer buildings would be visible, and several high-rise buildings in the background would be shorter. The overall visual character and views of First Hill from this viewpoint would change as described for Alternative 1. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that several of the new high-rise buildings would be taller. The overall visual character would remain similar to that described for the capacity model.

Under Alternative 2, the redeveloped view of the site under the capacity model development scenario would feature taller, larger buildings than depicted under Alternatives 1 and 1A. The new buildings would appear similar in height and scale to Downtown buildings on the west side of I-5. The overall visual character and views of First Hill from this viewpoint would change as described for Alternative 1. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that several of the new high-rise buildings would be

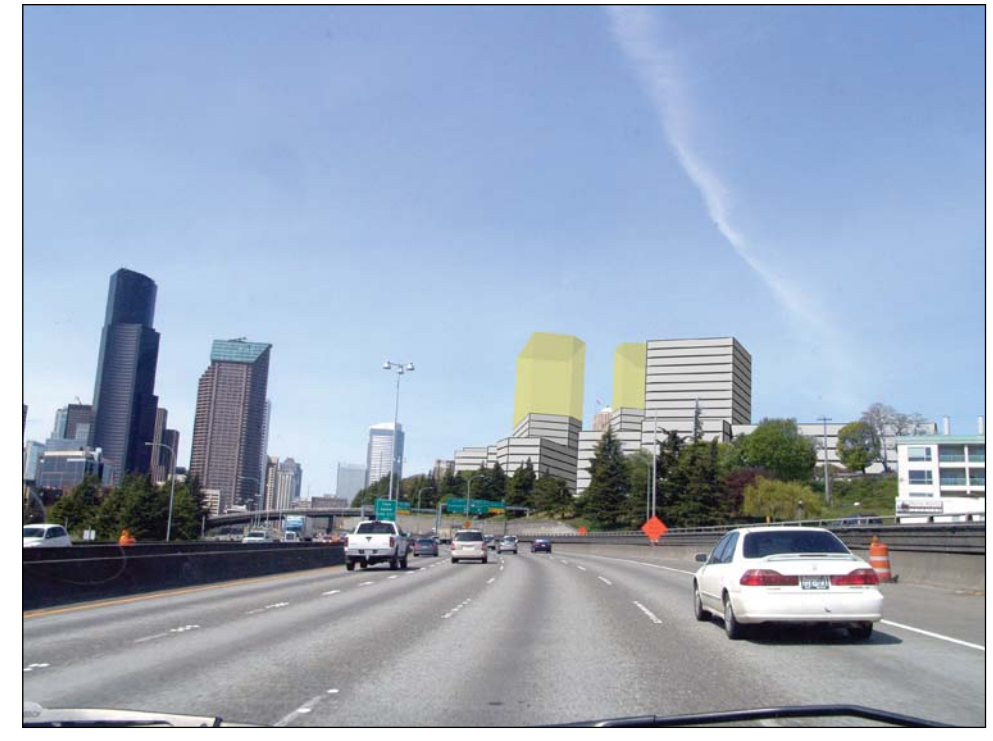
[6] Ord. #97025 (Scenic Routes Identified by the Seattle Engineering Department Traffic Division) and Ord. #114057 (Recommended Open Space Policies).



Existing



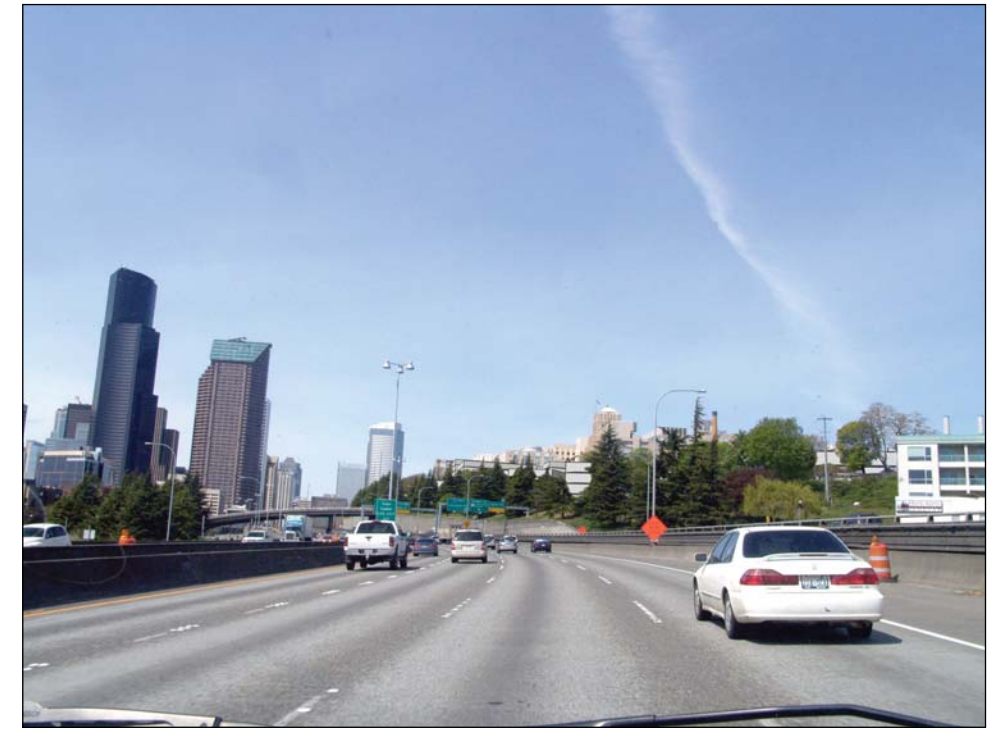
Alternative 1



Alternative 1A

Alternative 2

Alternative 3



Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-13
Visual Simulations
Viewpoint 12 - Interstate 5 Scenic Corridor

Yesler Terrace Redevelopment EIS

taller. The overall visual character would remain similar to that described for the capacity model.

Under Alternative 3, the redeveloped view of the site under the capacity model development scenario would be similar to Alternative 2, except that buildings would be arranged in a different configuration, and several of the high-rise buildings would be taller. The new buildings would appear similar in height and scale to Downtown buildings on the west side of I-5. The overall visual character and views of First Hill from this viewpoint would change as described for Alternative 1. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that several of the new high-rise buildings would be taller. The overall visual character remain similar to that described for the capacity model.

Under Alternative 4, portions of new low-rise buildings would be barely discernable in the redeveloped view of the site. Overall, the visual character from this viewpoint would generally remain as described under existing conditions.

E Yesler Way

Since E Yesler Way is a scenic corridor that bisects the site, three viewpoints were selected for analysis to depict potential view impacts resulting from the proposed redevelopment alternatives. These viewpoints are described below.

*E Yesler Way/ west of 8th Avenue, Looking West (**Figure 3.10.1-14**, Viewpoint 14)*

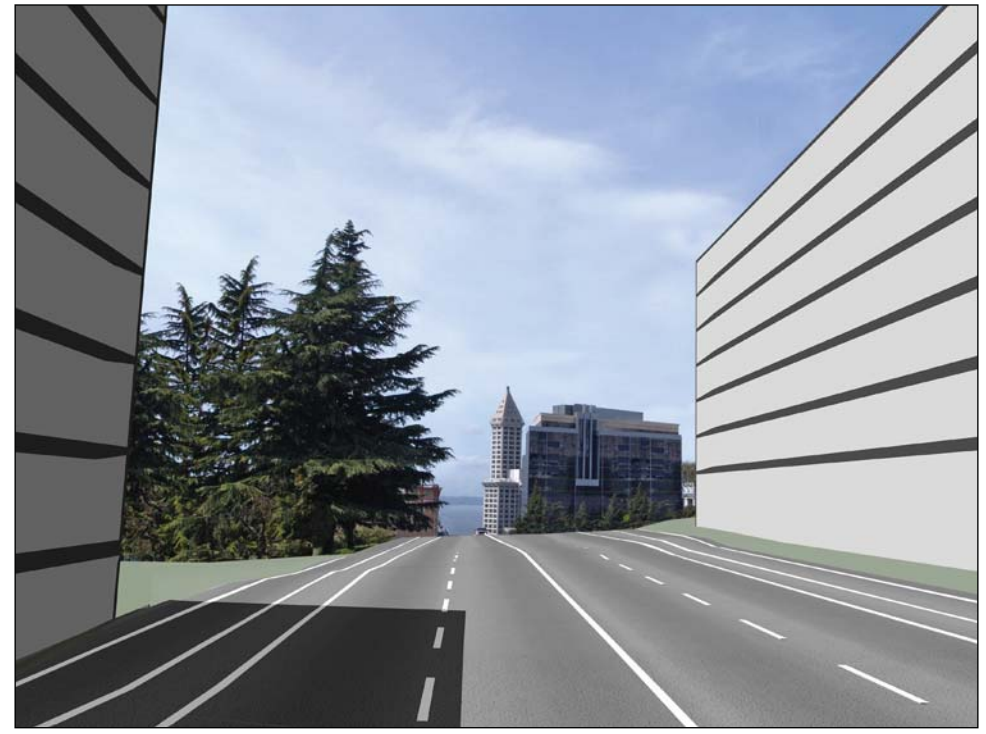
The current view looks west down the E Yesler Way corridor and consists of roadways, sidewalks and street trees. Existing Yesler Terrace residential buildings are visible in the mid-field on the north side of E Yesler Way. The south side of E Yesler Way features sidewalk and landscaping. Smith Tower, which is a City of Seattle Landmark building, the Fifth and Yesler office building and Elliott Bay are visible in the background; views to the Olympic Mountains are also available in the distant background on clear days. Part of the Columbia Tower can be seen to the northwest.

From this viewpoint, there would be no visible difference between the capacity model development scenario and the maximum zoning height.

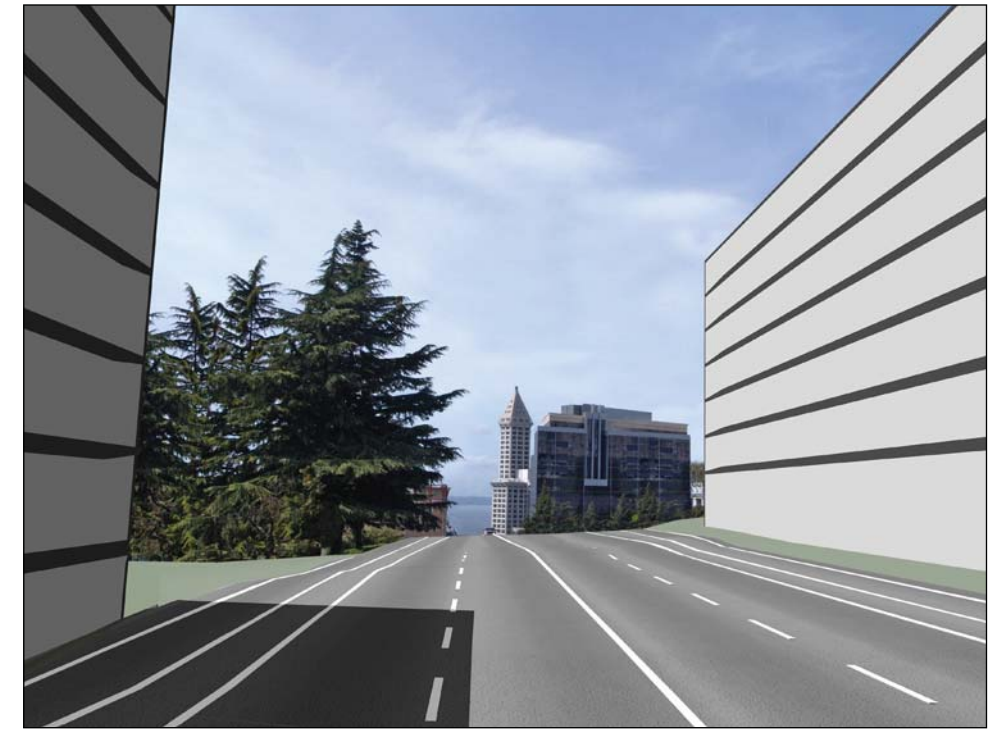
Under Alternatives 1 and 1A, the redeveloped view of the site would continue to feature the E Yesler Way corridor looking to the west. Portions of a new mid-rise building would be visible on north side of the street, and the edge of a high-rise building would be visible on the south side of the street. Smith Tower, the Fifth and Yesler office building and Elliott Bay would continue to be visible in the background. The overall visual character from this viewpoint would change to a more urban development with larger, taller buildings, which would further vertically define the E Yesler Way corridor. Views to the Smith Tower Landmark building and the water and mountains beyond would remain as described for the existing view. Views to the north of Yesler Way towards the downtown skyline and views of the Columbia Tower to the northwest would be obscured.

Under Alternative 2, the redeveloped view of the site would continue to feature the E Yesler Way corridor looking to the west. The edge of a high-rise building would be barely visible on the south side of the E Yesler Way corridor. The north side of the street would feature open space - no new buildings would be visible. Views to the Smith Tower Landmark building and the water

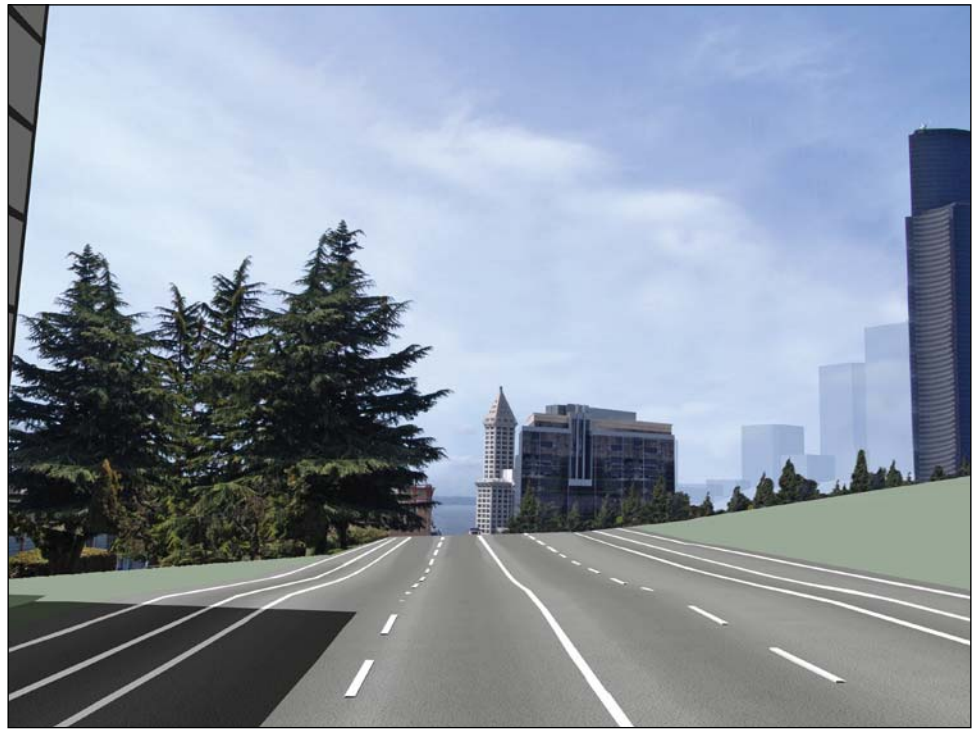
Existing



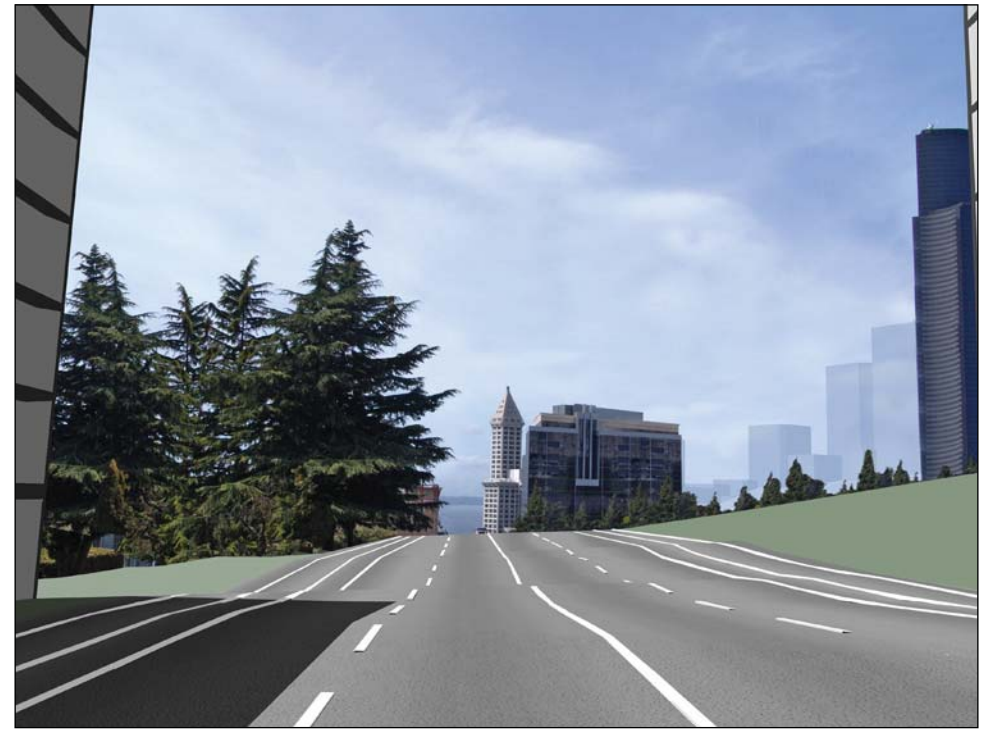
Alternative 1



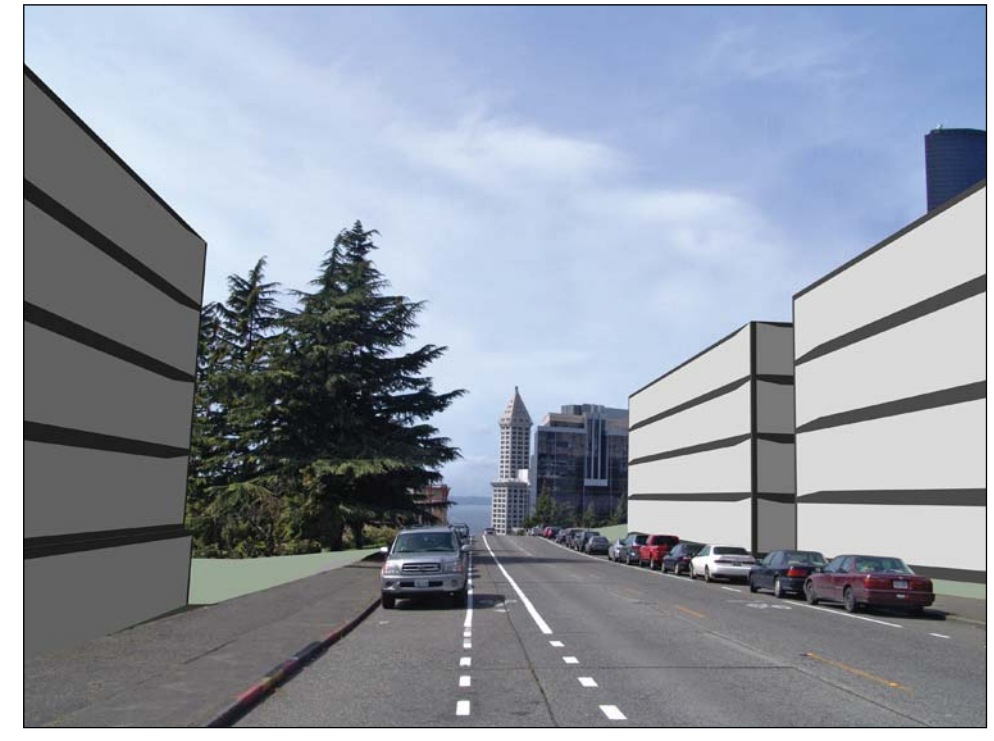
Alternative 1A



Alternative 2



Alternative 3



Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-14
Visual Simulations
Viewpoint 14 - Yesler Way Scenic Corridor (west of 8th Ave looking west)

Yesler Terrace Redevelopment EIS

and mountains would remain as described for the existing view, and additional views of the Downtown skyline to the northwest from the site would be possible, more than the existing view. The overall character of this viewpoint would change to that of a largely undeveloped area and a sense of openness would be established on both sides of E Yesler Way. Views to the west/northwest would be created or maintained.

Under Alternative 3, the redeveloped view of the site would be generally similar to that described for Alternative 2, except that the edge of a new high-rise building would be barely visible on the north side of E Yesler Way, and slightly more massing from a high-rise building on the south side of the street would be visible. The overall character and views from this viewpoint would be as described for Alternative 2.

Under Alternative 4, the redeveloped view of the site would feature two new low-rise buildings on the north side of E Yesler Way and one new low-rise building and open space on the south side of E Yesler Way. Views to the Smith Tower Landmark building and the water and mountains would remain as described for the existing view. Views of the Fifth and Yesler office building and the Columbia Tower would be partially obscured. The overall visual character from this viewpoint would change to a more densely developed site with slightly taller buildings, which would further vertically define the E Yesler Way corridor.

*E Yesler Way/12th Avenue, Looking West (**Figure 3.10.1-15**, Viewpoint 8)*

The current view from this location, the northwest corner of the Bailey-Gatzert Elementary School property, looks west down the E Yesler Way corridor and consists of roadways, including the 12th Avenue/E Yesler Way intersection in the foreground. The East of Boren Sector is visible in the mid-field, including a vacant 2-story retail/office building and a 1-story residential/community building, which is partially obscured by fencing. The office/retail building was demolished in August 2010: this visual simulation was taken before the building was removed. Trees, skyline and a high-rise building are visible in the background.

From this viewpoint, there would be no visible difference between the capacity model development scenario and the maximum zoning height under Alternatives 1, 1A and 2.

Under Alternatives 1, 1A and 2, the redeveloped view of the site would feature new mid-rise buildings in the East of Boren Sector and a portion of a high-rise building in the background on the north side of E Yesler Way, and new mid-rise and high-rise buildings on the south side of E Yesler Way. Portions of the skyline and the existing view of the high-rise building in the background would be obscured. The overall visual effect of the new buildings would be to further vertically define the E Yesler Way corridor. The height and scale of the proposed new buildings would be larger than the existing streetscape and the visual density would increase.

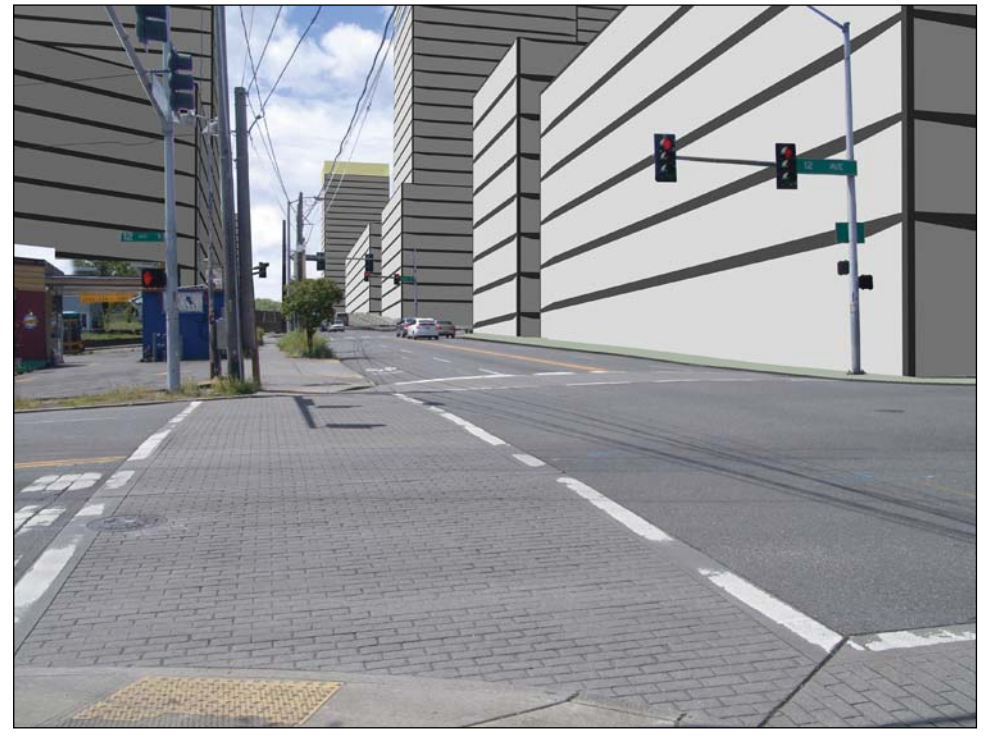
Under Alternative 3, the redeveloped view of the site would feature mid-rise buildings, as well as portions of new high-rise buildings on the north and south sides of E Yesler Way. Most of the skyline and the existing view of the high-rise building in the background would be obscured. The overall visual effect of the new buildings and the character of this viewpoint would be as described for the previous alternatives. Under the maximum zoning height the redeveloped view of the site would be similar to the capacity model, except that one high-rise building in the background would appear slightly taller. The overall visual effect and character of this viewpoint would remain as described for the capacity model.

Existing

Alternative 1

Alternative 1A

Alternative 2



Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-15
Visual Simulations
Viewpoint 8 - Yesler Way Scenic Corridor (at 12th Ave looking west)

Yesler Terrace Redevelopment EIS

Under Alternative 4, the redeveloped view of the site would be similar to Alternatives 1, 1A and 2, on the north side of E Yesler Way (within the East of Boren Sector) except that no new high-rise buildings would be visible in the background. On the south side of E Yesler Way, a new low-rise building would be visible. The overall visual effect of the new buildings would be generally as described for the previous alternatives.

*10th Avenue/Yesler Way, Looking East (**Figure 3.10.1-16**, Viewpoint 17)*

The current view from this location looks east down the E Yesler Way corridor and consists of street, sidewalk and existing Yesler Terrace low-rise residential buildings on both sides of the street. The E Yesler Way corridor can be seen extending uphill into the distance, and views of the eastern skyline are available, including the Cascade mountains on a clear day. No views of water or the Downtown skyline are available in this direction.

From this viewpoint, there would be no visible difference between the capacity model development scenario and the maximum zoning height under Alternatives 1, 1A and 2.

Under Alternatives 1 and 1A, the redeveloped view of the site would feature portions of new mid-rise buildings on the north side of E Yesler Way. On the south side of E Yesler Way, a high-rise building with an upper level setback would be visible in the foreground and a mid-rise building would be visible in the mid-field. These new buildings would obscure portions of the eastern skyline. The overall visual effect of the new buildings would be to further vertically define this portion of the E Yesler Way corridor. The height and scale of the new buildings would be greater than the existing streetscape and the visual density would increase.

Under Alternative 2, the redeveloped view of the site would be generally as described for Alternatives 1 and 1A, except that a high-rise building would be visible along the north side of the street in the foreground, instead of a high-rise building with an upper level setback. The overall character of the viewpoint would change as described for Alternatives 1 and 1A.

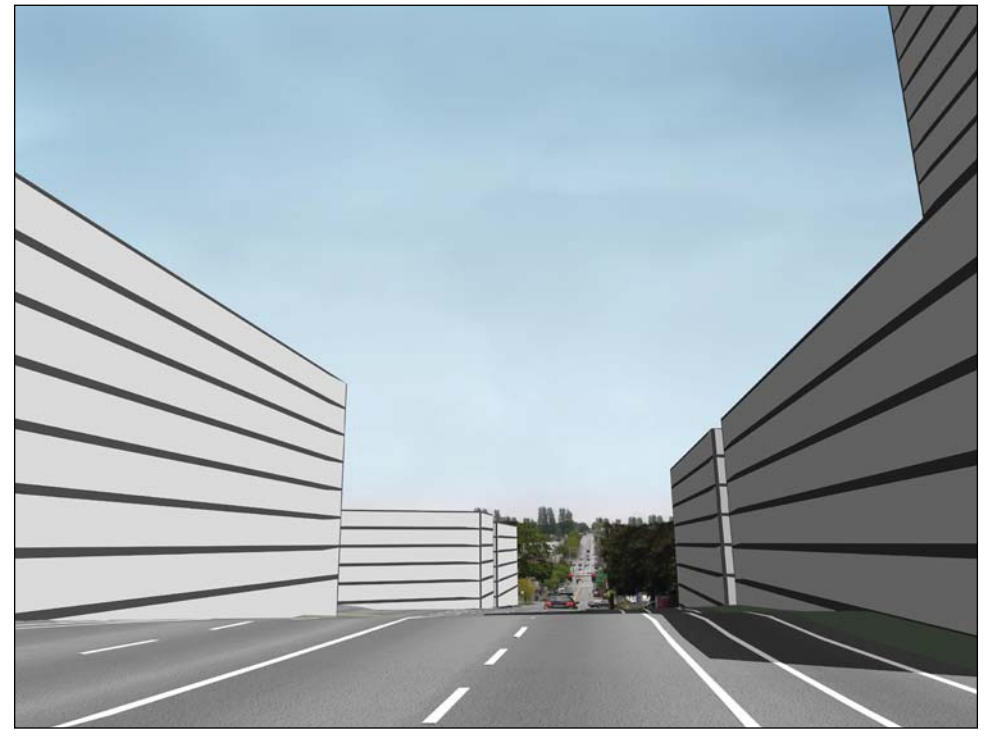
Under Alternative 3, the redeveloped view of the site under the capacity model development scenario would feature new mid-rise and high-rise buildings on both sides of E Yesler Way, and the visual density and height of buildings would be greater than described for the previous alternatives. Similar to the previous alternatives, the E Yesler Way corridor would be further vertically defined, and the overall height and scale of the new buildings would be greater than the existing streetscape and the visual density would increase. Under the maximum zoning height, the redeveloped view of the site would be generally the same, except that the high-rise building on the north side of the street would slightly taller. The overall visual character of the viewpoint would change as described for the capacity model.

Under Alternative 4, the redeveloped view of the site would feature new low-rise buildings on the north and south sides of the street. Similar to the previous alternatives, the E Yesler Way corridor would be further vertically defined. The visual density of the new buildings would be greater than the existing streetscape, and the new buildings would be slightly taller (by 2-stories).

Representative Views to and From the Site

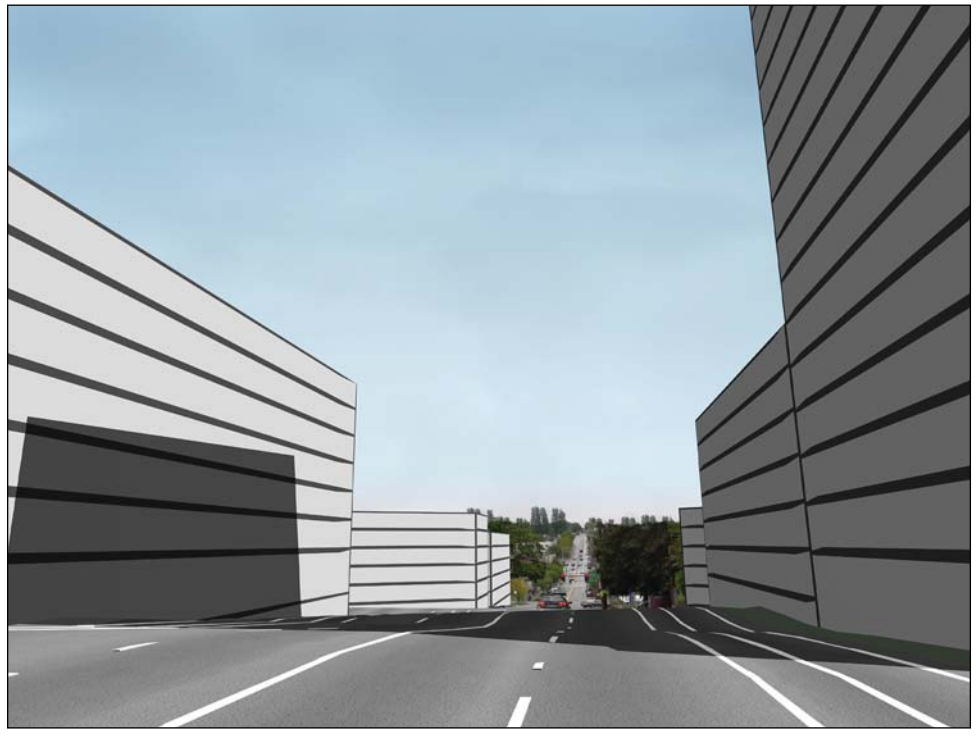
The remaining viewpoints were selected as generally representative views of the site from public places on or in proximity to the site (i.e. parks, surrounding or internal roadways) in order

Existing



Alternative 1

Alternative 1A



Alternative 2

Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-16
Visual Simulations
Viewpoint 17 - Yesler Way Scenic Corridor (at 10th Ave looking east)

Yesler Terrace Redevelopment EIS

to characterize the view conditions that could result under the EIS Alternatives (see **Figure 3.10.1-5** for the viewpoint location map).

*Boren Place (**Figure 3.10.1-17**, Viewpoint 3)*

Boren Place is a City park located to the north of the Yesler Terrace site on a triangle of land bound by Boren Avenue, Broadway and E Terrace Street. The current view looking to the south includes a portion of grassy open space, sidewalk and a tree in the foreground. The 3-level Boren Avenue Parking Garage is visible to the west, and portions of two low-rise buildings are visible on the east side of the street, including the Childhaven daycare building and the King County Medical Society building. The Broadway corridor extends downhill to the south and portions of the sky are visible in the distance.

Under Alternatives 1, the redeveloped view of the site under the capacity model development scenario would feature new high-rise and mid-rise buildings in the mid-field view on the east side of the street behind the King County Medical Society building, with other new buildings stepping down the hill further in the distance. Portions of a mid-rise and high-rise building would be barely visible on the west side of the street, behind the parking garage. Views to the sky in the distant background would be partially obscured. The overall visual effect of the new buildings would be to further vertically define the Broadway corridor. The height and scale of the proposed buildings would be somewhat greater than the adjacent existing development, but due to the southerly sloping site the buildings would largely appear as a continuation of the height and scale of existing adjacent buildings. The visual density would increase, but the overall visual character of this viewpoint would not significantly change from the existing view. Under the maximum zoning height, the redeveloped view of the site would be similar to the capacity model, except that the visible portion of one high-rise building on the west side of the street would be taller. The overall visual character of this viewpoint would remain as described under the capacity model.

Under Alternative 1A, the redeveloped view of the site under the capacity model development scenario would be similar to Alternative 1, except that no high-rise building would be visible behind the parking garage on the west side of the street. There would be no visible difference between the capacity model development scenario and the maximum zoning height under this alternative.

Under Alternative 2, the redeveloped view of the site under the capacity model development scenario would be similar to Alternatives 1 and 1A, except that the buildings in the mid-field view would be slightly taller on the west side of Broadway, and new taller buildings would be more visible on the east side of Broadway, behind the parking garage. The overall character of this viewpoint would change as described for Alternatives 1 and 1A. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model, except that the high-rise building on the west side of the street behind the parking garage would be several stories taller. The overall character of this viewpoint would change as described under the capacity model.

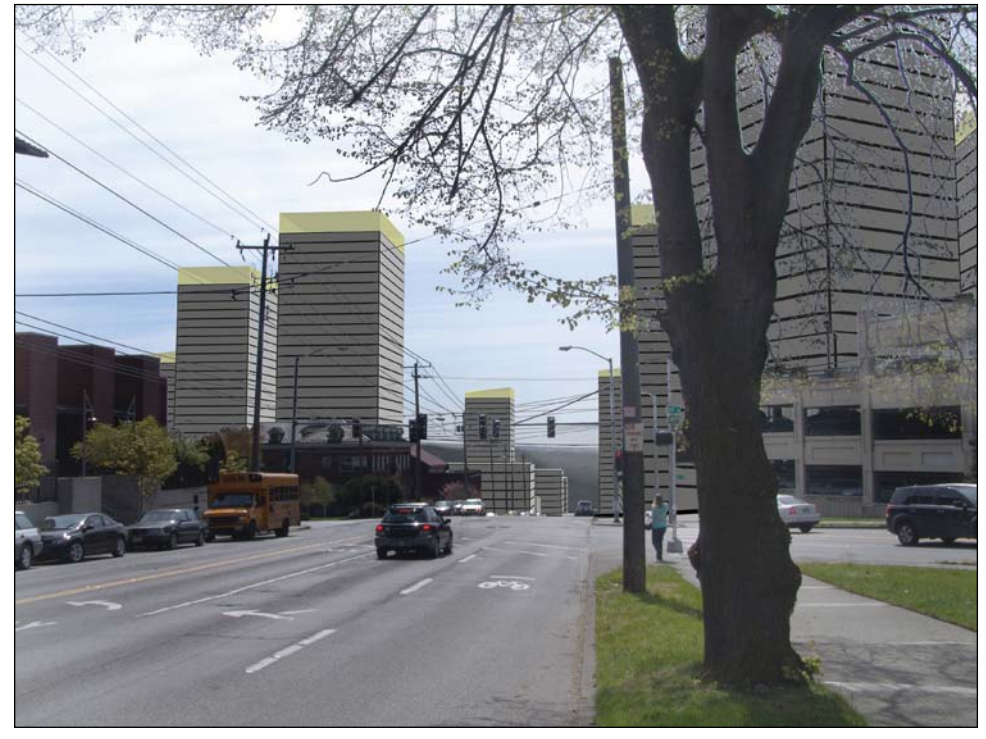
Under Alternative 3, the redeveloped view of the site under the capacity model development scenario would prominently feature new high-rise and mid-rise buildings on both sides of the Broadway street corridor. The height and scale of the new buildings would be greater than existing adjacent development. Views to the sky in the distant background would be partially obscured. The visual effect of the new buildings would be to further vertically define the Broadway corridor. Overall, the visual character of this viewpoint would change to a more

Existing

Alternative 1

Alternative 1A

Alternative 2



Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-17
Visual Simulations
Viewpoint 3 - Boren Place

Yesler Terrace Redevelopment EIS

densely developed, urban site with taller buildings. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model, except that the high-rise buildings on both sides of the street would be slightly taller. The overall character of this viewpoint would change as described under the capacity model.

*Horiuchi Park (**Figure 3.10.1-18**, Viewpoint 7)*

Horiuchi Park is located along Boren Avenue and Fir Street, to the northeast of the West of Boren Sectors, and to the northwest of the East of Boren Sector. The current view from this park to the southeast includes the Boren Avenue corridor, street trees and sidewalk. The top of the low-rise Abbottsford Apartment building can be seen on the east side of Boren Avenue. The edge of the Yesler Terrace site, trees and an existing residential building are visible in the mid-field view on the west side of Boren Avenue. Part of the skyline and the Beacon Hill neighborhood can be seen down the street corridor in the far distance.

Under Alternatives 1 and 1A, there would be no visible difference between the capacity model development scenario and the maximum zoning height. The redeveloped view of the site would prominently feature portions of new mid-rise buildings in the foreground and mid-field view on the west side of Boren Avenue. Portions of a new building would be barely visible on the east side of the street. Views of the skyline and Beacon Hill Neighborhood would continue to be visible in the distance. The overall visual character from this viewpoint would change from the existing low-rise residential development to a more dense urban development. The visual density and height and scale of new buildings would increase as compared to the existing streetscape.

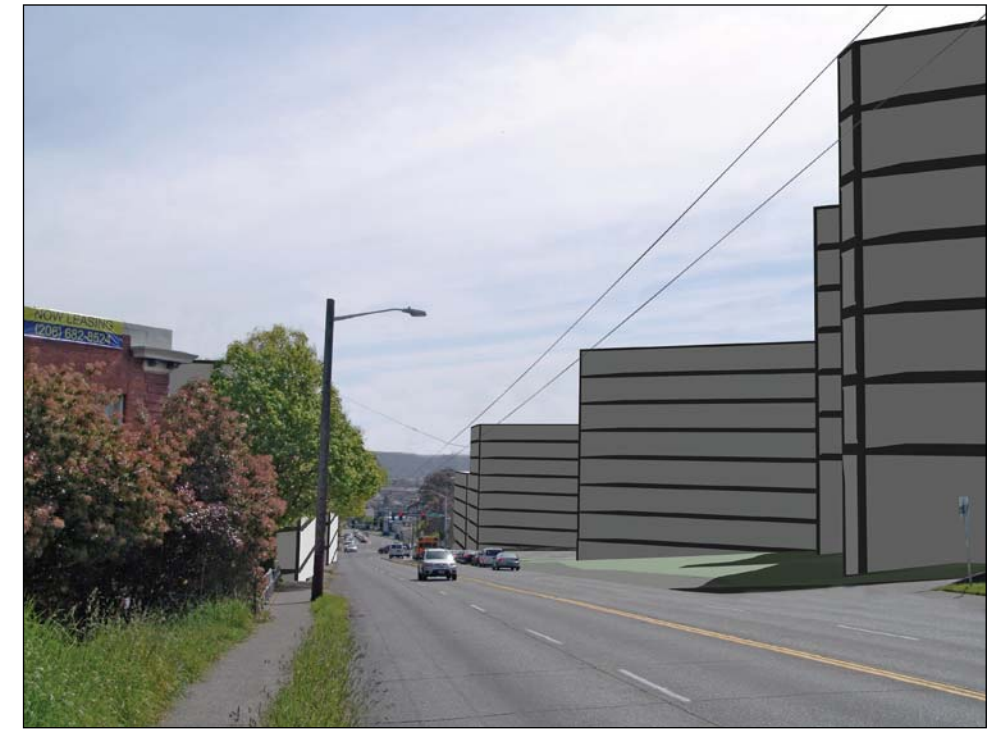
Under Alternative 2, the redeveloped view of the site under the capacity model development scenario would generally be similar to Alternatives 1 and 1A, except that portions of a high-rise building would also be visible in the mid-field view on the west side of the street, and there would be a slightly different arrangement of the mid-rise buildings. The overall visual character of this viewpoint would change as described for Alternative 1. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model, except that the high-rise building in the mid-field view would be slightly taller. The overall visual character of this viewpoint would change generally as described under the capacity model.

Under Alternative 3, the redeveloped view of the site under the capacity model development scenario would feature several new high-rise and mid-rise buildings on the west side of Boren Avenue, and a portion of a mid-rise building on the east side of the street. The overall visual character of this viewpoint would change as described for Alternative 1. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model, except that two of the high-rise buildings on the west side of the street would be slightly taller. The overall visual character of this viewpoint would change generally as described under the capacity model.

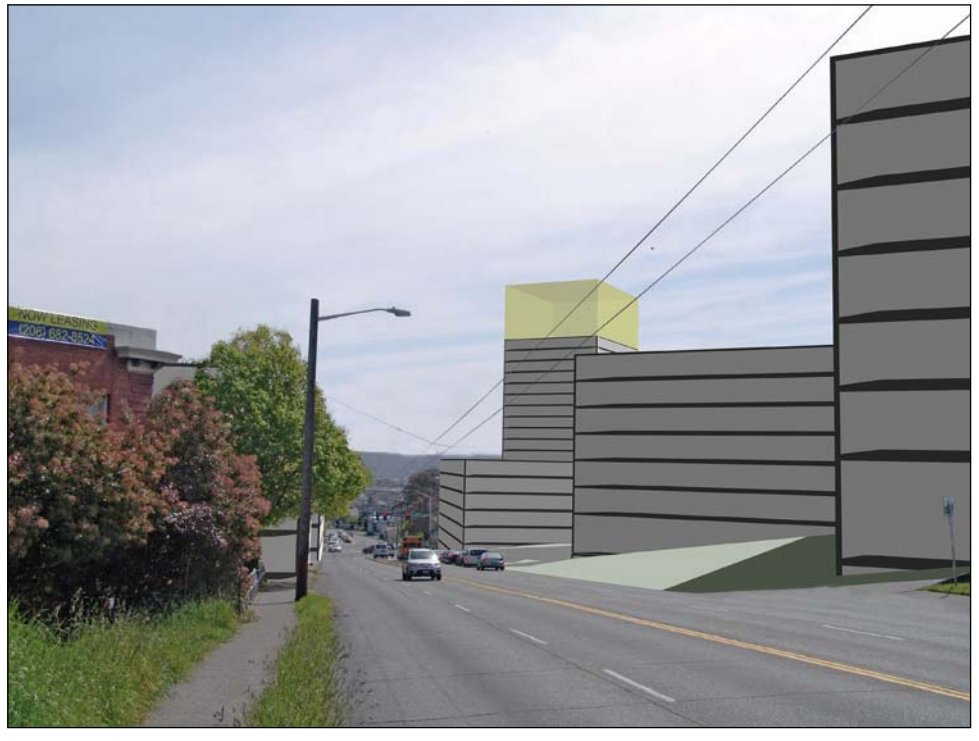
Under Alternative 4, the redeveloped view would feature several new low-rise buildings on the west side of the Boren Avenue and a portion of a mid-rise building on the east side of the street. The height and scale of the new buildings would be greater than the existing buildings, but similar to the multi-family residential building across the street. The overall visual character of this viewpoint would change to a slightly more dense residential development with 4-story buildings.

Existing

Alternative 1

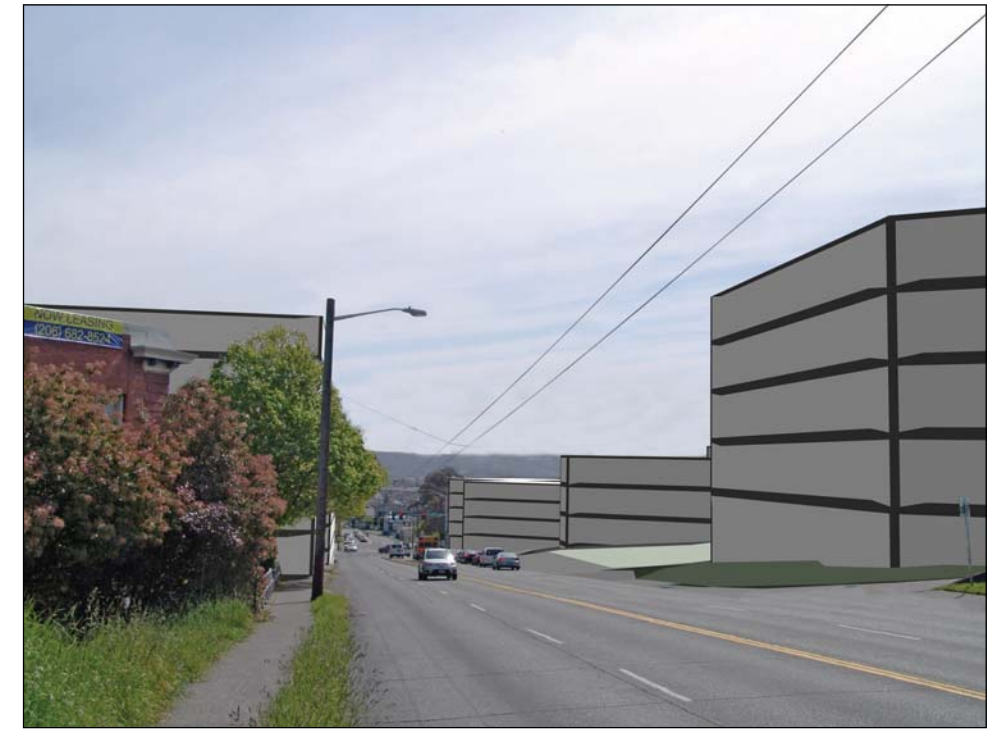


Alternative 1A



Alternative 2

Alternative 3



Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-18
Visual Simulations
Viewpoint 7 - Horiuchi Park

Yesler Terrace Redevelopment EIS

*Edwin T Pratt Park (**Figure 3-10.1-19**, Viewpoint 9)*

Edwin T Pratt Park is located approximately 0.4 miles to the east of the site. The Figure for this viewpoint (Figure K1.3) is available in **Appendix K**). The current view looking to the west towards the Yesler Terrace includes grassy open space in the foreground, a low-rise multi-family residential building in the mid-field, and the tops of several high-rise buildings in Downtown Seattle and the skyline in the background.

Under Alternatives 1, 1A, 2 and 4, the redeveloped site would not be visible and the overall visual character of this viewpoint would not change from the existing view.

Under Alternative 3, small portions of two new high-rise buildings would be visible in the distance under the capacity model development scenario. These buildings would blend in and be consistent with the visible buildings in the Downtown skyline. As such, the overall visual character from this viewpoint would remain generally as described under existing conditions. The view under the maximum zoning height would be similar to the capacity mode, except that one high-rise building would be slightly taller. The overall visual character of the viewpoint would remain as described under existing conditions, similar to the capacity model.

*9th Avenue and Jefferson Street, Looking Southeast (**Figure 3.10.1-20**, Viewpoint 2)*

The existing view from 9th Avenue and Jefferson Street is of the Jefferson Street corridor, framed by the Harborview Medical Center Norm Maleng building in the foreground (which is a 6-story bridge building adjoining the East Hospital wing) and portions of mid-rise and high-rise Harborview Medical Center buildings (including part of the Harborview Medical Center Central Wing Landmark building on the west side of the street) in the mid-field view. The southeast skyline and Mount Rainier are visible in the background.

Under Alternative 1, the redeveloped view of the site under the capacity model development scenario would include portions of three new high-rise buildings; a small section of a fourth building would also be visible. The new buildings would largely appear as a continuation of the Harborview campus to the south. Views of the southeast skyline and Mount Rainier within the 9th Avenue corridor would be partially obscured. The character of this viewpoint would remain as a densely developed urban setting, however, the urban development would extend further into the background as compared to existing conditions. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model, except that the high-rise building on the east side of the street would be taller. The character of this viewpoint would generally change as described for the capacity model.

Under Alternative 1A, the redeveloped view of the site under the capacity model development scenario would be similar to Alternative 1, except that several of the new buildings would be mid-rise, rather than high-rise structures. These new buildings would also obscure portions of the skyline and Mount Rainier. The overall character of this viewpoint would change as described for Alternative 1. The redeveloped view of the site under the maximum zoning height would feature high-rise buildings on the east and west sides of the street, and more of the skyline would be obscured. The overall character of this viewpoint would be generally as described under the capacity model.

Under Alternative 2, the redeveloped view of the site under the capacity model development scenario would include two new high-rise buildings on both sides of the 9th Avenue corridor, and

Existing

Alternative 1

Alternative 1A

Alternative 2

Alternative 3

Alternative 4

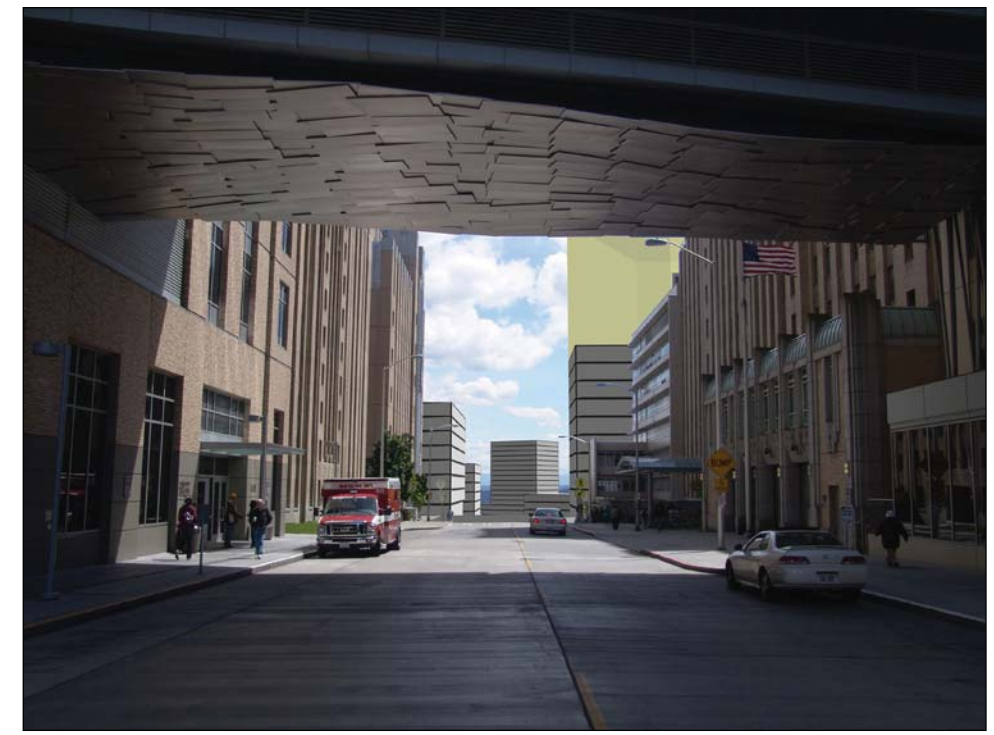
All Simulations by The Portico Group, 2010

Figure 3.10-19
Visual Simulations
Viewpoint 9 - Edwin T. Pratt Park

Yesler Terrace Redevelopment EIS

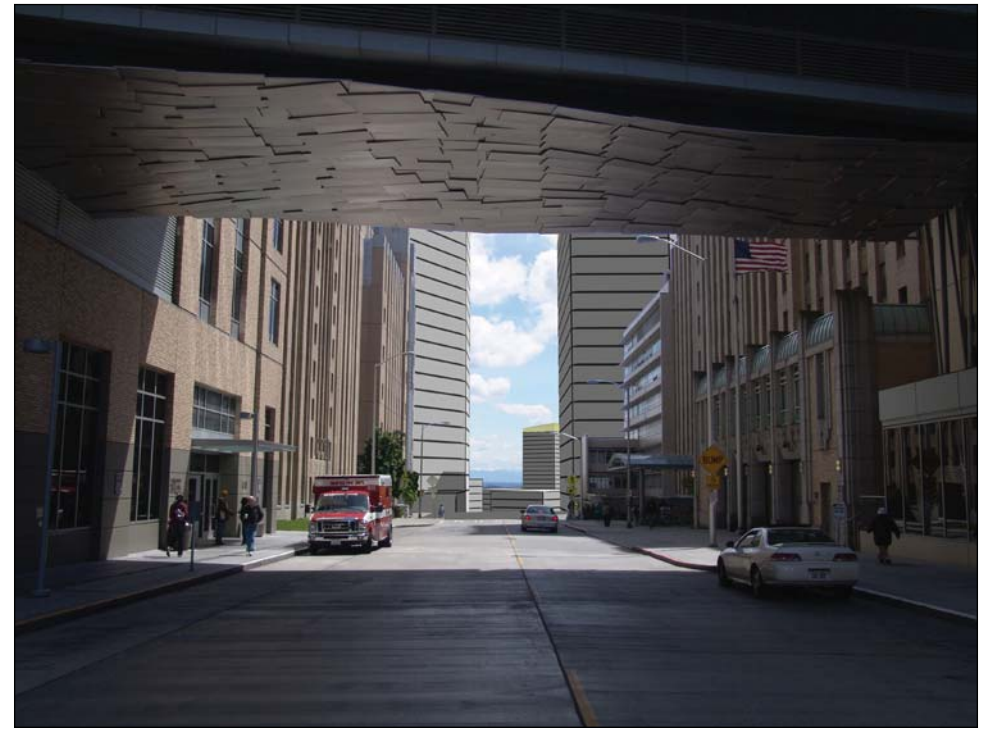
Existing

Alternative 1



Alternative 1A

Alternative 2



Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-20
Visual Simulations
Viewpoint 2 - 9th Ave and Jefferson St

Yesler Terrace Redevelopment EIS

the roofs of several other new buildings in the center of the street corridor view. While portions of the skyline and mountains would be obscured, more of the view would be preserved as compared to Alternatives 1 and 1A. Overall, the character of this viewpoint would change as described for Alternative 1. The redeveloped view of the site under the maximum zoning height would be similar to the capacity model, except that the high-rise building on the east side of the street would be taller. The overall visual character would generally change as described for the capacity model.

Under Alternative 3, the redeveloped view would be similar to that described for Alternative 2, except that the new building on the east side of the street would be taller, and a part of a high-rise building would be visible in the center of the 9th Avenue corridor. Portions of the skyline and Mount Rainier would be obscured, and the overall character of this viewpoint would change as described for Alternative 1. The redeveloped view of the site under the maximum zoning height would be generally as described under the capacity model, except that one high-rise building in the background would be slightly taller. The overall visual character would generally change as described for the capacity model.

Under Alternative 4, the redeveloped view would include portions of the upper floors of several mid-rise buildings on the east side of 9th Avenue. Overall, however, the redeveloped view would be similar to the existing view, and the overall visual character of this viewpoint would not change. View to the skyline and Mount Rainier would be preserved.

*Broadway and Alder Street (**Figure 3.10.1-21**, Viewpoint 6)*

The existing view from this viewpoint features the Broadway/Alder Street intersection in the foreground. In the mid-field view, an existing Yesler Terrace residential building is visible on the west side of the Broadway, and the low-rise, King County Medical Society building is visible on the east side of the Broadway. To the south of the King County Medical Society Building, a portion of the Washington Baptist Convention/Japanese Baptist Church is visible. These buildings have been evaluated as potentially eligible for listing in the National Register of Historic Places and for designation as a City of Seattle Landmark. See Section 3.11, **Historic Resources** and **Appendix L** for additional information. The remainder of the viewpoint is dominated by trees, vegetation and sky. Overall, the view from this viewpoint is very similar to Viewpoint 3; Viewpoint 6 is located just slightly further south on Broadway, to the south of Boren Place.

Under Alternatives 1 and 1A, there would be no visible difference between the capacity model development scenario and the maximum zoning height. The redeveloped view of the site would feature new mid-rise buildings on the west side of Broadway and new high-rise buildings extending into the background on the east side of Broadway. The height and scale of the new buildings would be greater than the King County Medical Society building and the Japanese Baptist Church on the east side of Broadway. However, the street would act as a partial buffer between Yesler Terrace and the offsite buildings. Views of the sky would be partially obscured. The overall visual effect of the new buildings would be to further vertically define the Broadway corridor. The overall character of this viewpoint would change into a more densely developed urban setting and the height and scale of new buildings would be greater than the existing streetscape.

Under Alternative 2, the redeveloped view of the site under the capacity model development scenario would be generally similar to Alternatives 1 and 1A, except that a high-rise building

Existing

Alternative 1

Alternative 1A

Alternative 2

Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-21
Visual Simulations
Viewpoint 6 - Broadway at Alder St

Yesler Terrace Redevelopment EIS

would be visible on the west side of the Broadway corridor and additional taller buildings would be present. On the east side of Broadway, the first visible high-rise building would be taller. The overall visual effect and character of the viewpoint would change as described for Alternatives 1 and 1A. The relationship of the new buildings to the potentially historic buildings on the east side of Broadway would be generally as described for Alternatives 1 and 1A. The view under the maximum zoning height would be similar to the capacity model, except that two high-rise buildings on the east side of Broadway would be taller. The overall visual effect and character of the viewpoint would change as described under the capacity model.

Under Alternative 3, the redeveloped view of the site under the capacity model development scenario would feature a greater number of new high-rise and mid-rise buildings; the high-rise buildings would be taller than assumed for Alternative 2. The overall visual effect and character of the viewpoint would change as described for Alternatives 1 and 1A. The relationship of the new buildings to the existing offsite buildings on the east side of Broadway would be generally as described for Alternatives 1 and 1A. The view under the maximum zoning height would be similar to the capacity model, except that most of the visible high-rise buildings would be slightly taller. The overall visual effect and character of the viewpoint would change as described under the capacity model.

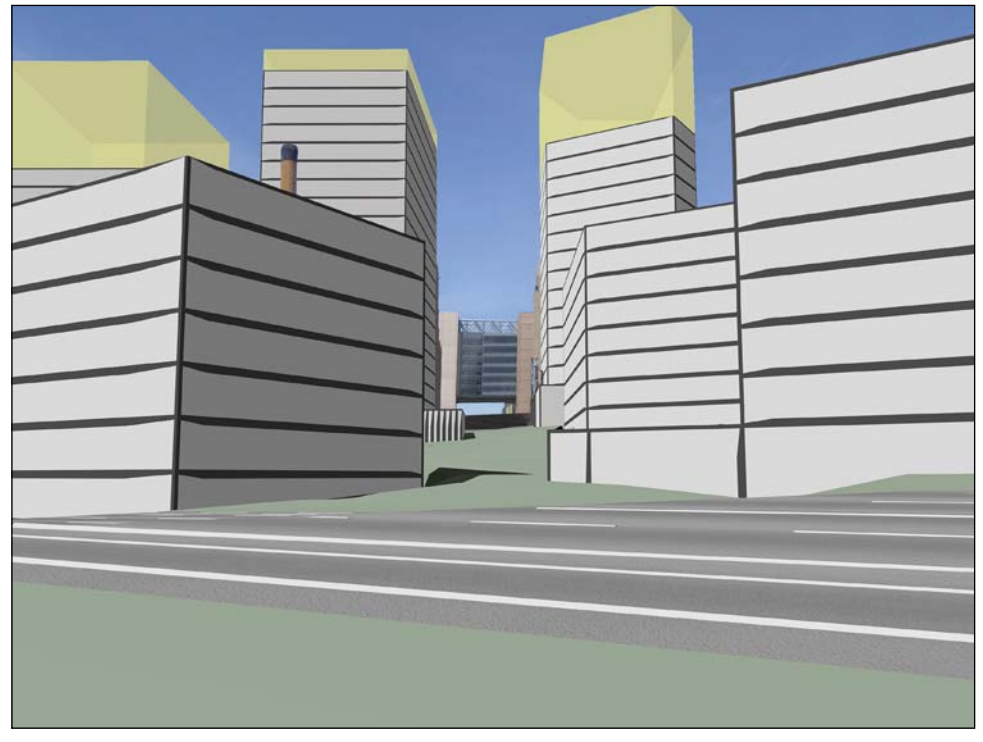
Under Alternative 4, the redeveloped view of the site would feature new 4-story, low-rise buildings on the west side of the Broadway corridor. Other new low-rise buildings would be barely visible in the distance on the east side of the Broadway corridor in the background, beyond the Japanese Baptist Church. The new buildings would be similar in height and scale to the King County Medical Society building and the Japanese Baptist Church. The overall visual character from this viewpoint would remain that of a low-rise residential development, although the density of visible buildings would increase, and building heights would be slightly greater.

*Broadway/E Yesler Way (**Figure 3.10.1-22**, Viewpoint 15)*

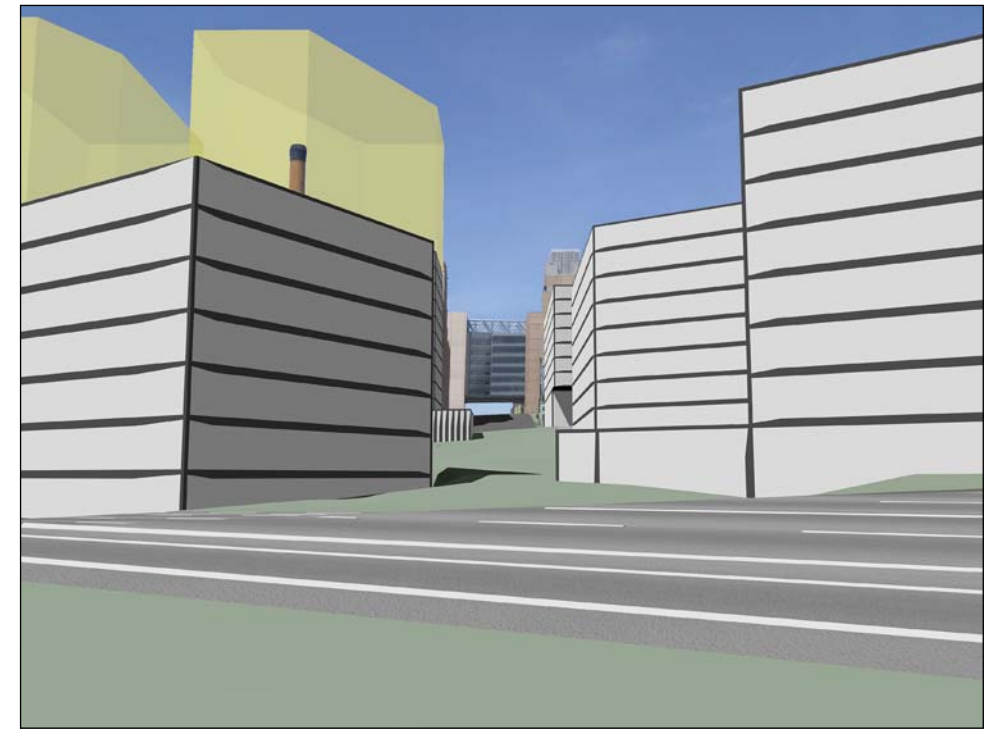
The current view from this location (looking northwest from the Broadway/Yesler intersection) is of a portion of a plaza and the E Yesler Way corridor in the foreground. Existing Yesler Terrace residential buildings are visible in the mid-field on the north side of E Yesler Way, and the Steam Plant smokestack is prominently visible behind the residences. Portions of high-rise Harborview Medical Center buildings (including a small portion of the top of the Central Wing Landmark building) can be seen in the distance in the center of the view, including the Research and Training building to the east and the East Clinic building to the west.

Under Alternative 1, the redeveloped view of the site under the capacity model development scenario would feature the E Yesler Way corridor in the foreground with open space to the south of the street. New mid-rise and high-rise buildings would be visible in the mid-field view and background on either side of a corridor of open space on the north side of E Yesler Way. Existing views of Harborview Medical Center buildings and the Steam Plant smokestack would be partially obscured. However, views of Harborview's Norm Maleng 6-story bridge building would be possible. The overall visual character from this viewpoint would change to a more dense urban development and the visual density and height and scale of new buildings would increase as compared to the existing streetscape. A view corridor aligning with 9th Avenue in the distance would be created. The redeveloped view under the maximum zoning height would be similar to the capacity model, except that three of the visible high-rise buildings would be taller. The overall visual character would generally change as described for the capacity model.

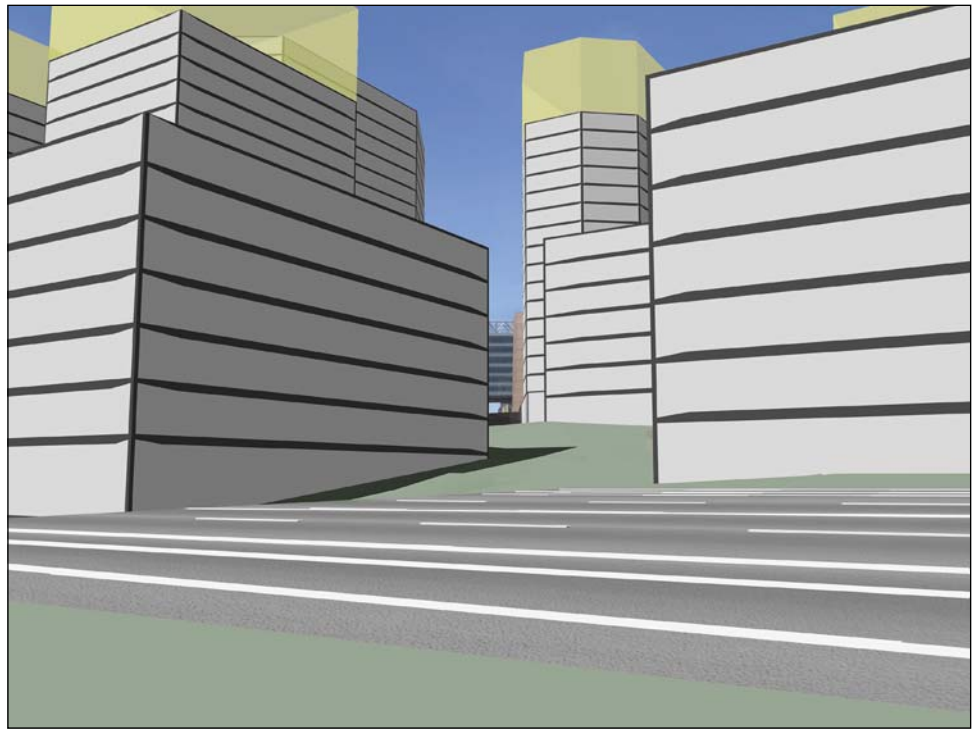
Existing



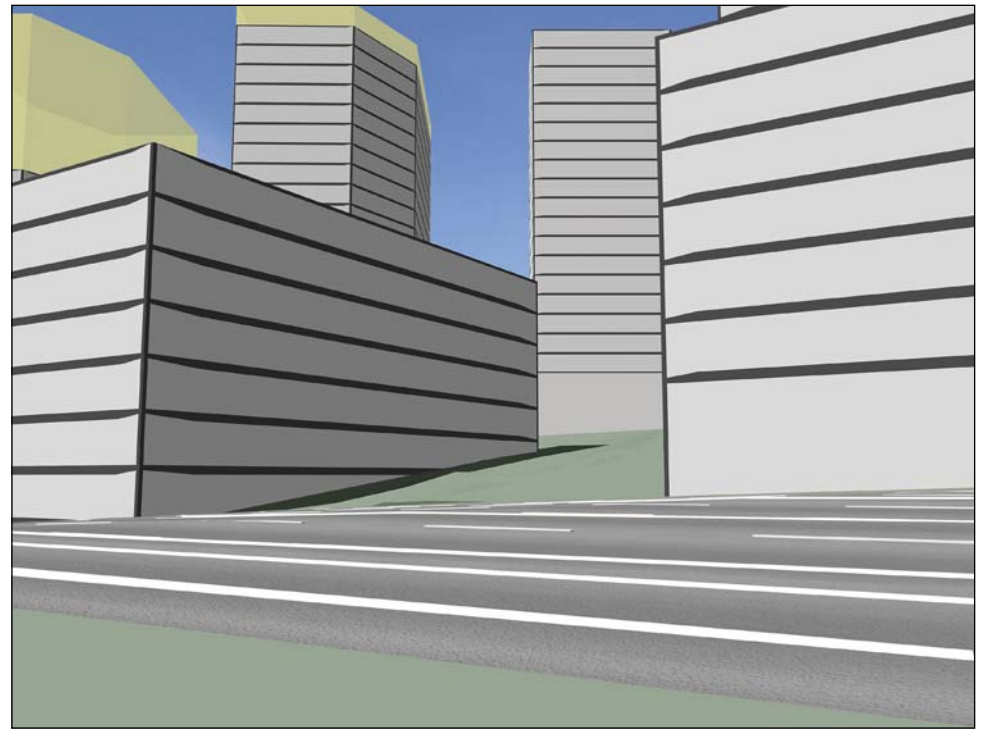
Alternative 1



Alternative 1A



Alternative 2



Alternative 3

Alternative 4

All Simulations by The Portico Group, 2010

Figure 3.10-22
Visual Simulations
Viewpoint 15 - Broadway Ave/Yesler Way (looking northwest)

Yesler Terrace Redevelopment EIS

Under Alternative 1A, the redeveloped view of the site under the capacity model development scenario would be generally as described for Alternative 1, except that no new high-rise buildings would be present in the background. The overall visual character and obscuring of Harborview buildings from this viewpoint would change as described for Alternative 1. The redeveloped view under the maximum zoning height would be similar to the capacity model, except that portions of three high-rise buildings would become visible in the background. The overall visual character would generally change as described for the capacity model.

Under Alternative 2, the redeveloped view of the site under the capacity model development scenario would feature the E Yesler Way corridor in the foreground with open space to the south of the street. New mid-rise and high-rise buildings would be visible in the mid-field and background view, on either side of a corridor of open space on the north side of E Yesler Way. A new mid-rise building to the west would extend towards the center of this open space area, and would obscure most views to Harborview buildings in the background, except for a portion of the Norm Maleng 6-story bridge building. The Yesler Terrace Steam Plant would be removed under Alternative 3, and therefore no views of the smokestack would be possible. The overall visual character from this viewpoint would change to a more dense urban development and the visual density and height and scale of new buildings would increase as compared to the existing streetscape. A view corridor aligning with 9th Avenue in the distance would be created, but would be partially obscured by a new mid-rise building, as described above. The redeveloped view under the maximum zoning height would be similar to the capacity model, except that several of the high-rise buildings would be taller. The overall visual character would generally change as described for the capacity model.

Under Alternative 3, the redeveloped view of the site under the capacity model development scenario would feature the E Yesler Way corridor in the foreground with open space to the south of the street. New mid-rise and high-rise buildings would be visible on the north side of E Yesler Way, as well as some open space in the center. Unlike the previously described alternatives, no view corridor aligning with 9th Avenue in the distance would be created. Views to Harborview Medical Center buildings in the background would be obscured. The Yesler Terrace Steam Plant would be removed under Alternative 3, and therefore no views of the smokestack would be possible. The overall visual character from this viewpoint would change to a more densely urban development and the visual density and height and scale of new buildings would increase as compared to the existing streetscape. The redeveloped view under the maximum zoning height would be similar to the capacity model, except that several of the high-rise buildings would be taller. The overall visual character would generally change as described for the capacity model.

Under Alternative 4, the redeveloped view of the site would feature the E Yesler Way corridor with open space on both sides of the street. New low-rise buildings would be visible to the east and west on either side of a corridor of open space. Views of Harborview Medical Center buildings (the Research and Training building and East Clinic) would be improved. A small portion of the bottom of the smokestack would be obscured. The overall character of this viewpoint would change to reflect more open views to the northwest, with a slightly increased density and height of visible buildings as compared to existing conditions. A view corridor aligning with 9th Avenue in the distance would be created.

Height, Bulk and Scale

Figure 3.10.1-23 shows eight street cross-sections along the boundaries of the West of Boren Sectors of the Yesler Terrace site. No cross-sections were prepared for the East of Boren

Sector because no high-rise buildings are proposed to be built in this area of the site. The purpose of the cross-sections is to show the maximum allowable redevelopment envelope (maximum zoning building heights) which could be built under the proposed new zoning which would be necessary to redevelop the site under Alternatives 1-3, together with the capacity model development scenario building heights. These building heights are then analyzed in the context of existing off-site development that borders the site, and the maximum allowable development envelope which could be built out on off-site parcels under their existing zoning.

The capacity model development scenario building heights depicted on the Yesler Terrace site in the cross-sections are generally less than the maximum zoning building heights that would be allowed under the proposed redevelopment zoning. This is because there would be a limited number of high-rise buildings that would be built to the maximum allowable zoning height in order to achieve the proposed mix of uses and densities necessary to meet redevelopment objectives (see **Table 2-1,** in **Chapter 2**, for a summary of redevelopment under the EIS alternatives). The capacity model building heights also differ depending on the alternatives, because buildings of various heights and sizes would be configured differently throughout the site under the various alternatives to achieve the proposed redevelopment programs.

In general, significant height, bulk and scale impacts could result from the Yesler Terrace redevelopment under Alternatives 1-3 if new buildings are developed along the boundary of the site that are considerably taller than existing offsite buildings. For example, if a new high-rise building is developed on the Yesler Terrace next to an existing, offsite low-rise building, this could be perceived as a significant impact. However, impacts would also be dependent on the context of other surrounding offsite development, the orientation of on and offsite buildings and the potential presence of buffers (i.e. streets, landscaping, etc.) which may provide separation between the on and offsite buildings. Another factor to consider is that in many cases, existing offsite buildings are not built out to the maximum heights allowed under the existing zoning. In such cases, the maximum zoning height of offsite locations under existing zoning should also be considered when determining whether a significant impact is likely to result.

No significant impacts would be anticipated to result from redevelopment of the site under Alternative 4, as no high-rise buildings would be built under this alternative. For comparison purposes, however, height, bulk and scale diagrams are provided for this alternative.

Each cross-section is described further below and maximum zoning and capacity modeled building heights proposed under each redevelopment alternative for the Yesler Terrace site are described and compared to the existing offsite building and the maximum allowed offsite building height under the existing zoning.

For cross-sections A through G, a potential building setback from the Yesler Terrace property line is shown for the buildings depicted under Alternatives 1-3. For cross-section H, buildings under Alternatives 1-3 are shown built to the property line. For Alternative 4, an average setback of 7 feet from the Yesler Terrace property line is assumed for all the cross-sections; this is the setback required under the L3 zoning. No building modulation or upper level setbacks are assumed for the buildings depicted in the cross-sections.

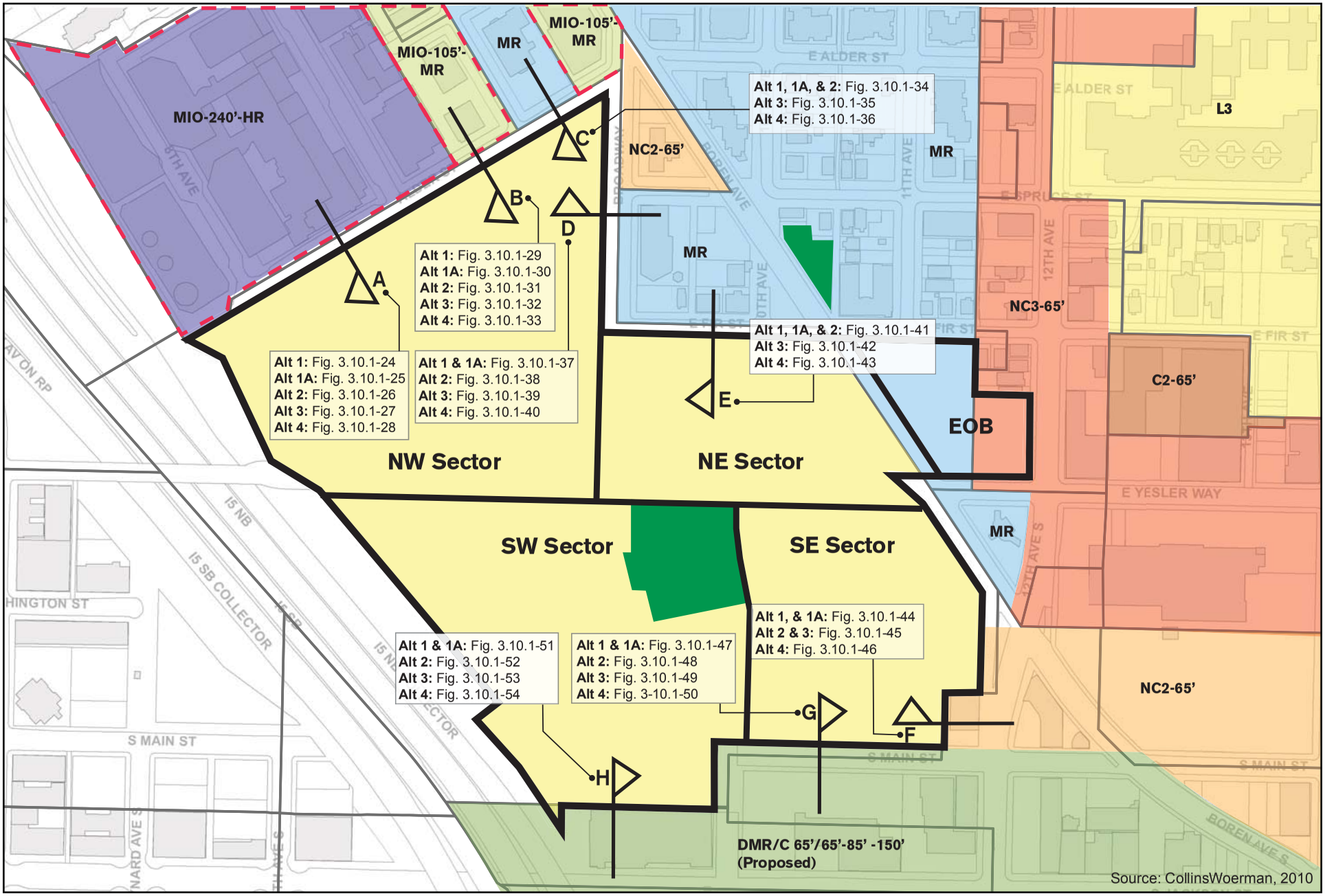


Figure 3.10-23
Cross Sections

Yesler Terrace
Redevelopment EIS

Cross-Section A

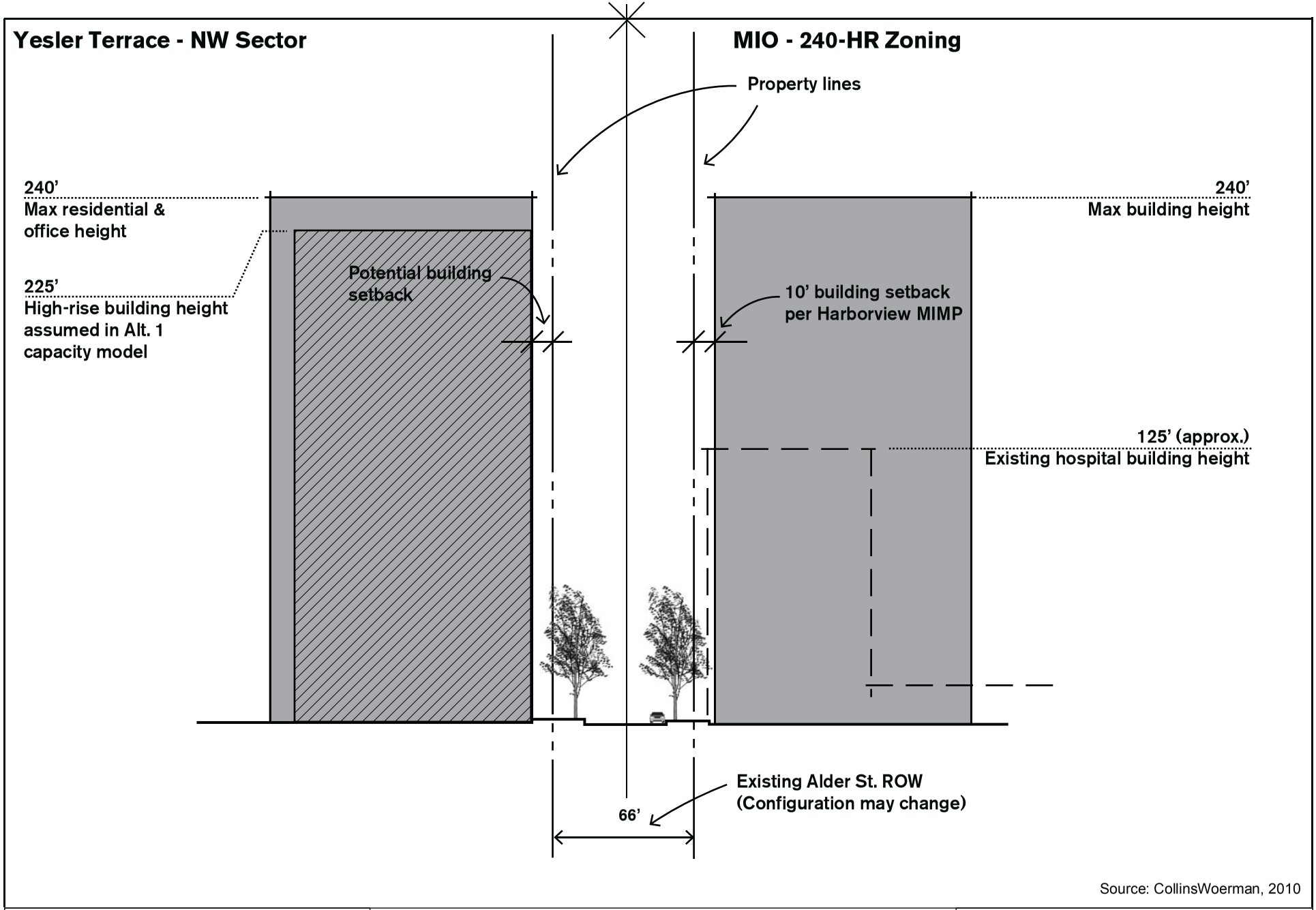
Cross-Section A (see **Figure 3.10.1-23 for location**) addresses height, bulk and scale relative to Alder Street between 8th Avenue and 9th Avenue. As shown in the figures noted below, a Harborview Medical Center building with an existing building height of approximately 125 feet is located on the north side of Alder Street. The maximum allowable building height under the current Major Institution Overlay (MIO) zoning is 240 feet.

Under Alternative 1 (**Figure 3.10.1-24**), a high-rise building on the Yesler Terrace site with a maximum height of 240 feet would be allowed under the maximum zoning, but a capacity modeled building height of 225 feet is also depicted for comparison. The maximum zoning and capacity model building heights depicted for Yesler Terrace at this location would be 115 to 100 feet greater than the existing Harborview building to the north. While greater than the existing offsite building, no significant height, bulk or scale impacts would be anticipated because the Harborview building is a high-rise building. Also, the Yesler Terrace building heights would be consistent with the maximum allowable building height under the current MIO zoning (240 feet) for the Harborview campus. No significant height, bulk or scale impacts would be anticipated under either the maximum zoning or capacity model building heights.

Under Alternative 1A (**Figure 3.10.1-25**), the maximum zoning building height on the Yesler Terrace site would be the same as described for Alternative 1 (i.e., 240 feet), and would not be expected to result in significant height, bulk or scale impacts. The capacity modeled building height would be 125 feet, which is 100 feet lower than the capacity modeled building height depicted for Alternative 1. The capacity model building height of 125 feet would be the same as the existing Harborview Medical Center building height, and therefore no significant height, bulk or scale impacts would be anticipated.

Under Alternative 2 (**Figure 3.10.1-26**), the maximum zoning Yesler Terrace building height would be the same as described for Alternative 1 (240 feet), and the capacity modeled building height would be similar to the maximum at 237.5 feet. The capacity model building height depicted for Yesler Terrace at this location would be 112.5 feet greater than the existing Harborview building to the north. Similar to Alternative 1, both the maximum zoning and capacity model Yesler Terrace building heights would be consistent with the maximum allowable building height under the current MIO zoning (240 feet) for the Harborview campus. No significant height, bulk or scale impacts would be anticipated under either the maximum zoning or capacity model building heights.

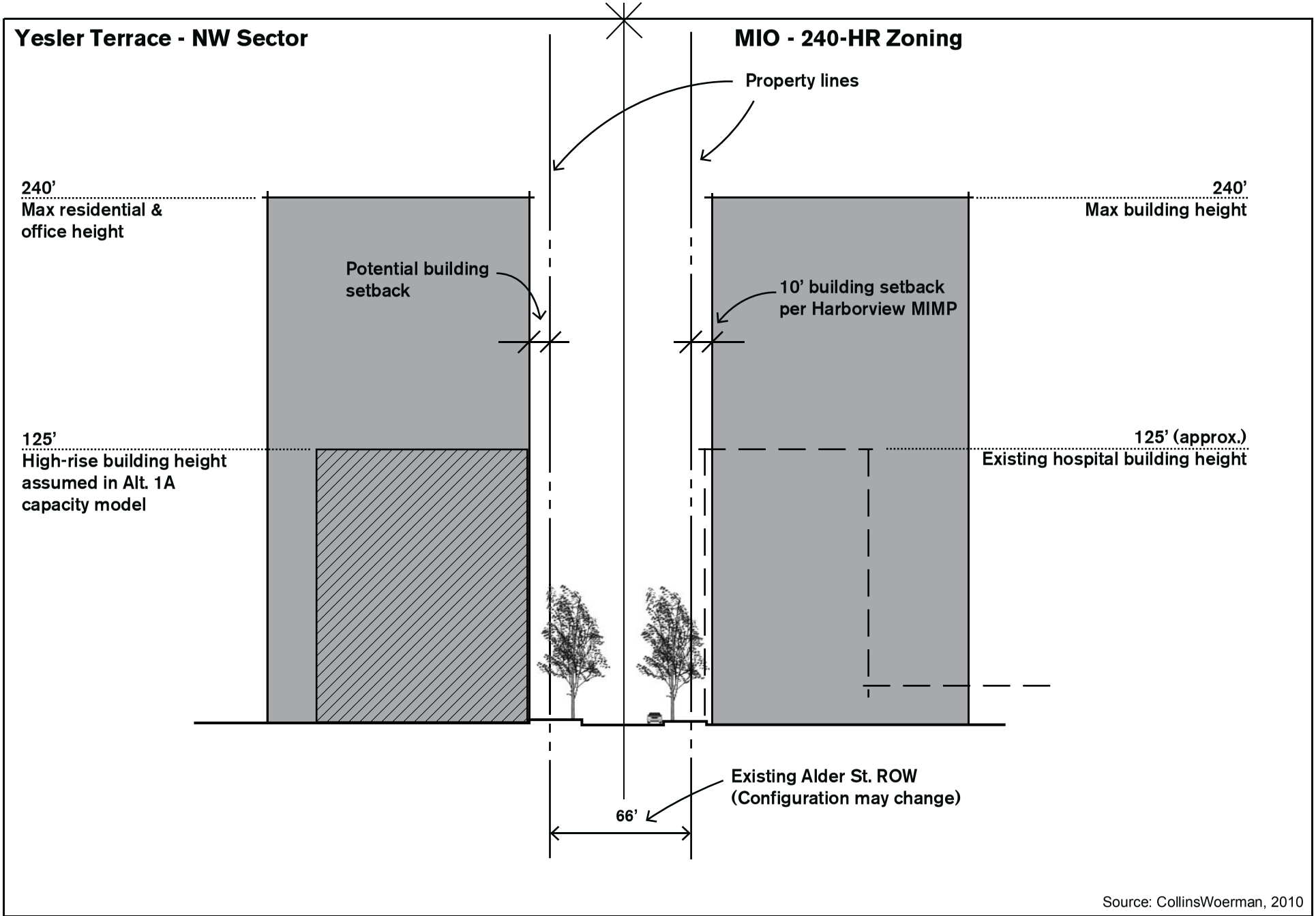
Under Alternative 3 (**Figure 3.10.1-27**), the maximum zoning height for a high-rise residential building on the Yesler Terrace site would be 300 feet and the maximum zoning height for an office/hotel building would be 240 feet. The maximum zoning residential building height would be 175 feet greater than the existing hospital building to the north and 60 feet greater than the maximum building height under the current MIO zoning for the Harborview campus. However, 60 feet, would not be considered a substantial difference for buildings of this height and scale, and no significant impacts would be anticipated. The maximum office/hotel height would be the same as described for Alternative 1. The capacity modeled building height for a building at this location would be 225 feet, which is also the same as described for Alternative 1. Overall, no significant height, bulk or scale impacts would be anticipated under the maximum zoning or capacity model building heights.



Source: CollinsWoerman, 2010

Figure 3.10-24
Cross-Section A - Alternative 1
Perimeter Zoning Relationships

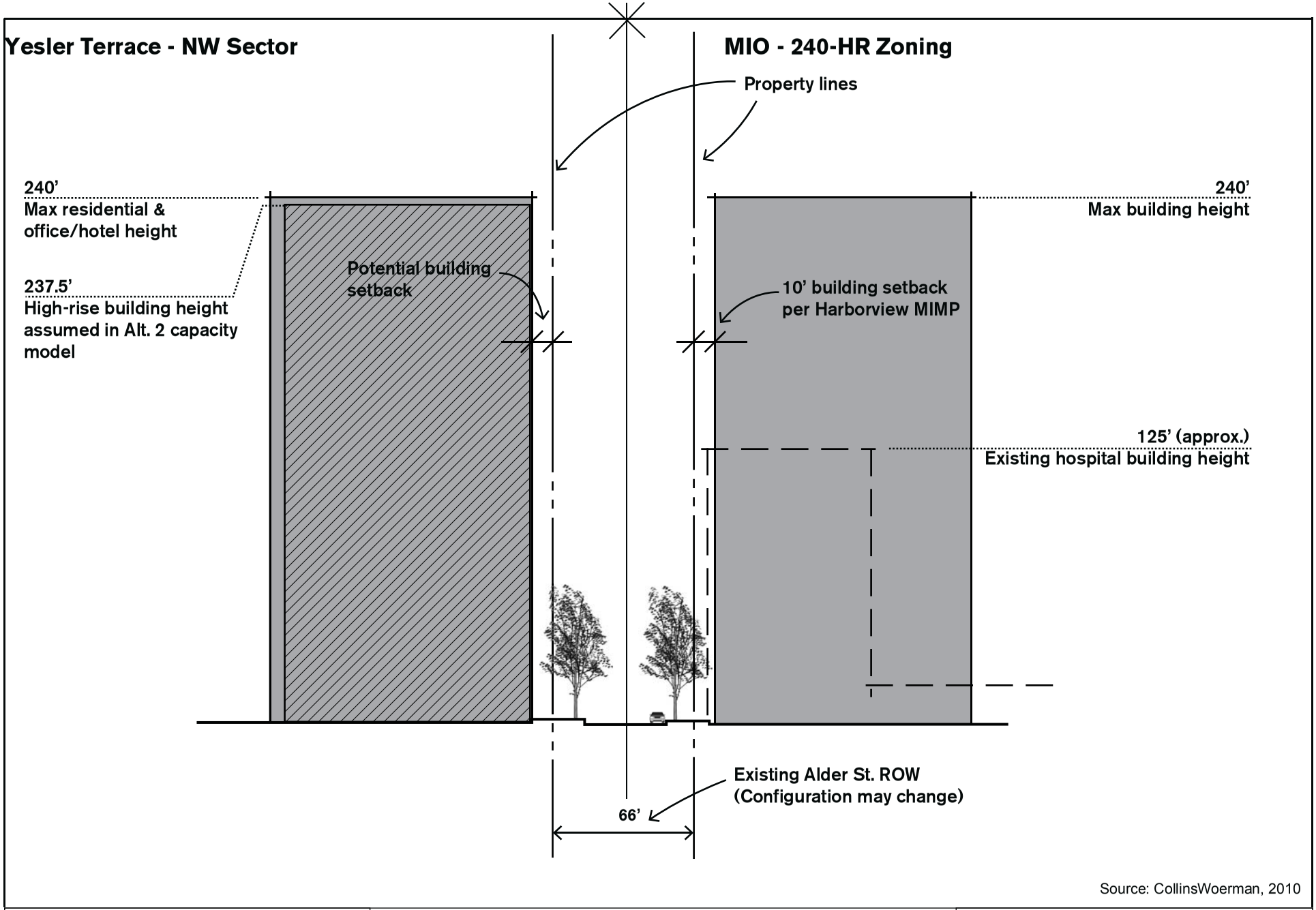
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-25
Cross-Section A - Alternative 1A
Perimeter Zoning Relationships

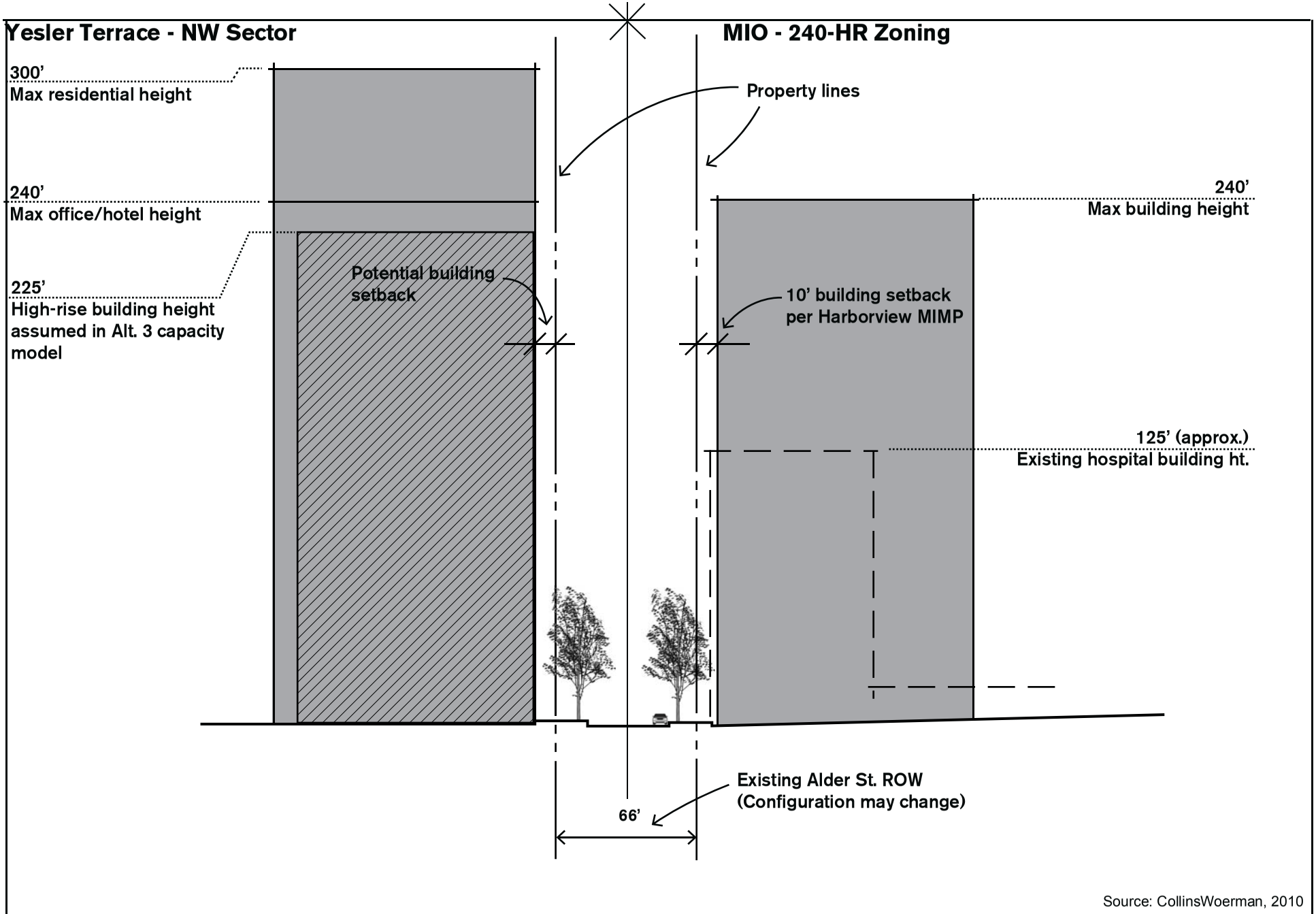
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-26
Cross-Section A - Alternative 2
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-27
Cross-Section A - Alternative 3
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

Under Alternative 4 (**Figure 3.10.1-28**), a low-rise structure is depicted on the Yesler Terrace site with a maximum building height of 37 feet for a building with a flat roof and 42 feet for a building with a sloped roof. These buildings heights represent what is allowed onsite under the Low-Rise 3 (L3) zoning incorporating draft revisions (as of May 2009). As shown, these building heights are substantially less than both the existing Harborview Medical Center building and the maximum allowable building height under current MIO zoning for the Harborview campus. No significant height, bulk or scale-related impacts would be anticipated.

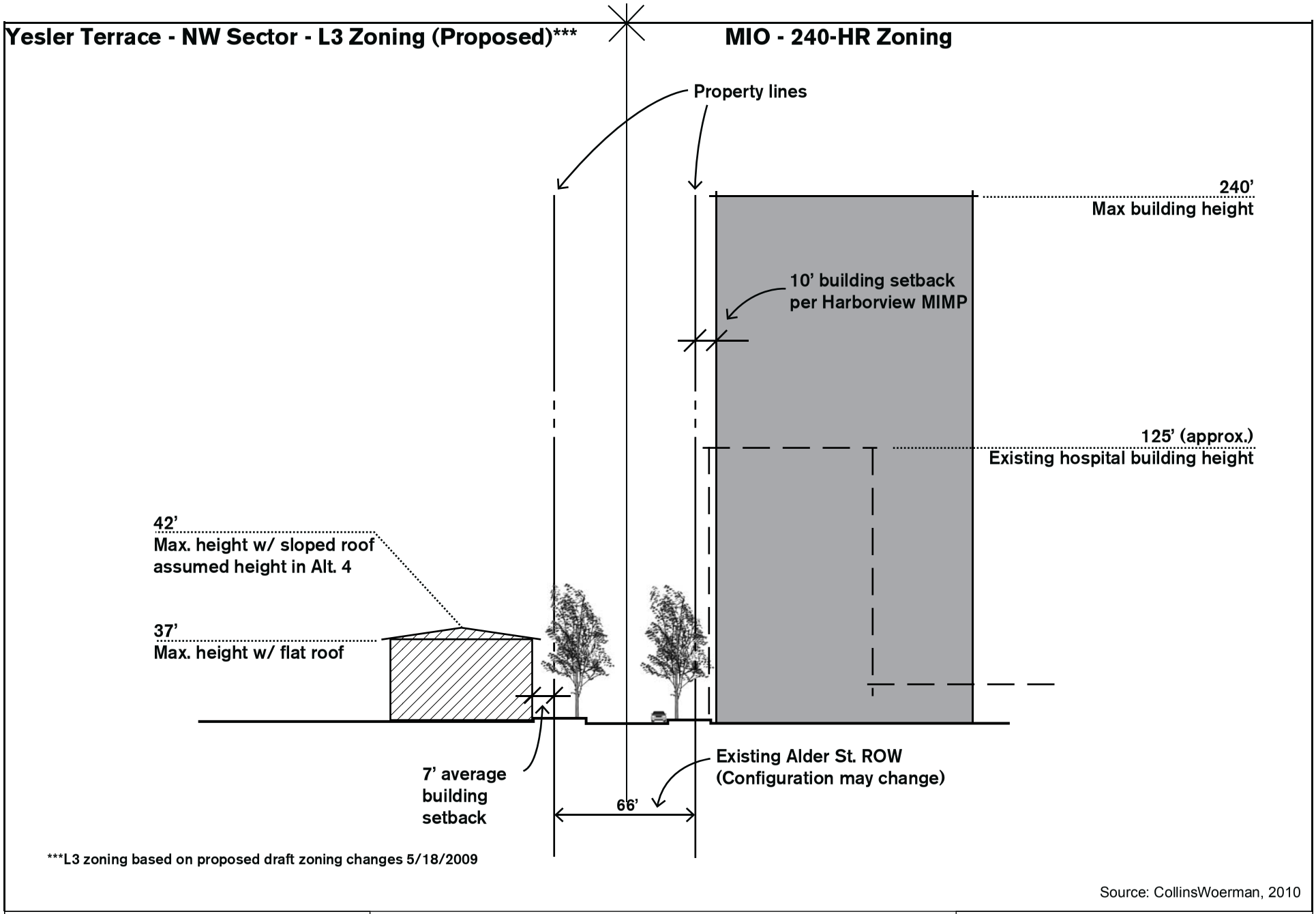
Cross-Section B

Cross-Section B (see **Figure 3.10.1-23 for location**) addresses height, bulk and scale relative to Alder Street between 9th Avenue and Terry Avenue. As shown in the figures noted below, the Harborview Medical Center Fire Station with a building height of approximately 40 feet is located on the north side of Alder Street. The maximum allowable building height at this location under the current MIO zoning is 105 feet. However, because the Fire Station is a designated Seattle Landmark, and it is also listed in the National Register of Historic Places and the Washington Heritage Register (see **Section 3.11**, Historic Resources, and **Appendix L** for further information), it is unlikely that this building would be demolished in the future in order to build to the maximum development potential available at this location under the current zoning. Therefore, the following analysis is based solely on the height of the existing Fire Station building, and does not consider the maximum building height allowed under the current zoning.

Under Alternative 1 (**Figure 3.10.1-29**), a high-rise building on the Yesler Terrace site with a height of 240 feet would be allowed under the maximum zoning, but a capacity modeled building height of 156 feet is also depicted for comparison purposes. Both the maximum zoning and capacity model building height would be much greater (200 to 116 feet) than the existing low-rise Fire Station building to the north. However, although not shown in **Figure 3.10.1-26**, the Fire Station building is surrounded by taller buildings offsite, including the 10-story Harborview Research and Training Building to the west and the 11-story Hilltop House building to the east (see **Figure 3.10.1-9** for the viewshed simulation associated with the Fire Station building). As well, the 66 foot Alder Street right-of-way, would act as a partial buffer between the Yesler Terrace site and adjacent development. Therefore, although both the maximum zoning and capacity modeled building heights would be considerably greater than the existing offsite building, no significant height, bulk or scale-related impacts would be anticipated.

Under Alternative 1A (**Figure 3.10.1-30**), a high-rise building on the Yesler Terrace site with a height of 240 feet would be allowed under the maximum zoning. This is the same maximum zoning height described for Alternative 1, and no significant impacts would be anticipated. A mid-rise building is depicted on the Yesler Terrace site with a capacity modeled building height of 75 feet. Although the Yesler Terrace building would be 35 feet taller than the existing 40 foot high Fire Station building to the north, this would not be considered a significant difference in heights, particularly given the Alder Street right-of-way, which acts as a partial buffer, and given the scale of surrounding off-site development. Overall, no significant height, bulk or scale-related impacts would be anticipated.

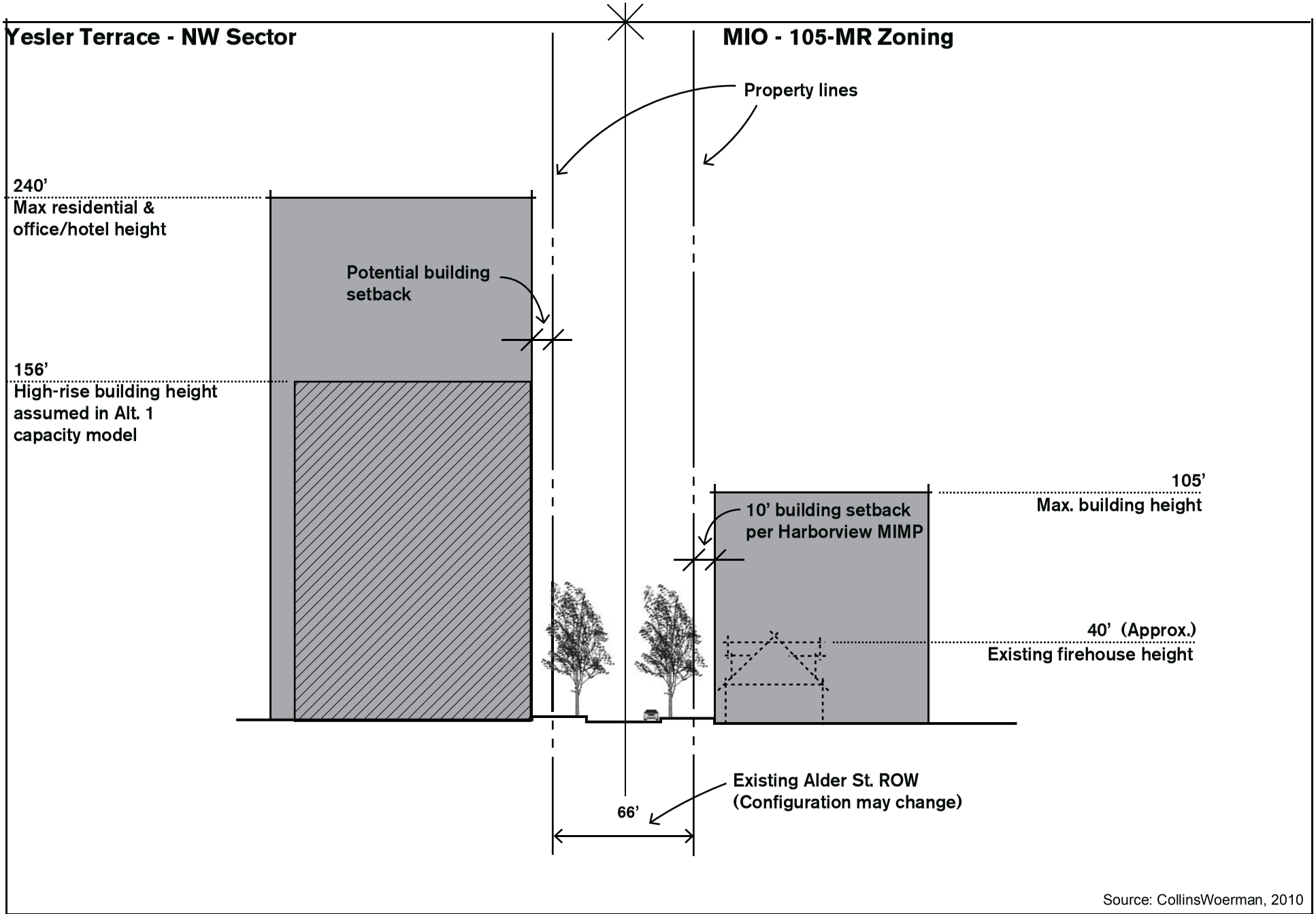
Under Alternative 2 (**Figure 3.10.1-31**), a high-rise building on the Yesler Terrace site with a maximum height of 240 feet would be allowed under the maximum zoning. This is the same maximum zoning height described for Alternative 1, and no significant impacts would be anticipated. A capacity modeled building with a height of 188 feet is also depicted for comparison purposes. The capacity model building height would be approximately 32 feet taller than that assumed under



Source: CollinsWoerman, 2010

Figure 3.10-28
Cross-Section A - Alternative 4
Perimeter Zoning Relationships

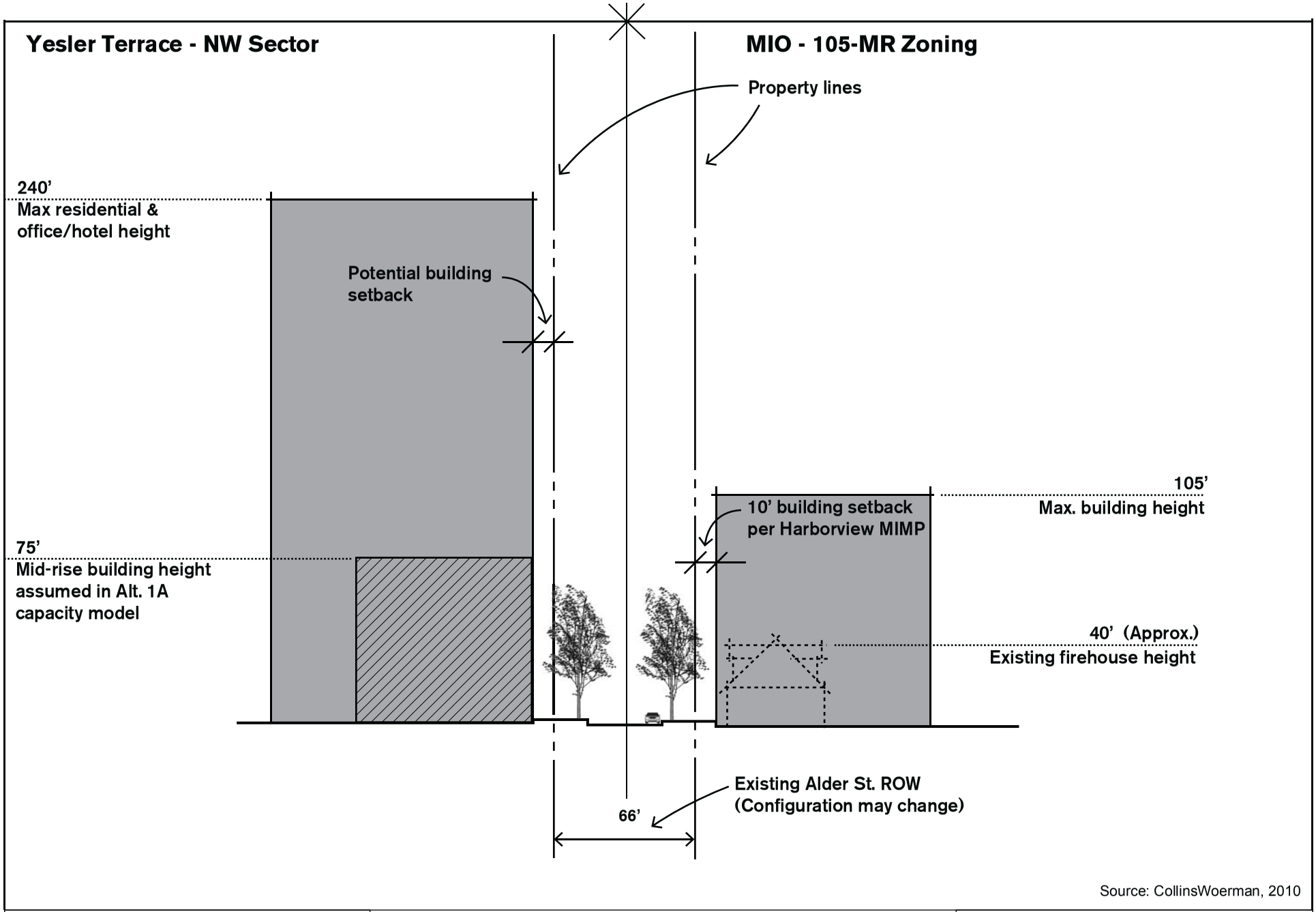
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-29
Cross-Section B - Alternative 1
Perimeter Zoning Relationships

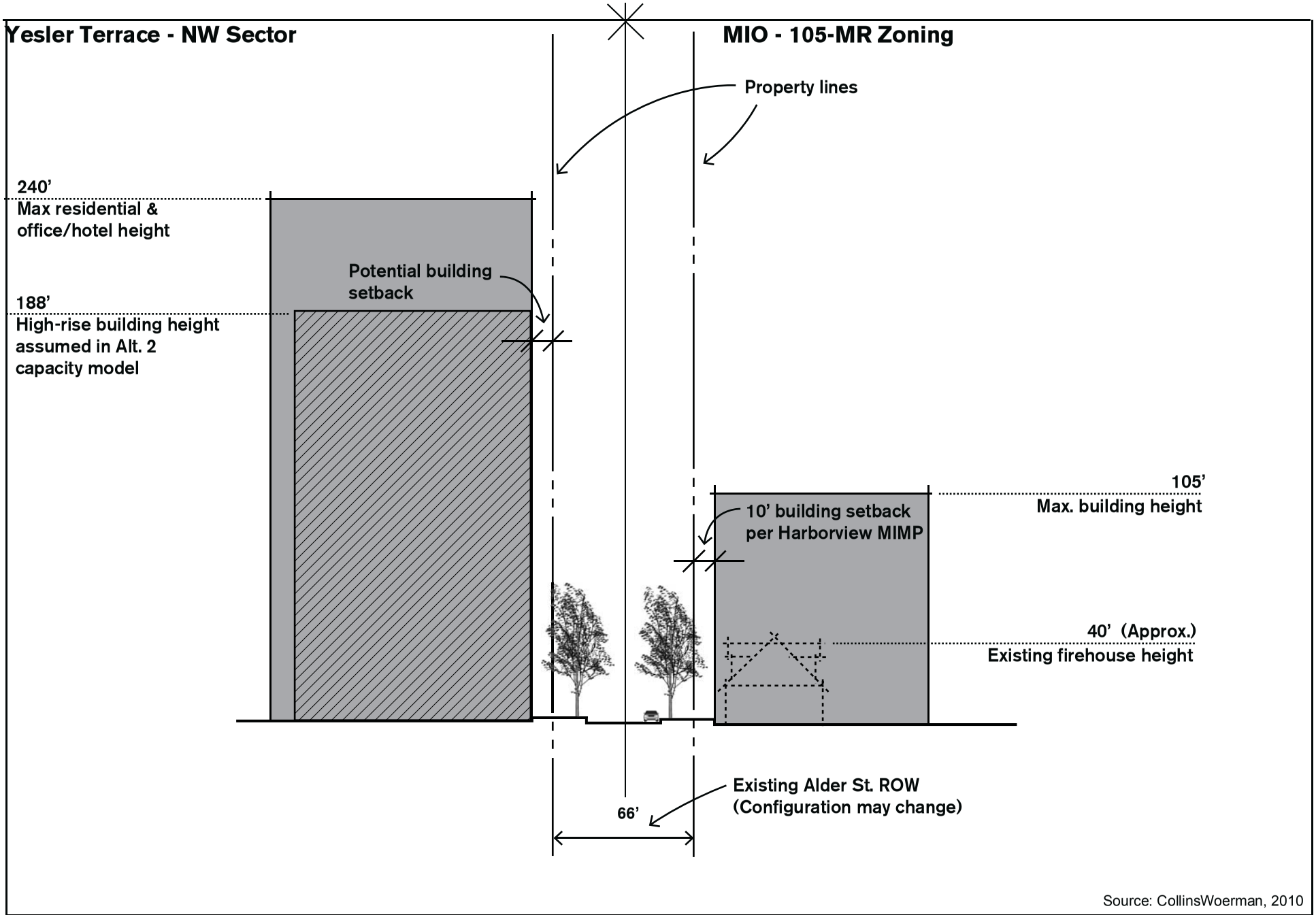
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-30
Cross-Section B - Alternative 1A
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-31
Cross-Section B - Alternative 2
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

Alternative 1 (or 144 feet taller than the Fire Station building to the north). Both the maximum and assumed building height would be much greater than the existing low-rise Fire Station building to the north. As mentioned previously, the Fire Station is surrounded by taller buildings off-site, and the Alder Street right-of-way would act as a partial buffer between the Yesler Terrace site and adjacent development. Therefore, no significant height, bulk or scale-related impacts would be anticipated.

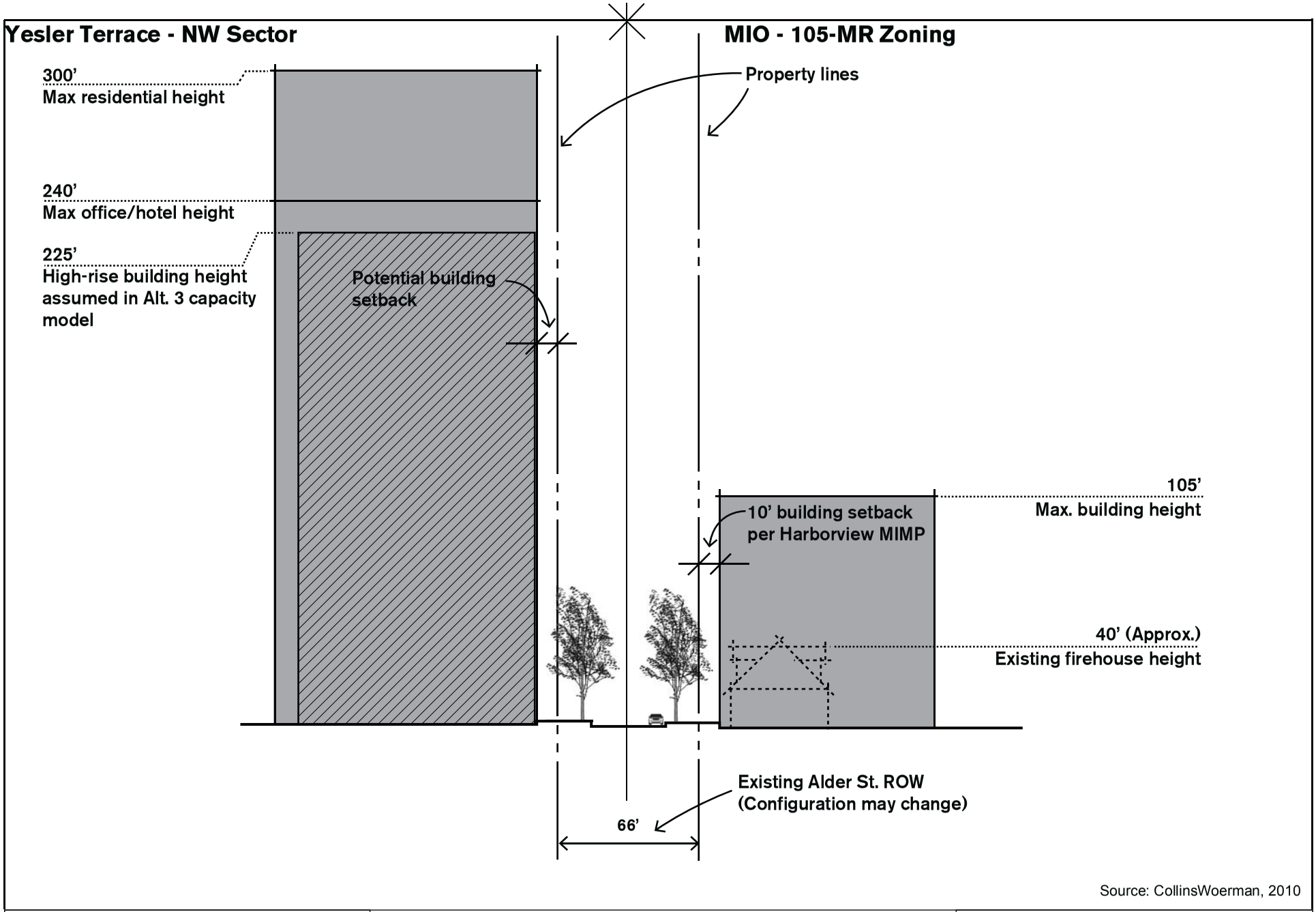
Under Alternative 3 (**Figure 3.10.1-32**), a high-rise building on the Yesler Terrace site with a height of 300 feet would be allowed for a residential building and a building with a height of 240 feet would be allowed for an office/hotel building, under the maximum zoning. Buildings of these heights would be substantially taller (260 to 200 feet) than the Fire Station building. A building with a capacity modeled height of 225 feet is also depicted. The capacity model building height shown under this alternative would also be much greater (185 feet) than the existing Fire Station building on the north side of Alder Street. As mentioned previously, the Fire Station is surrounded by taller buildings off-site, and the Alder Street right-of-way would act as a partial buffer between the Yesler Terrace site and adjacent development. Therefore, no significant height, bulk or scale-related impacts would be anticipated.

Under Alternative 4 (**Figure 3.10.1-33**), a low-rise structure is depicted on the Yesler Terrace site with a maximum building height of 37 feet for a building with a flat roof and 42 feet for a building with a sloped roof. These heights represent what is allowed onsite under L3 zoning (incorporating draft revisions as of May 2009) and would be consistent with the existing Fire Station building. No significant height, bulk or scale-related impacts would be anticipated.

Cross-Section C

Cross section C (see **Figure 3.10.1-23 for location**) addresses height, bulk and scale relative to Alder Street between Terry Avenue and Broadway. As shown in the figures noted below, the Hilltop House building, with an existing height of approximately 105 feet is located on the north side of the street. This building is set back from Alder Street, and a parking lot is located between the street and the Hilltop House building. The existing Hilltop House building is 30 feet taller than the maximum building height allowed under the current zoning, which is 75 feet. A 75 foot tall building is depicted in front of Hilltop House to show what could be developed on the parking lot site under the current Multifamily Residential (MR) zoning.

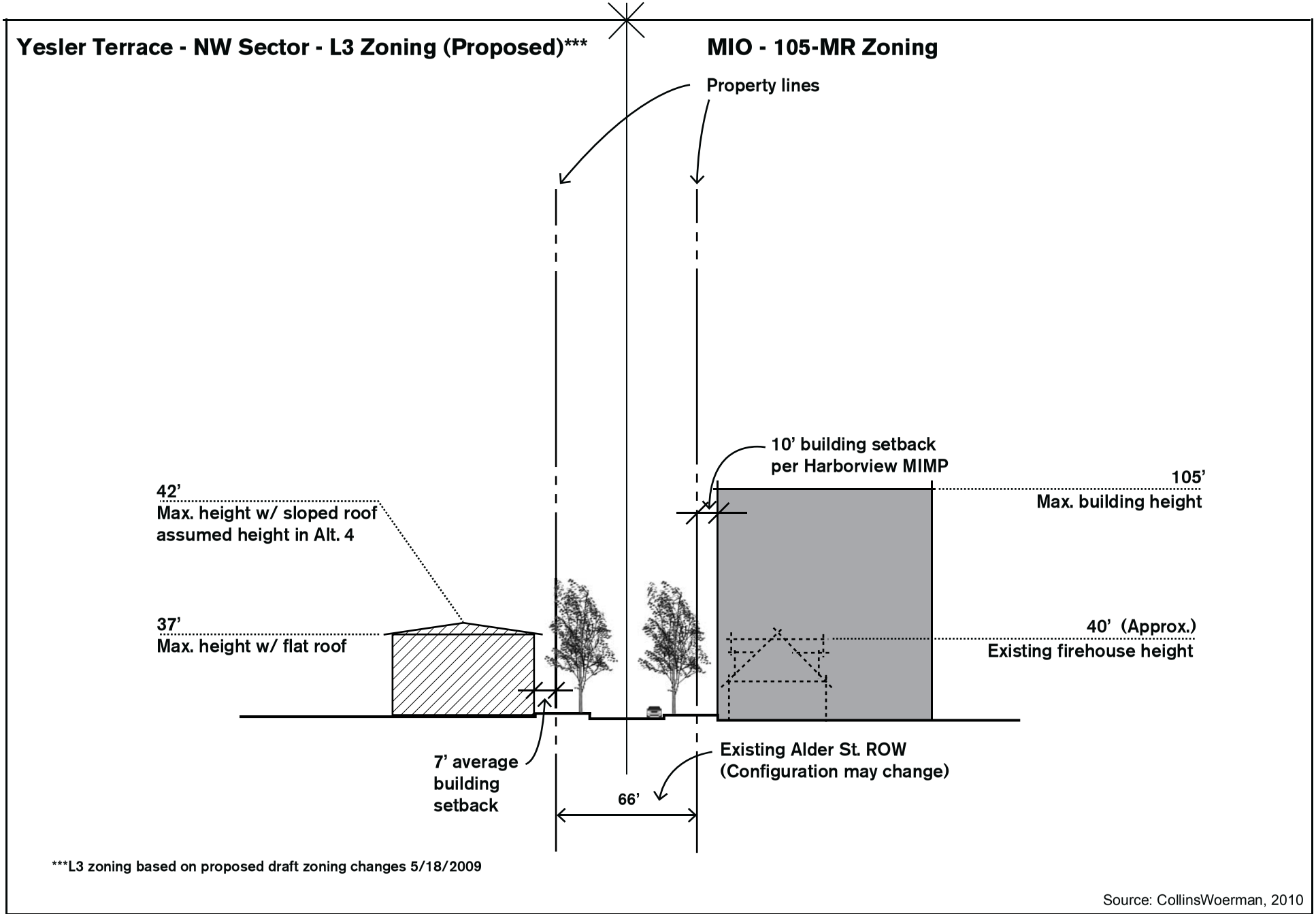
Under Alternatives 1, 1A and 2 (**Figure 3.10.1-34**), a high-rise building on the Yesler Terrace site with a height of 240 feet would be allowed under the maximum zoning. A building of this height would be 135 feet taller than then the offsite Hilltop House building and 165 feet taller than the maximum building height allowed under the current multifamily zoning. These would represent a considerable height difference as compared to the existing offsite building and maximum building height allowed on this location. However, the 66 feet wide Alder Street right-of-way would act as a partial buffer between the adjacent buildings, and other taller Harborview Medical Center high-rise buildings surround Hilltop House. Therefore, no significant adverse impacts are anticipated. A mid-rise building is also depicted on the Yesler Terrace site with a capacity modeled building height of 75 feet for comparison purposes. A building of this height would be with the same as the existing Hilltop House building on the north side of Alder Street, and would be less than the maximum heights allowed under the current Multi-Family Residential (MR) zoning on the Hilltop House site. Therefore, no significant height, bulk or scale-related impacts would result from the capacity modeled building heights.



Source: CollinsWoerman, 2010

Figure 3.10-32
Cross-Section B - Alternative 3
Perimeter Zoning Relationships

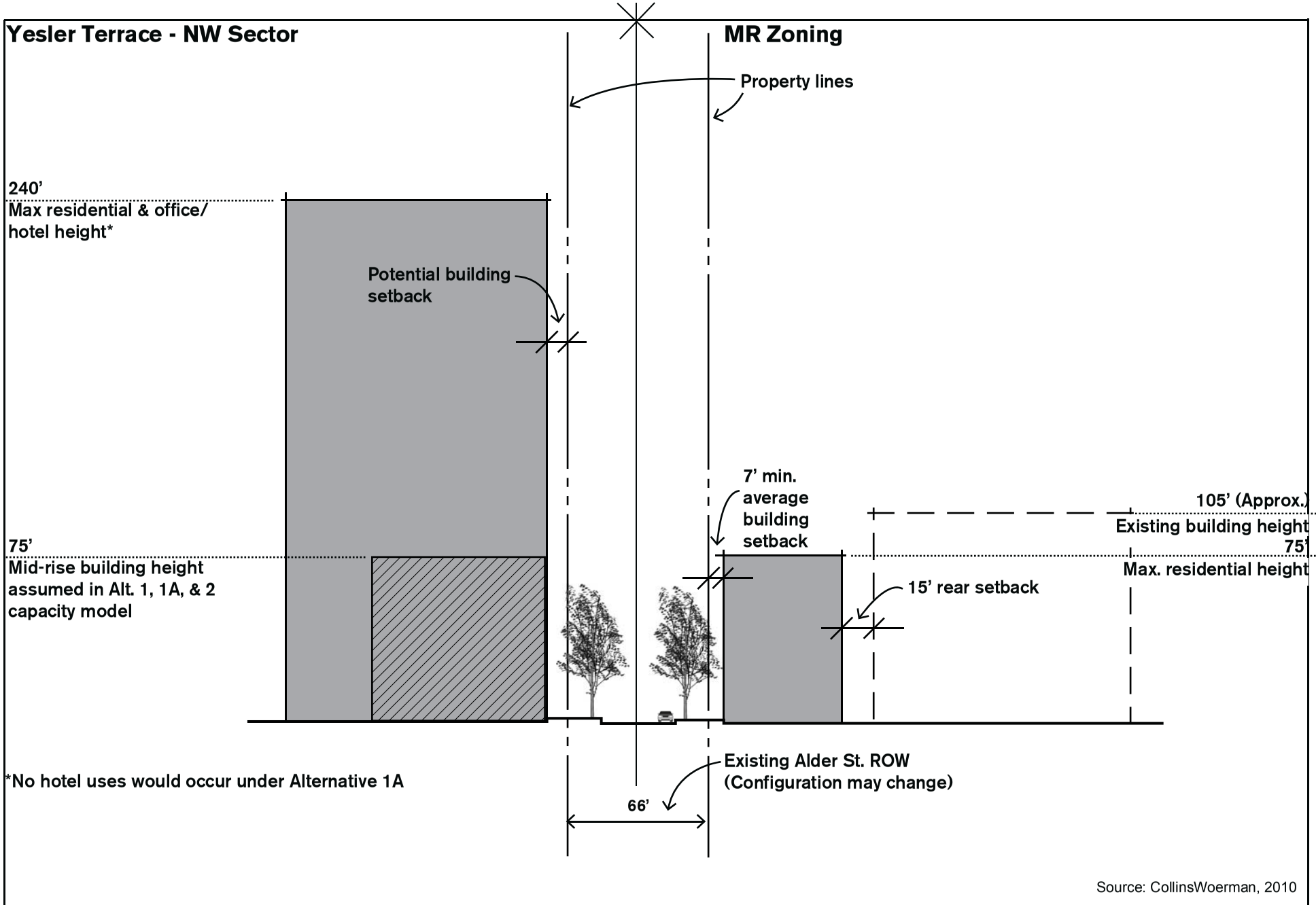
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-33
Cross-Section B - Alternative 4
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-34
Cross-Section C - Alternatives 1, 1A & 2
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

Under Alternative 3 (**Figure 3.10.1-35**), a residential high-rise building on the Yesler Terrace site with a maximum zoning height of 300 feet for a residential building and a maximum zoning height of 240 feet for an office/hotel building are depicted. The maximum residential building height would be 195 feet greater than the existing Hilltop House and 225 feet greater than the maximum heights allowed under the current multifamily zoning on the Hilltop House site. The maximum office/hotel height would be the same as the maximum height described for the previous alternatives. A capacity modeled building height of 280 feet is also depicted for comparison purposes, which would be 175 feet greater than the existing Hilltop House building and 205 feet greater than the maximum height allowed under the current MR zoning on the Hilltop House site. While the 66 feet wide Alder Street right-of-way would act as a partial buffer between the adjacent developments, both the maximum zoning and modeled building heights would represent a considerable height difference as compared to the offsite 75 feet tall Hilltop House building and the maximum allowable heights under the current MR zoning. This height difference could be perceived as a significant adverse impact without appropriate mitigation measures.

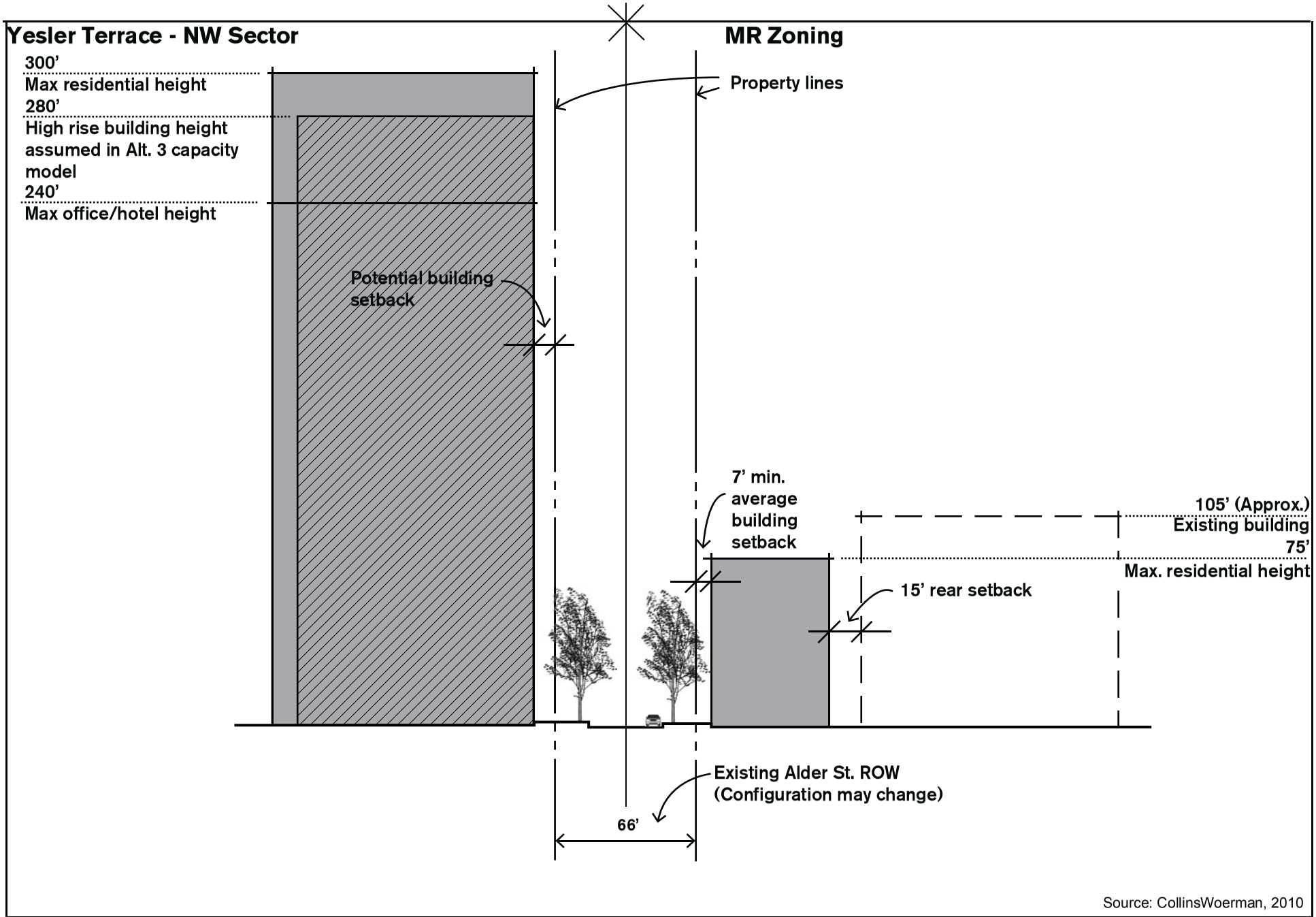
Under Alternative 4 (**Figure 3.10.1-36**), a low-rise structure is depicted on the Yesler Terrace site with a maximum building height of 37 feet for a building with a flat roof and 42 feet for a building with a sloped roof. These heights represent what is allowed onsite under the L3 zoning (incorporating draft revisions as of May 2009) and would be less than the existing Hilltop House building located to the north of Alder Street and the maximum allowable height under the current MR zoning.

Cross-Section D

Cross-Section D (see **Figure 3.10.1-23 for location**) addresses height, bulk and scale relative to Broadway between E Spruce Street and E Fir Street. As shown in the figures noted below, a church building with an existing height of approximately 40 feet is located on the east side of the street. However, the maximum allowable height for a building at this location under the current MR zoning is 75 feet.

Under Alternatives 1 and 1A (**Figure 3.10.1-37**), a high-rise building on the Yesler Terrace site with a building height of 240 feet would be allowed under the maximum zoning. The maximum zoning building height would be 200 feet greater than the existing church building and 165 feet greater than the maximum building height allowed under the current MR zoning for the church site, which is a considerable height difference, and could be perceived as a significant adverse impact without appropriate mitigation measures. For comparison purposes, a mid-rise building is also depicted on the Yesler Terrace site with a capacity modeled building height of 75 feet. While the capacity model Yesler Terrace building height would be 35 feet greater than the existing church building to the east, it would be generally consistent with the height and scale of this building, as well as the maximum building height of 75 feet allowed under the current MR zoning for the church site; no significant height, bulk or scale impacts would be expected to result. The 80 foot width of the Broadway right-of-way as well as street setbacks on the Yesler Terrace site and the church site would provide a partial buffer between the onsite and offsite buildings.

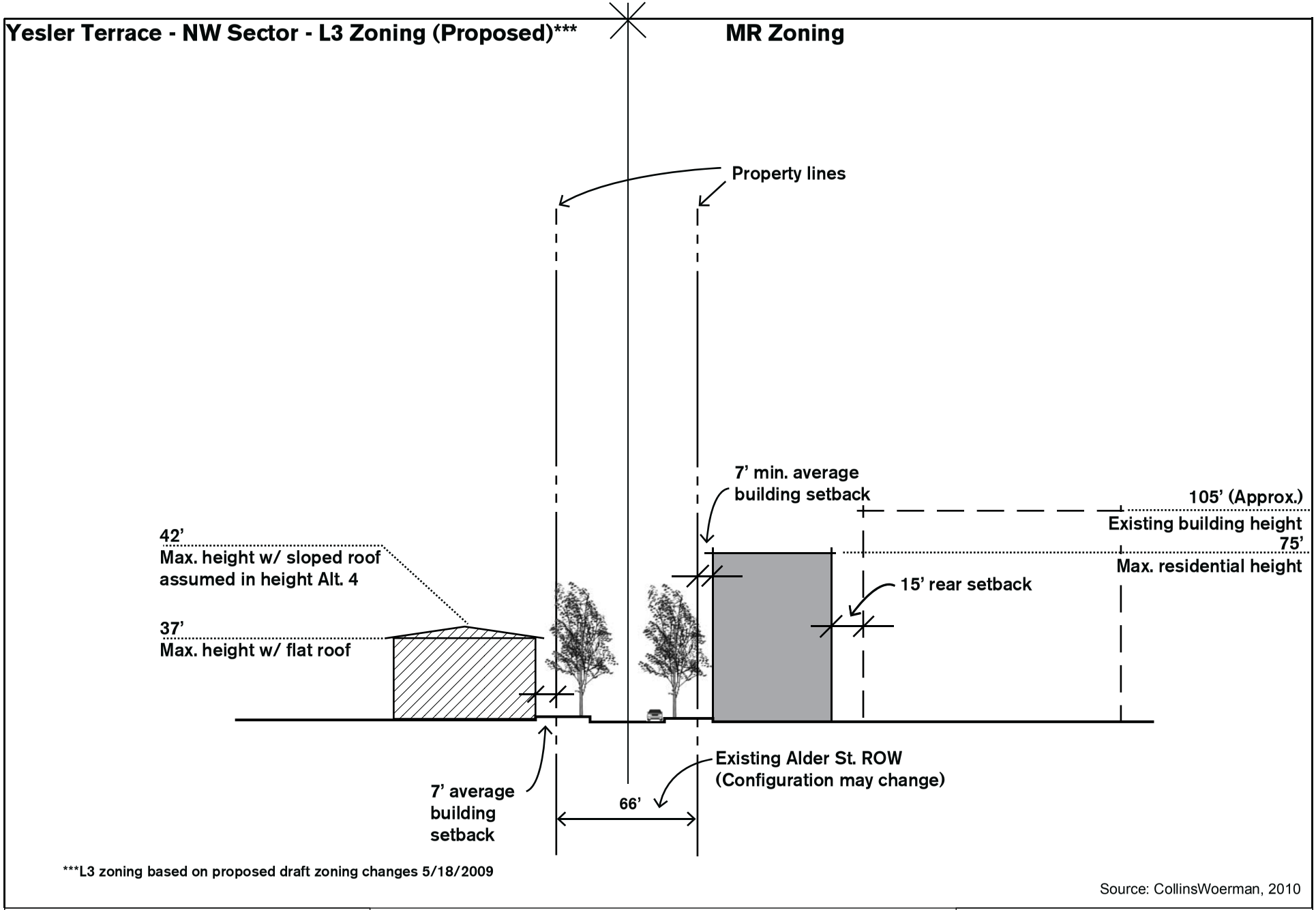
Under Alternative 2 (**Figure 3.10.1-38**), a high-rise building on the Yesler Terrace site with a building height of 240 feet would be allowed under the maximum zoning, but a capacity modeled building height of 190 feet is also depicted. The maximum zoning building height is the same as that described for Alternatives 1 and 1A, and could be perceived as a significant adverse impact without appropriate mitigation measures. The capacity model building height would be 150 greater than the existing church building and 115 feet greater than the maximum building height allowed under the current MR zoning for the church site. These would also be



Source: CollinsWoerman, 2010

Figure 3.10-35
Cross-Section C - Alternative 3
Perimeter Zoning Relationships

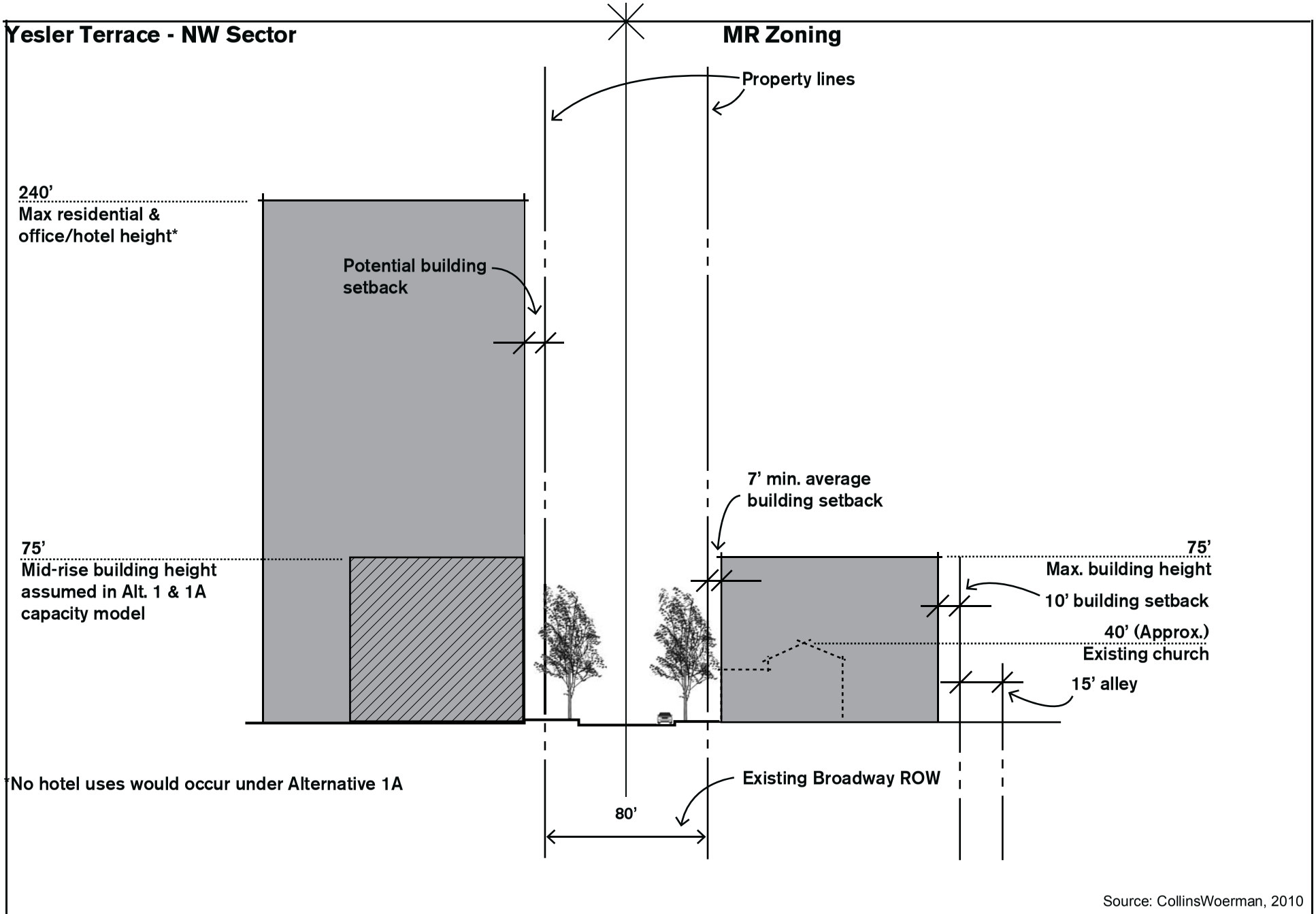
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-36
Cross-Section C - Alternative 4
Perimeter Zoning Relationships

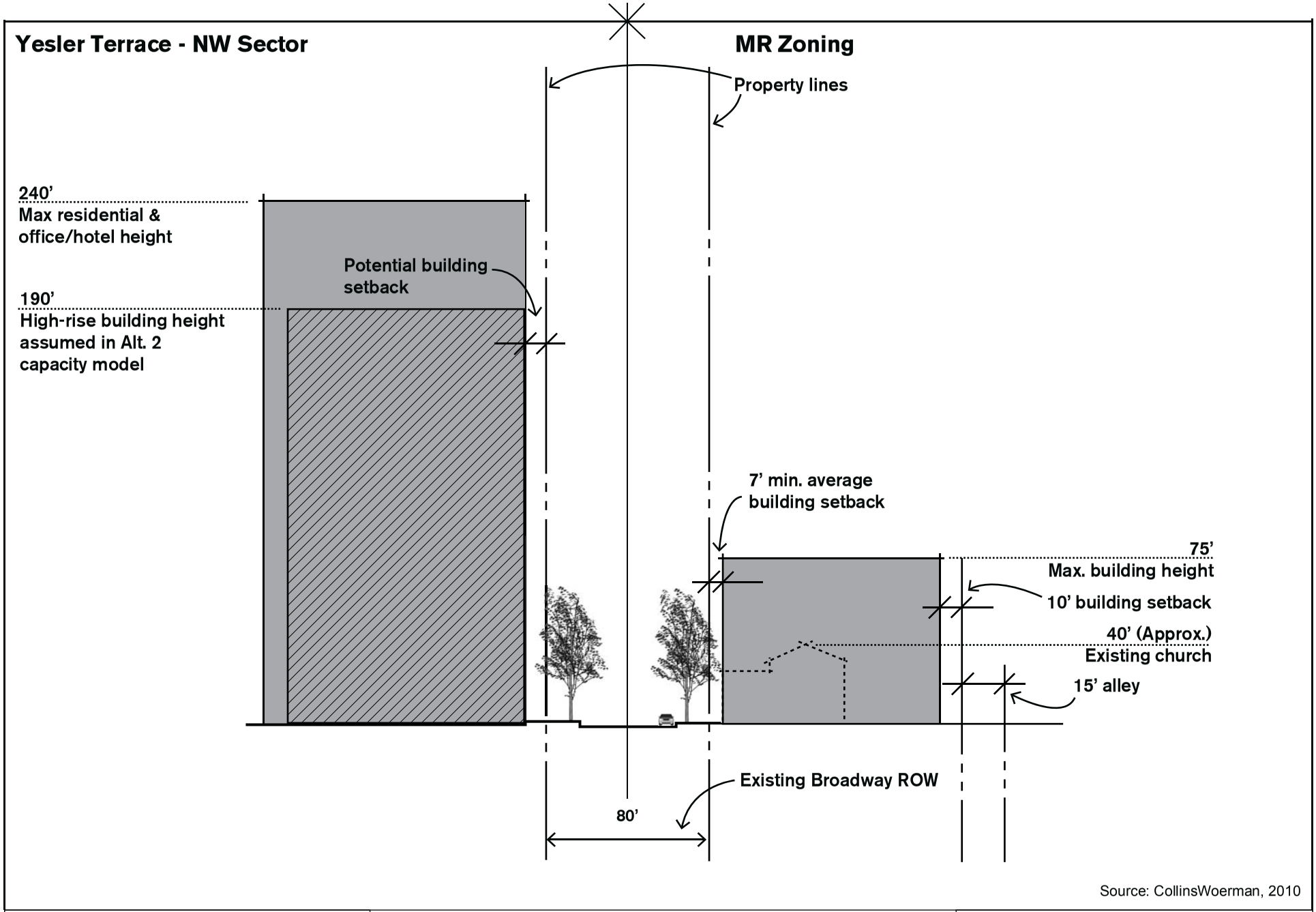
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-37
Cross-Section D - Alternatives 1 & 1A
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-38
Cross-Section D - Alternative 2
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

considerable height differences, and could be perceived as a significant adverse impact without appropriate mitigation measures. Partial buffers between the onsite and offsite buildings would be as described for Alternatives 1 and 1A.

Under Alternative 3 (**Figure 3.10.1-39**), a high-rise building on the Yesler Terrace site with a maximum zoning residential height of 300 feet and a maximum zoning office/hotel height of 240 feet are depicted. The 300 foot residential building would be considerably greater (260 feet) than the existing church building and the maximum building height allowed under the current MR zoning for the church site (225 feet greater). The maximum zoning office/hotel height is the same as described for Alternatives 1 and 1A. Overall, the maximum zoning residential and office/hotel heights could be perceived as a significant impact with respect to the height of the existing offsite building and the maximum allowable MR zoning height. A mid-rise building is also depicted on the Yesler Terrace site with a capacity modeled building height of 75 feet, which is the same capacity modeled building height described for Alternatives 1 and 1A. While the capacity modeled building height would be 35 feet greater than the existing church building, it would be generally consistent with the height and scale of this building, as well as the maximum building height of 75 feet allowed under the current MR zoning for the church site; no significant adverse impacts would be anticipated under the capacity model. Partial buffers between Yesler Terrace and the church site would be as described for Alternatives 1 and 1A.

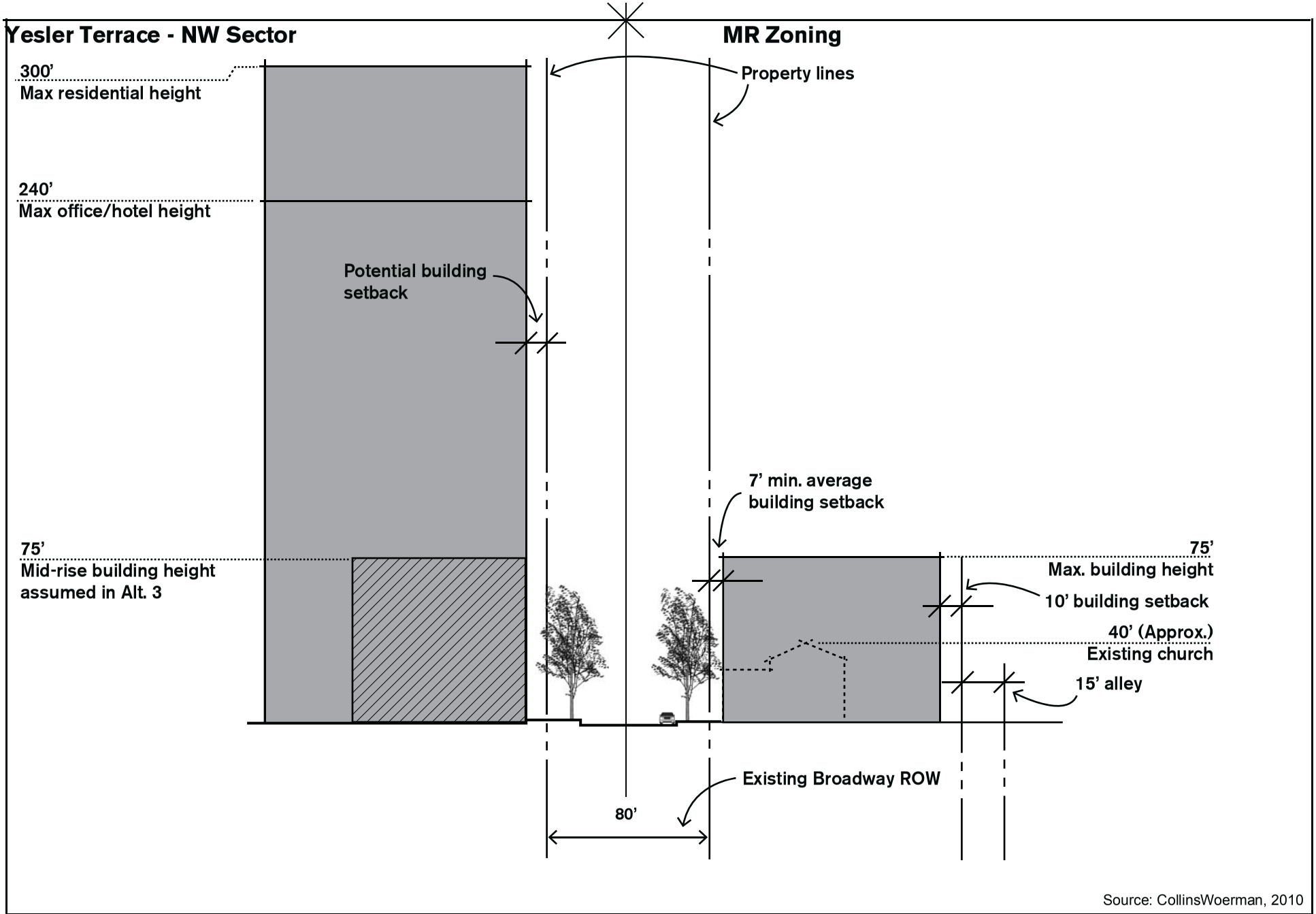
Under Alternative 4 (**Figure 3.10.1-40**), a low-rise structure is depicted on the Yesler Terrace site with a maximum building height of 37 feet for a building with a flat roof and 42 feet for a building with a sloped roof. These heights represent what is allowed onsite under the L3 zoning (incorporating draft revisions as of May 2009) and would be similar to the existing church building located to the east of Broadway.

Cross-Section E

Cross-Section E (see **Figure 3.10.1-23 for location**) addresses height, bulk and scale relative to E Fir Street between Broadway and 10th Avenue. As shown in the figures noted below, an existing residential building with a height of approximately 30 feet is located on the north side of E Fir Street. However, the maximum allowable height for a building at this location under the current MR zoning is 75 feet.

Under Alternatives 1, 1A and 2 (**Figure 3.10.1-41**), a high-rise residential building on the Yesler Terrace site with a height of 240 feet would be allowed under the maximum zoning, but a capacity modeled building height of 230 feet is also depicted. Both the maximum zoning and capacity model building heights would be much greater than the existing offsite residential building to the north of E Fir Street (210 to 200 feet greater) and the maximum building height allowed under the current MR residential zoning (165 to 175 feet greater). The 66 foot width of the E Fir Street right-of-way as well as street setbacks on the Yesler Terrace site and the offsite residential building would provide partial buffers between the adjacent sites. Never-the-less, both the maximum zoning and capacity modeled building heights would represent a considerable height difference as compared to the existing offsite building and the maximum building height allowed under the current MR residential zoning, and could be perceived as a significant adverse impact without appropriate mitigation measures.

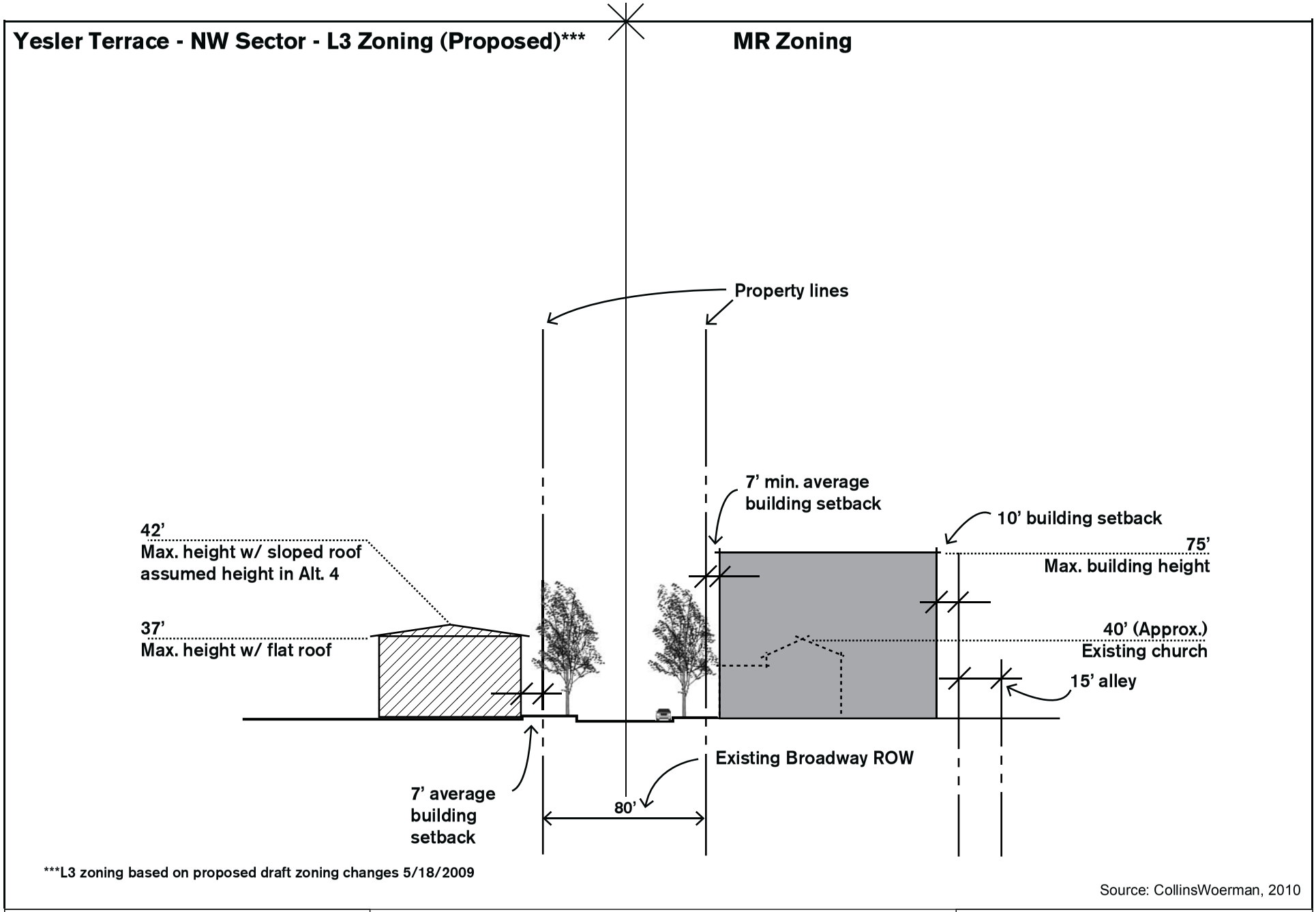
Under Alternative 3 (**Figure 3.10.1-42**), a high-rise building on the Yesler Terrace site with a residential height of 300 feet under the maximum zoning, but a capacity modeled building height of 280 feet is also depicted. Similar to the previous alternatives, both the maximum zoning and capacity model building heights would be much greater than the existing residential building to



Source: CollinsWoerman, 2010

Figure 3.10-39
Cross-Section D - Alternative 3
Perimeter Zoning Relationships

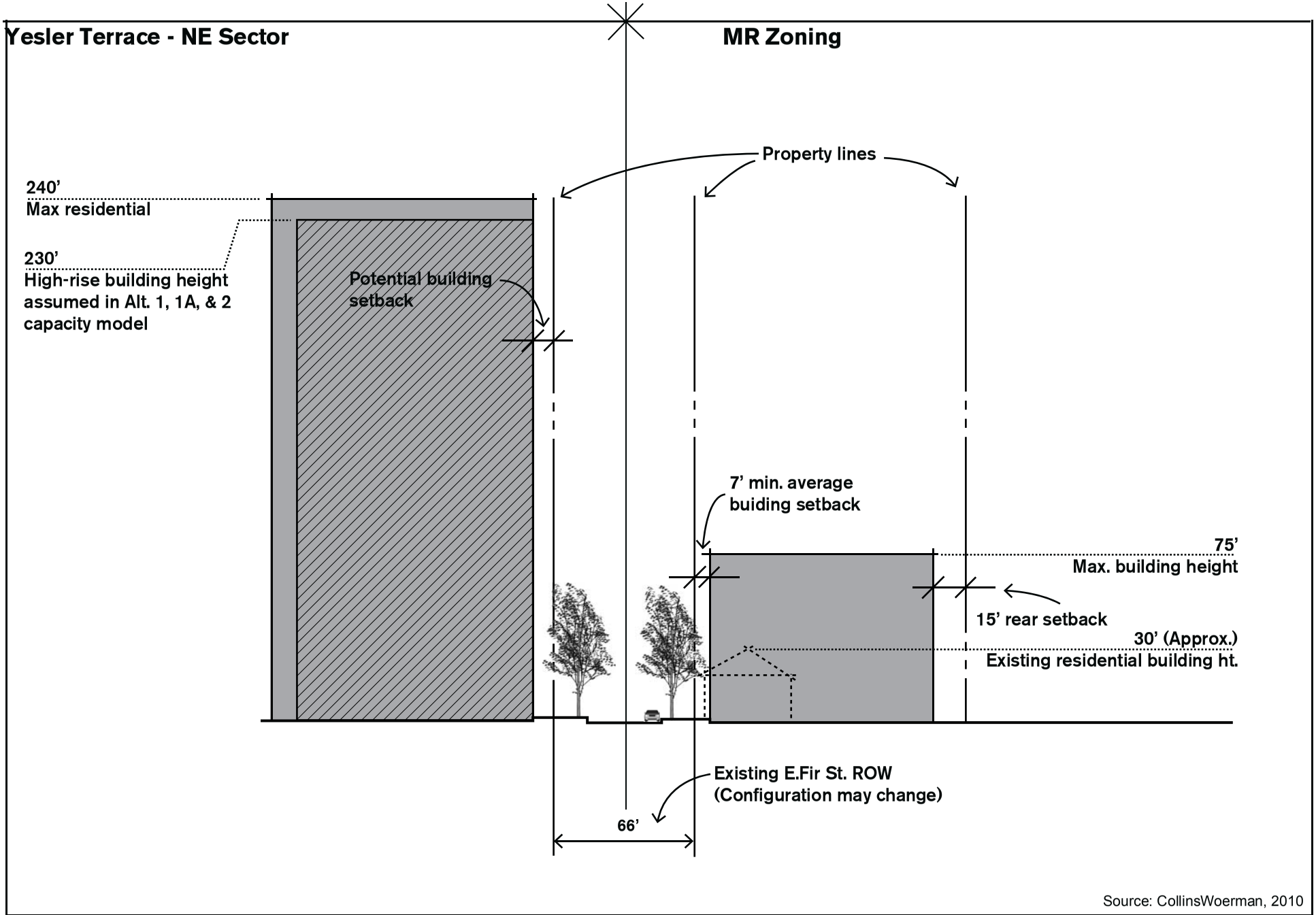
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-40
Cross-Section D - Alternative 4
Perimeter Zoning Relationships

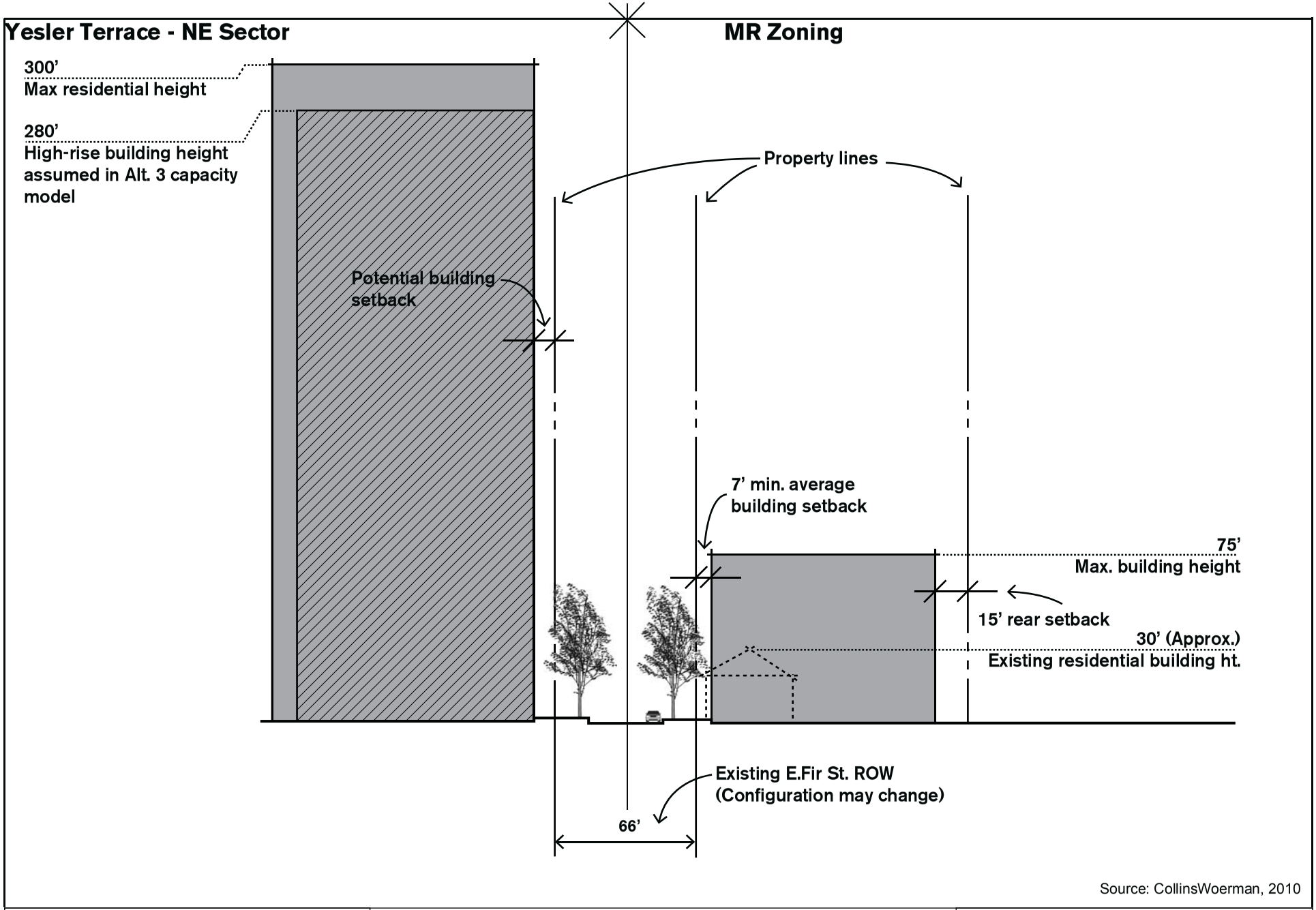
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-41
Cross-Section E - Alternatives 1, 1A, & 2
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-42
Cross-Section E - Alternative 3
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

the north of E Fir Street (270 to 250 feet greater), and the maximum building height allowed under the current multi-family residential zoning (225 to 205 feet greater). Partial buffers between Yesler Terrace and the offsite residential building would be as described for Alternatives 1, 1A and 2, and impacts would be similar to but greater than described for Alternatives 1, 1A and 2.

Under Alternative 4 (**Figure 3.10.1-43**), a low-rise structure is depicted on the Yesler Terrace site with a maximum building height of 37 feet for a building with a flat roof and 42 feet for a building with a sloped roof. These heights represent what would be allowed onsite under the L3 zoning (incorporating draft revisions as of May 2009) and would be similar to the existing residential building located to the north of E Fir Street. No significant height, bulk or scale impacts would occur.

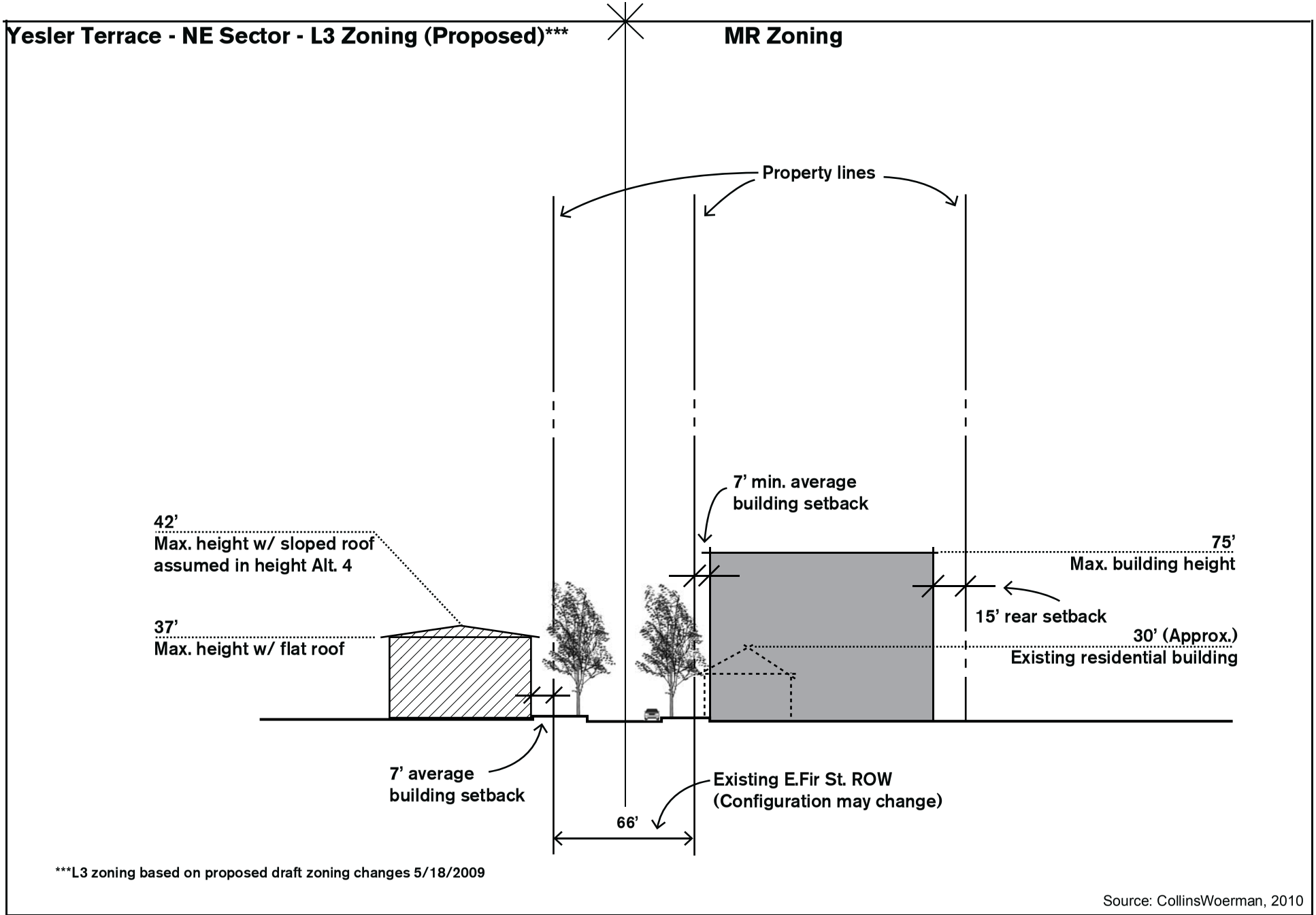
Cross-Section F

Cross-Section F (see **Figure 3.10.1-23 for location**) addresses height, bulk and scale relative to the southeast boundary of the site, to the north of Main Street and to the west of 12th Avenue. As shown in the figures noted below, a low-rise restaurant building (Seattle Deli) with an existing height of approximately 25 feet is located to the east of the Yesler Terrace site boundary. The maximum allowable height for a residential building at this location under the current Neighborhood Commercial 2-65 (NC2-65) zoning is 65 feet.

Under Alternatives 1 and 1A (**Figure 3.10.1-44**), a high-rise building on the Yesler Terrace site with a height of 180 feet would be allowed under the maximum zoning. The maximum zoning building height would be 155 feet greater than the existing retail building to the east and 115 feet greater than the maximum allowable residential height under the current NC2-65 zoning. These would represent considerable height differences and could be perceived as a significant adverse impact without appropriate mitigation measures. A mid-rise building with a capacity modeled building height of 75 feet is also depicted on the Yesler Terrace site. A building of this height would be 50 feet greater than the existing restaurant building to the east, but is similar to the maximum allowable residential height which could be developed at this location under the current NC2-65 zoning (65 feet). No significant height, bulk or scale-related impacts would be expected under the capacity model building height.

Under Alternatives 2 and 3 (**Figure 3.10.1-45**), a high-rise building on the Yesler Terrace site with a height of 240 feet would be allowed under the maximum zoning. The maximum zoning building height would be 215 feet greater than the existing retail building to the east and 175 feet greater than the maximum allowable residential height under the current NC2-65 zoning. These would represent considerable height differences, and could be perceived as a significant adverse impact without appropriate mitigation measures. A mid-rise building with a modeled building height of 75 feet is also depicted on the Yesler Terrace site, which is the same capacity model building height assumed for Alternatives 1 and 1A; no significant height, bulk or scale-related impacts would be expected.

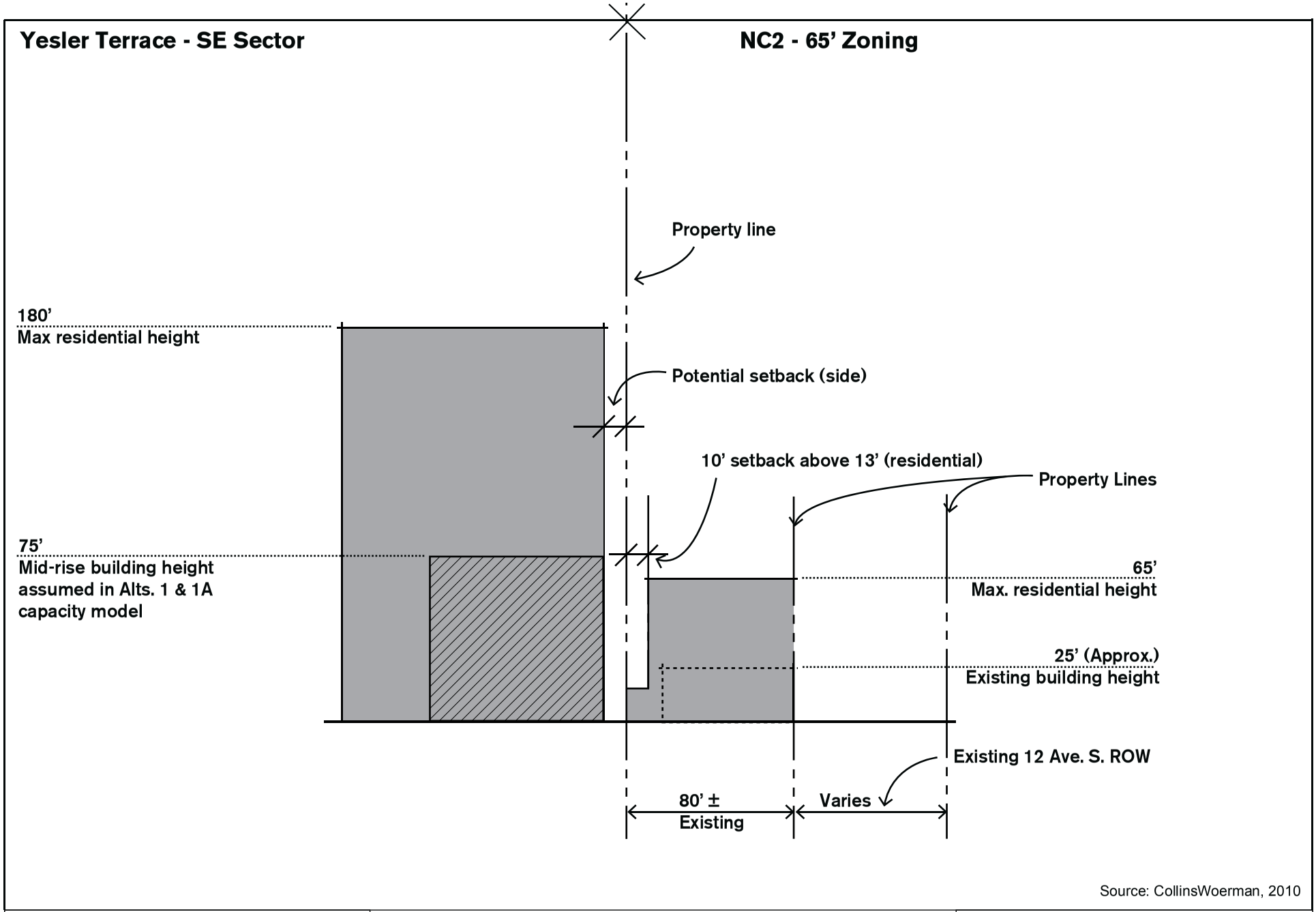
Under Alternative 4 (**Figure 3.10.1-46**), a low-rise structure is depicted on the Yesler Terrace site with a maximum building height of 37 feet for a building with a flat roof and 42 feet for a building with a sloped roof. These heights represent what would be allowed onsite under the L3 zoning (incorporating draft revisions as of May 2009) and would be slightly higher, but generally consistent with the existing restaurant building located to the east of the site. No significant height, bulk or scale impacts would be anticipated.



Source: CollinsWoerman, 2010

Figure 3.10-43
Cross-Section E - Alternative 4
Perimeter Zoning Relationships

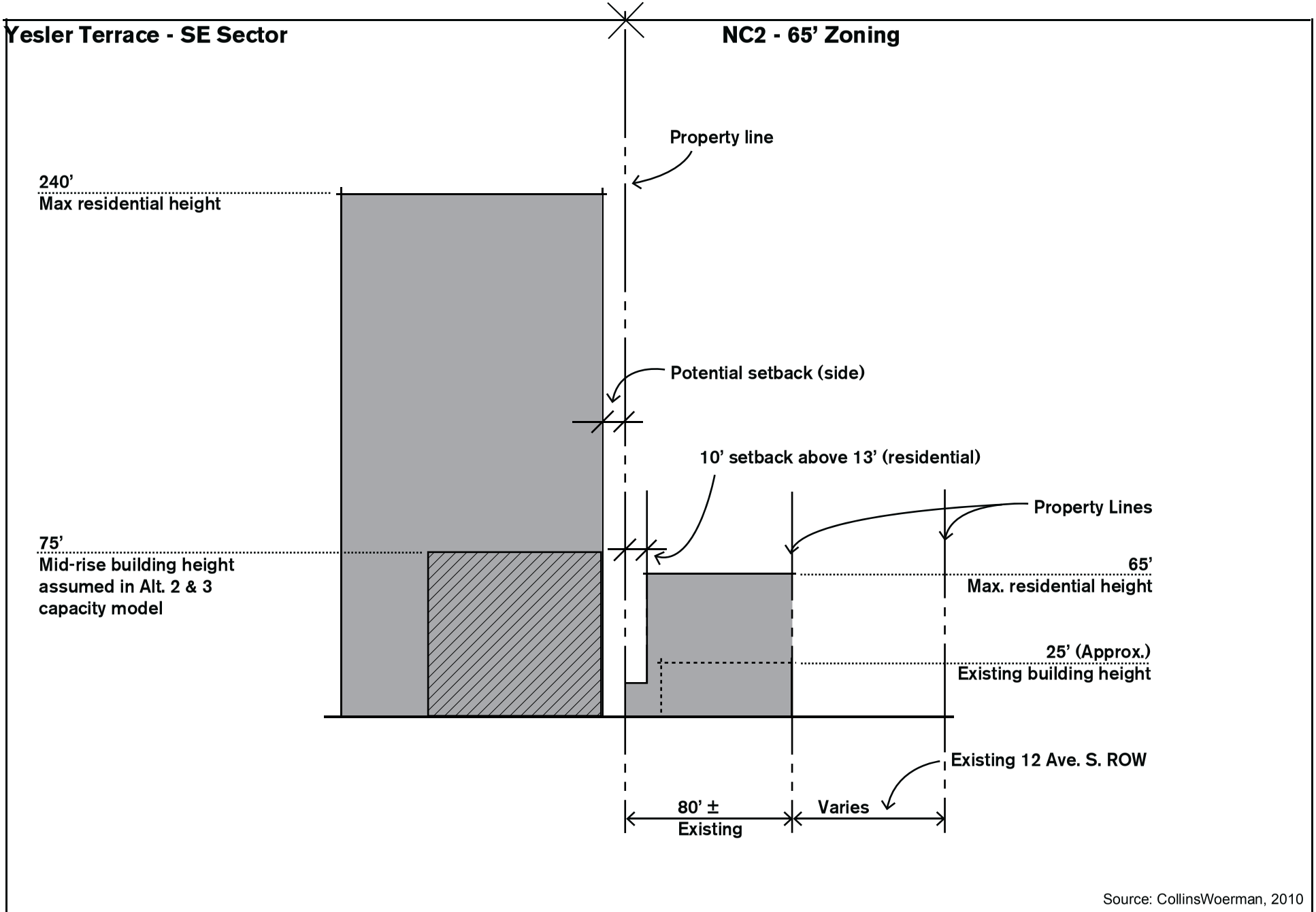
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-44
Cross-Section F - Alternatives 1 & 1A
Perimeter Zoning Relationships

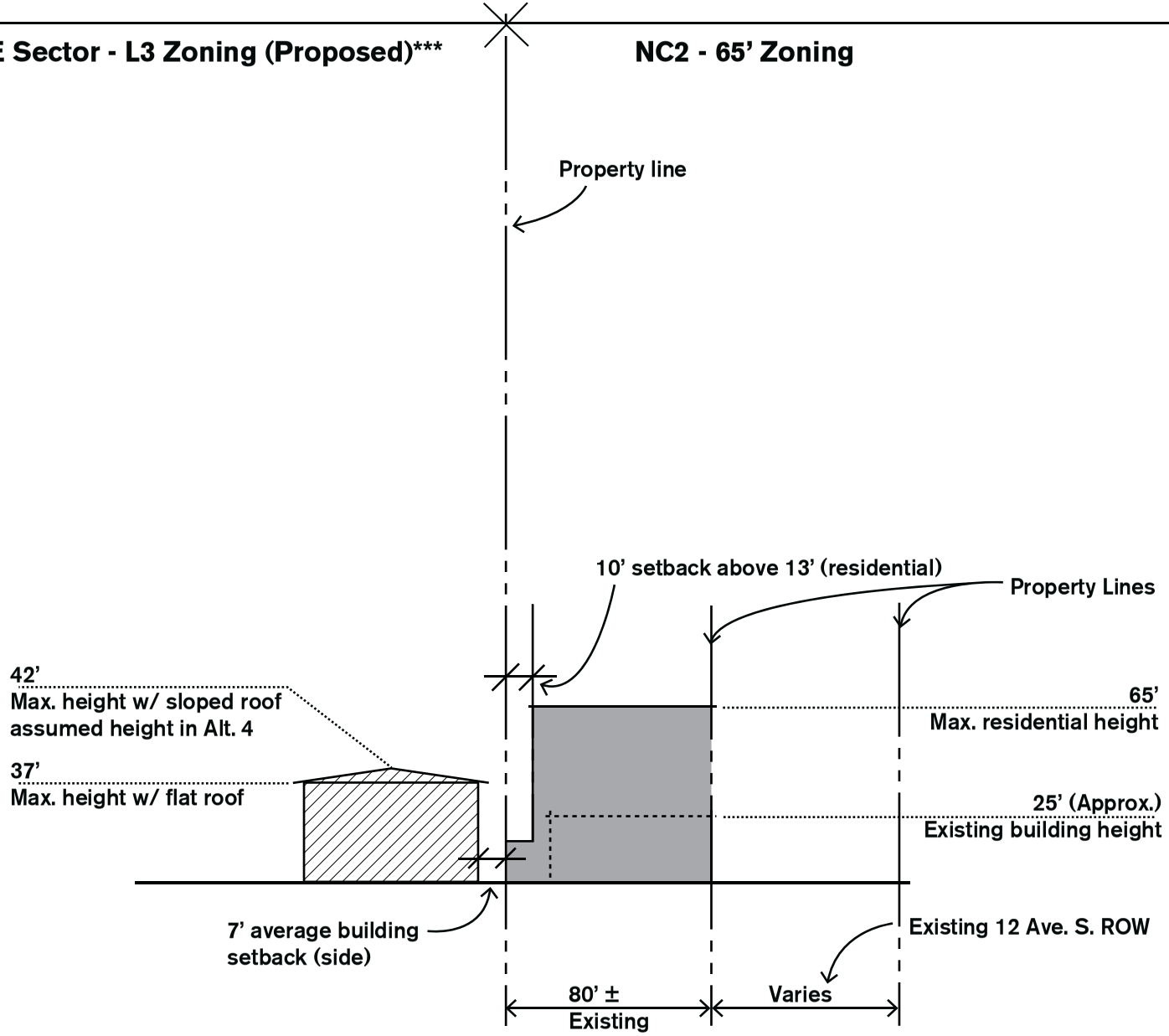
Yesler Terrace
Redevelopment EIS



Source: CollinsWoerman, 2010

Figure 3.10-45
Cross-Section F - Alternatives 2 & 3
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



***L3 zoning based on proposed draft zoning changes 5/18/2009

Source: CollinsWoerman, 2010

Figure 3.10-46
Cross-Section F - Alternative 4
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

Cross-Section G

Cross-Section G (see **Figure 3.10.1-23 for location**) addresses height, bulk and scale relative to S Main Street in between 10th Avenue S and 12 Avenue S. As shown in the figures noted below, there is no existing building on the adjacent land to the south of the site, but the maximum allowable heights for different types of land uses which could be developed under the proposed Downtown Mixed Residential/Commercial (DMR/C) zoning are depicted.[7] The adjacent development is assumed to be built at grade to S Main Street, even though there is an existing steep slope. The maximum development heights possible at this location differ depending on the building use (i.e. residential or commercial) and the size of the lot; buildings developed on larger lots would be allowed to build to a greater height. The maximum allowable height for a residential building would be 150 feet on a lot greater than 40,000 SF. Upper level building setbacks would be required above 65 feet. The maximum allowable height for a residential building on a lot less than 40,000 SF would be 85 feet. The maximum allowable height for a commercial building would be 65 feet.

Under Alternatives 1 and 1A (**Figure 3.10.1-47**), a high-rise building with a maximum height of 180 feet would be allowed on the Yesler Terrace site under the maximum zoning. A building of this height would be somewhat greater, but generally consistent with the maximum allowable residential and commercial building heights which could be developed under the proposed DMR/C zoning. No significant height, bulk or scale-related impacts would be anticipated, as a 150-foot residential high-rise could be developed under the DMR/C zoning. A mid-rise building with a capacity modeled building height of 55 feet is also depicted on the Yesler Terrace site. A building of this height would be similar to or less than potential residential and commercial building heights which could be developed under the proposed DMR/C zoning (150 to 65 feet), and therefore no significant height, bulk or scale impacts would be anticipated. The 66-foot width of the S Main Street right-of-way, as well as street setbacks on the Yesler Terrace site and upper level building setbacks on the adjacent site above 65 feet, would provide a buffer between the on and offsite buildings (no street setbacks would be required for the offsite building).

Under Alternative 2 (**Figure 3.10.1-48**), a high-rise building on the Yesler Terrace site with a height of 240 feet would be allowed under the maximum zoning. A building of this height would be greater than, but generally consistent with, the maximum allowable residential building heights which could be developed under the proposed zoning on the adjacent site (150 feet). A mid-rise building with a capacity modeled building height of 75 feet is also depicted on the Yesler Terrace site. A building of this height would be similar to or less than potential residential and commercial building heights which could be developed under the proposed DMR/C zoning on the adjacent site, and therefore no significant height, bulk or scale-related impacts would be anticipated. Buffers between the adjacent sites would be as described for Alternatives 1 and 1A.

Under Alternative 3 (**Figure 3.10.1-49**), a high-rise building on the Yesler Terrace site with a height of 240 feet would be allowed under the maximum zoning. The maximum zoning building height is the same as described for Alternative 2, and no significant height, bulk or scale-related impacts would be anticipated. A capacity modeled building height of 220 feet is also depicted. The assumed 220 feet building height would be greater than, but generally consistent with the

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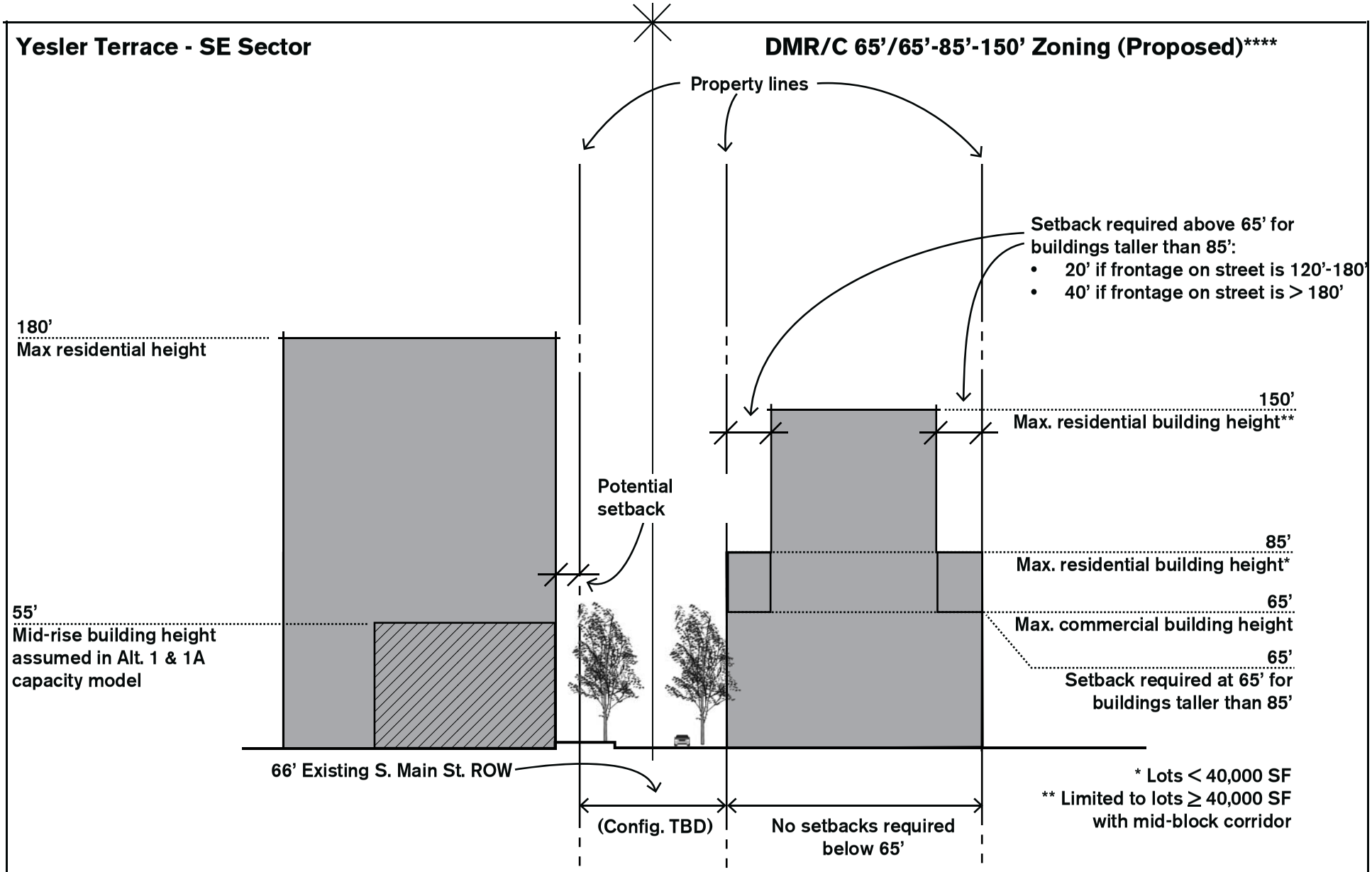
[7] This is the zoning proposed as part of the DPD South Downtown Zoning Proposal/Version 5, 3/16/2010. See Section 3.9, **Relationship to Plans, Policies and Regulations**, for further information.



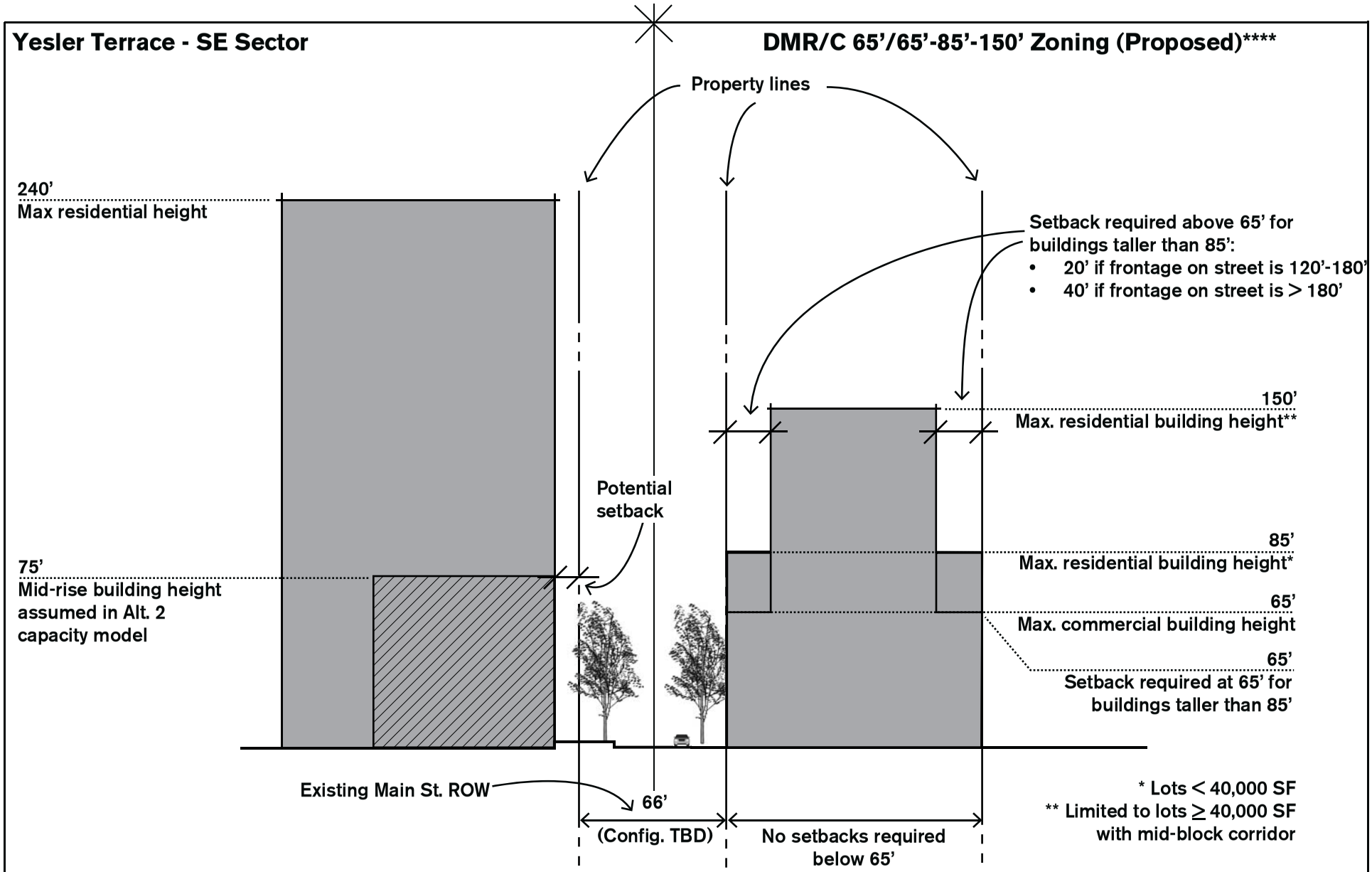
*** L3 zoning based on proposed draft zoning changes 5/18/2009
****DMR/C 65'/65'-85'-150' based on zoning in DPD South Downtown Zoning Proposal Version 5, 3/16/2010

There is no existing building currently on this parcel

Source: CollinsWoerman, 2010

Figure 3.10-47
Cross-Section G - Alternatives 1 & 1A
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



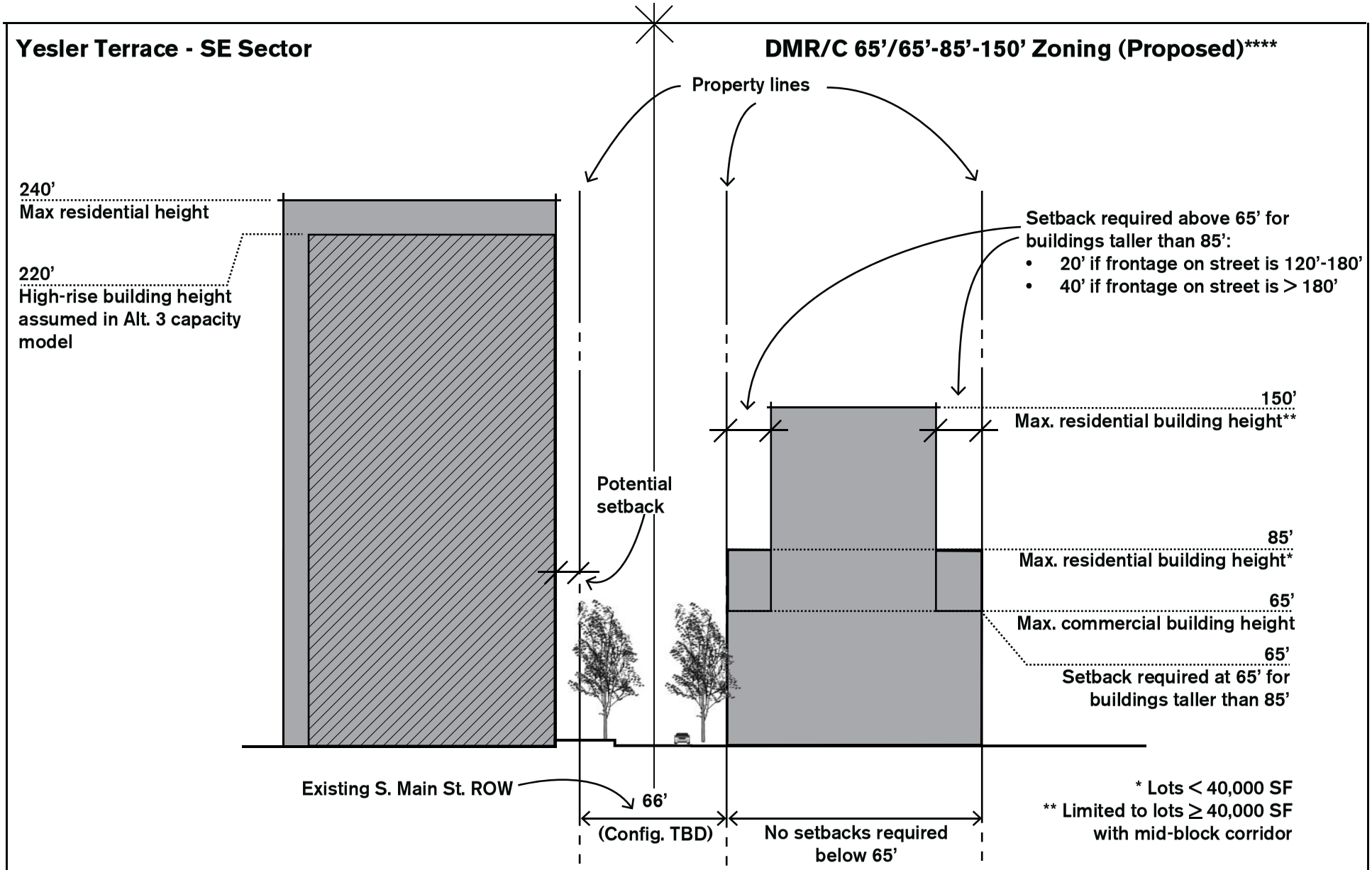
*** L3 zoning based on proposed draft zoning changes 5/18/2009
**** DMR/C 65'/65'-85'-150' based on zoning in DPD South Downtown Zoning Proposal Version 5, 3/16/2010

There is no existing building currently on this parcel

Source: CollinsWoerman, 2010

Figure 3.10-48
Cross-Section G - Alternative 2
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



*** L3 zoning based on proposed draft zoning changes 5/18/2009
**** DMR/C 65'/65'-85'-150' based on zoning in DPD South Downtown Zoning Proposal Version 5, 3/16/2010

There is no existing building currently on this parcel

Source: CollinsWoerman, 2010

Figure 3.10-49
Cross-Section G - Alternative 3
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

maximum allowable residential building heights which could be developed under the proposed DMR/C zoning on the adjacent site (a high rise of 150 feet).

Under Alternative 4 (**Figure 3.10.1-50**), a low-rise structure is depicted on the Yesler Terrace site with a maximum building height of 37 feet for a building with a flat roof and 42 feet for a building with a sloped roof. These heights represent what is allowed onsite under the L3 zoning (incorporating draft revisions as of May 2009), and would be less than the maximum building heights which could be developed for residential or commercial uses under the proposed new zoning on the adjacent site.

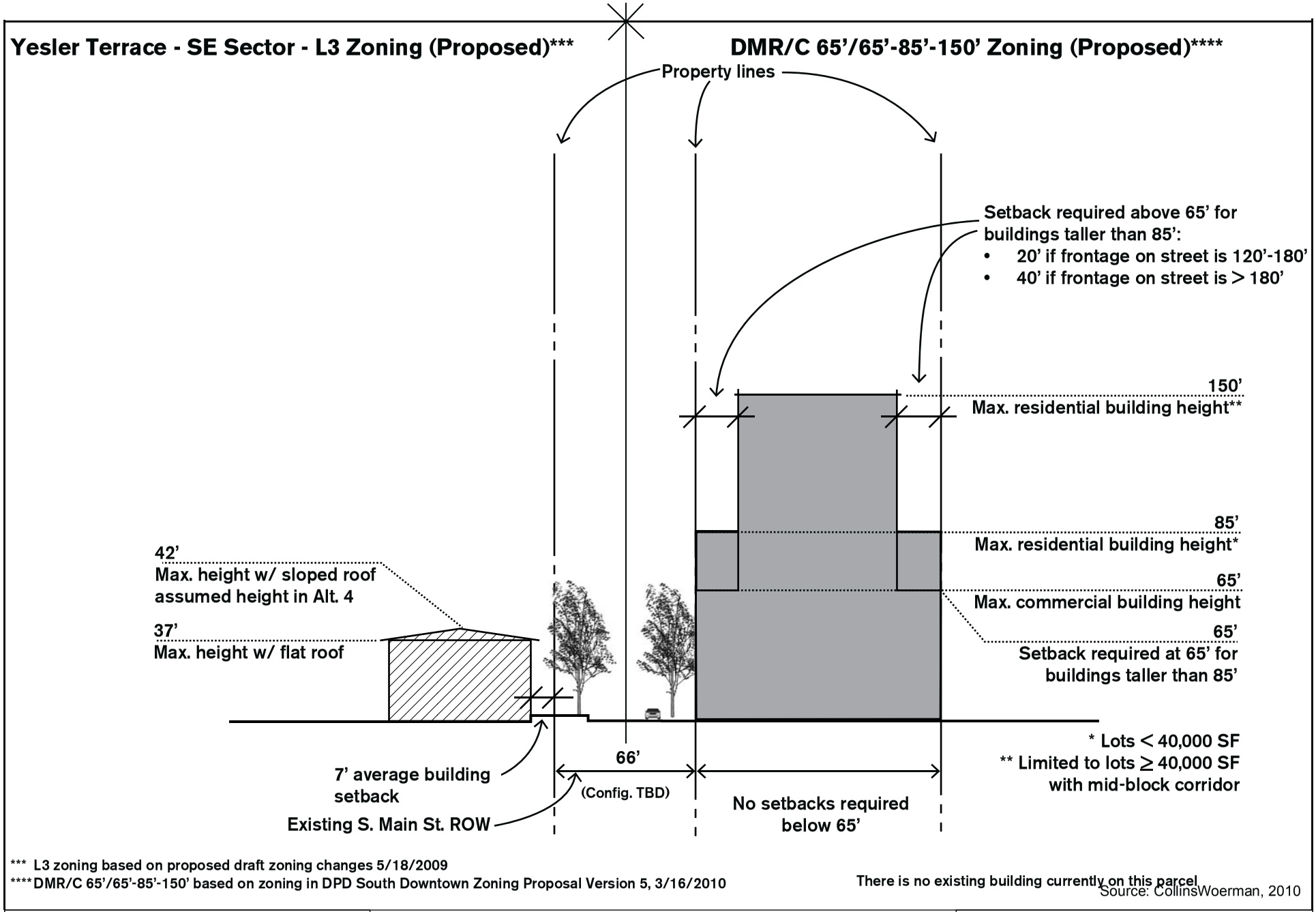
Cross-Section H

Cross-Section H (see **Figure 3.10.1-23 for location**) addresses height, bulk and scale relative to the southwest boundary of the site, to the east of I-5 and west of 10th Avenue S. As shown in the figures noted below, the land slopes down to the south at this location and the adjacent development is situated at a lower elevation than the Yesler Terrace site. An existing building with a height of approximately 50 feet is located to the south of the site. This is the Pacific Rim Center, which is a mixed use condominium and retail building. It is important to note that this existing development is generally oriented away from the Yesler Terrace site towards S Jackson Street with only two levels of housing facing the Yesler Terrace site. Maximum allowable heights for different types of land uses which could be developed under the proposed DMR/C zoning are also depicted. These allowable development heights differ depending on the building use (i.e. residential or commercial) and the size of the lot; buildings developed on larger lots are allowed to build to a greater height. The maximum allowable height for a residential building is 85 feet on a lot greater than 40,000 SF.

This cross-section is located on an area of the site which is undeveloped under existing conditions due to a steep slope. This steep slope would be regraded under Alternatives 2 and 3, but portions of the steep slope area adjacent to the site boundary would remain under Alternatives 1, 1A and 4, and no building would be developed at this location under these alternatives.

Under Alternatives 1 and 1A (**Figure 3.10.1-51**), no building is assumed to be built at this location under the capacity model development scenario, and therefore no significant height, bulk or scale related impacts would result. A high-rise building on the Yesler Terrace site with a height of 180 feet would be allowed under the maximum zoning. A building of this height would be 180 feet taller than the existing Pacific Rim Center building, and 95 to 115 feet taller than buildings which could be developed under the proposed new DMR/C zoning at this location. These would represent considerable height differences, and could be perceived as a significant adverse impact without appropriate mitigation measures.

Under Alternative 2 (**Figure 3.10.1-52**), a high-rise building on the Yesler Terrace site with a maximum height of 240 feet would be allowed under the maximum zoning. An upper level setback of 10 feet is shown above 65 feet to mimic this requirement under DMR/C zoning. A building of this height would be 190 feet greater than the existing Pacific Rim Center building, and 175 to 155 feet greater than the maximum commercial and residential building heights which could be allowed under the proposed new DMR/C zoning. These building heights would represent a considerable height difference as compared to the offsite building, and could be perceived as a significant adverse impact without appropriate mitigation measures. A mid-rise



*** L3 zoning based on proposed draft zoning changes 5/18/2009

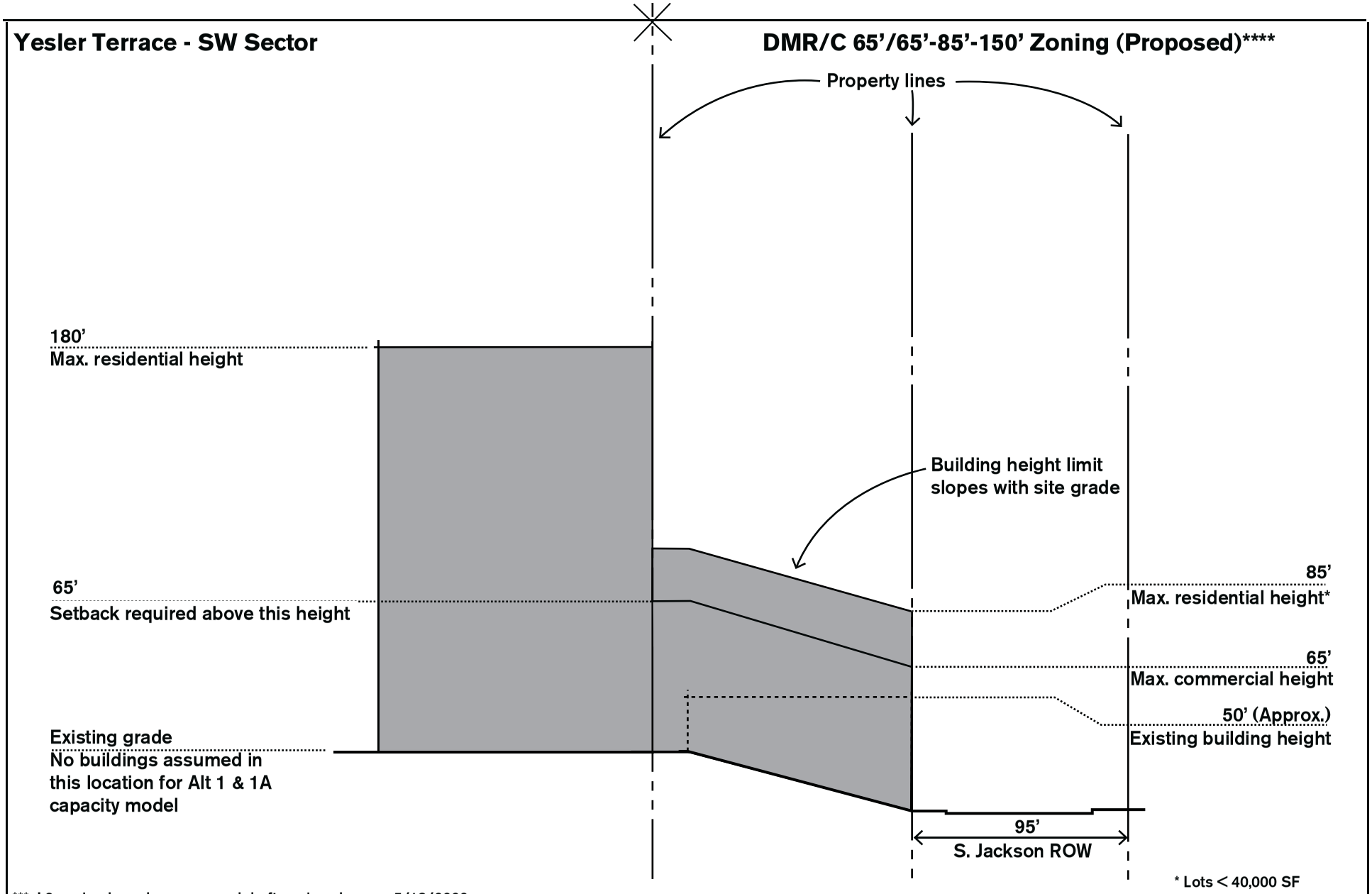
****DMR/C 65'/65'-85'-150' based on zoning in DPD South Downtown Zoning Proposal Version 5, 3/16/2010

There is no existing building currently on this parcel

Source: CollinsWoerman, 2010

Figure 3.10-50
Cross-Section G - Alternative 4
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

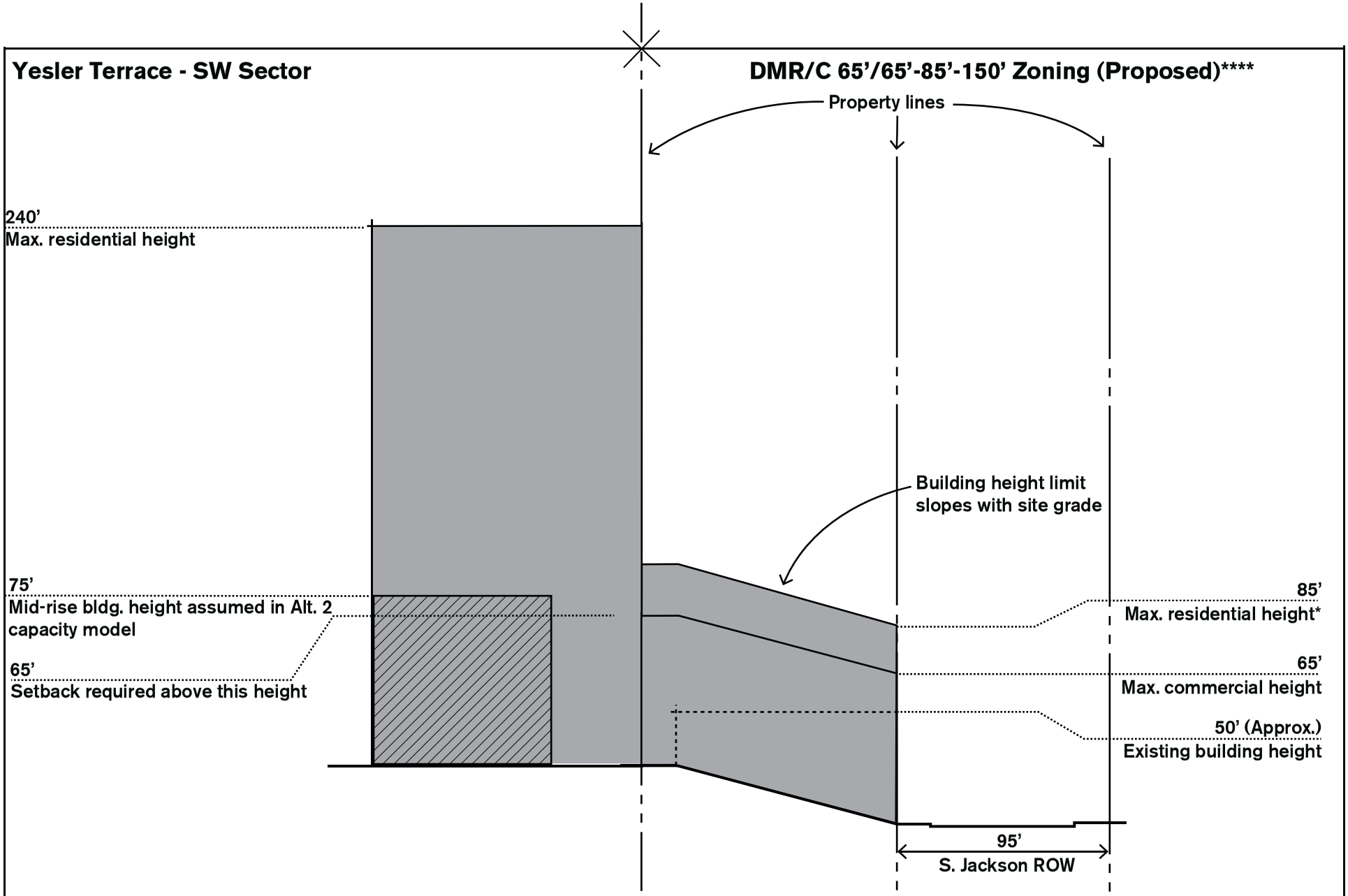


*** L3 zoning based on proposed draft zoning changes 5/18/2009
**** DMR/C 65'/65'-85'-150' based on zoning in DPD South Downtown Zoning Proposal Version 5, 3/16/2010

Source: CollinsWoerman, 2010

Figure 3.10-51
Cross-Section H - Alternatives 1 & 1A
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



*** L3 zoning based on proposed draft zoning changes 5/18/2009
**** DMR/C 65'/65'-85'-150' based on zoning in DPD South Downtown Zoning Proposal Version 5, 3/16/2010

Source: CollinsWoerman, 2010

Figure 3.10-52
Cross-Section H - Alternative 2
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

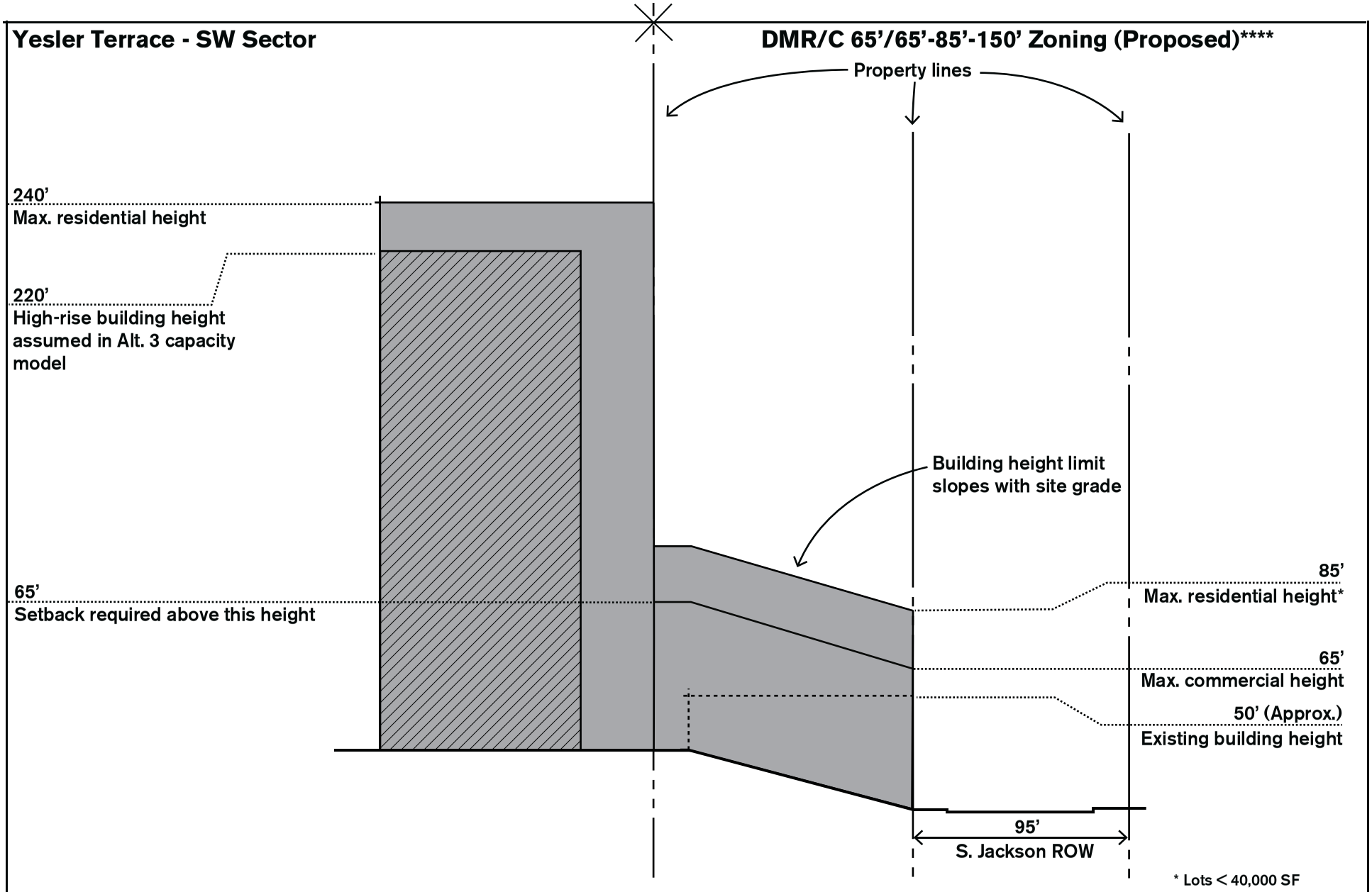
building with a capacity modeled height of 75 feet is also depicted on the Yesler Terrace site. Although the capacity model building height would be greater than the existing Pacific Rim Center building to the south, it would be generally consistent with this building, as well as the maximum residential and commercial heights which could be developed under the proposed DMR/C zoning. A building on the Yesler Terrace site would appear taller in comparison to buildings located to the south, due to the sloping topography. Overall, no significant height, bulk or scale-related impacts would be anticipated from the capacity model building height.

Under Alternative 3 (**Figure 3.10.1-53**), a high-rise building on the Yesler Terrace site with a maximum height of 240 feet would be allowed under the maximum zoning, which is the same maximum building height assumed under Alternative 2. Impacts would be as described under Alternative 2. A capacity modeled building height of 220 feet is also depicted. The capacity model building height would be 200 feet greater than the existing Pacific Rim Center building, and 155 to 135 feet greater than the maximum commercial and residential building heights which could be allowed under the proposed new DMR/C zoning. These represent considerable height differences as compared to the offsite building, and could be perceived as a significant adverse impact. Similar to Alternatives 1 and 1A, a building on the Yesler Terrace site would appear taller in comparison to buildings located to the south, due to the sloping topography.

Under Alternative 4 (**Figure 3.10.1-54**), no building is assumed to be built at this location.

Conclusion

As described in the cross-section analysis above, maximum zoning and capacity modeled building heights with redevelopment of Yesler Terrace under EIS Alternatives 1-3 could result in new buildings in certain locations that would be of a considerably greater height and scale than existing offsite buildings bordering the site, and/or the maximum allowable building heights under the existing zoning. **Table 3.10-1**, below, is a summary of the height differences between potential Yesler Terrace buildings (under the maximum zoning and capacity model) and existing offsite buildings and the offsite maximum zoning development capacity. The highlighted cells indicate those alternatives and Yesler Terrace building heights which could be perceived as a significant adverse impact, as compared to either the existing offsite building or the offsite zoning. The cross-sections resulting in significant impacts identified in **Table 3.10-1** could be mitigated through a variety of measures including limiting building heights at certain locations, providing upper level and/or ground level setbacks, limiting façade lengths or floor sizes, and establishing minimum spacing between high-rise buildings. See the Section 3.10.1.3, **Mitigation Measures**, below, for further details.

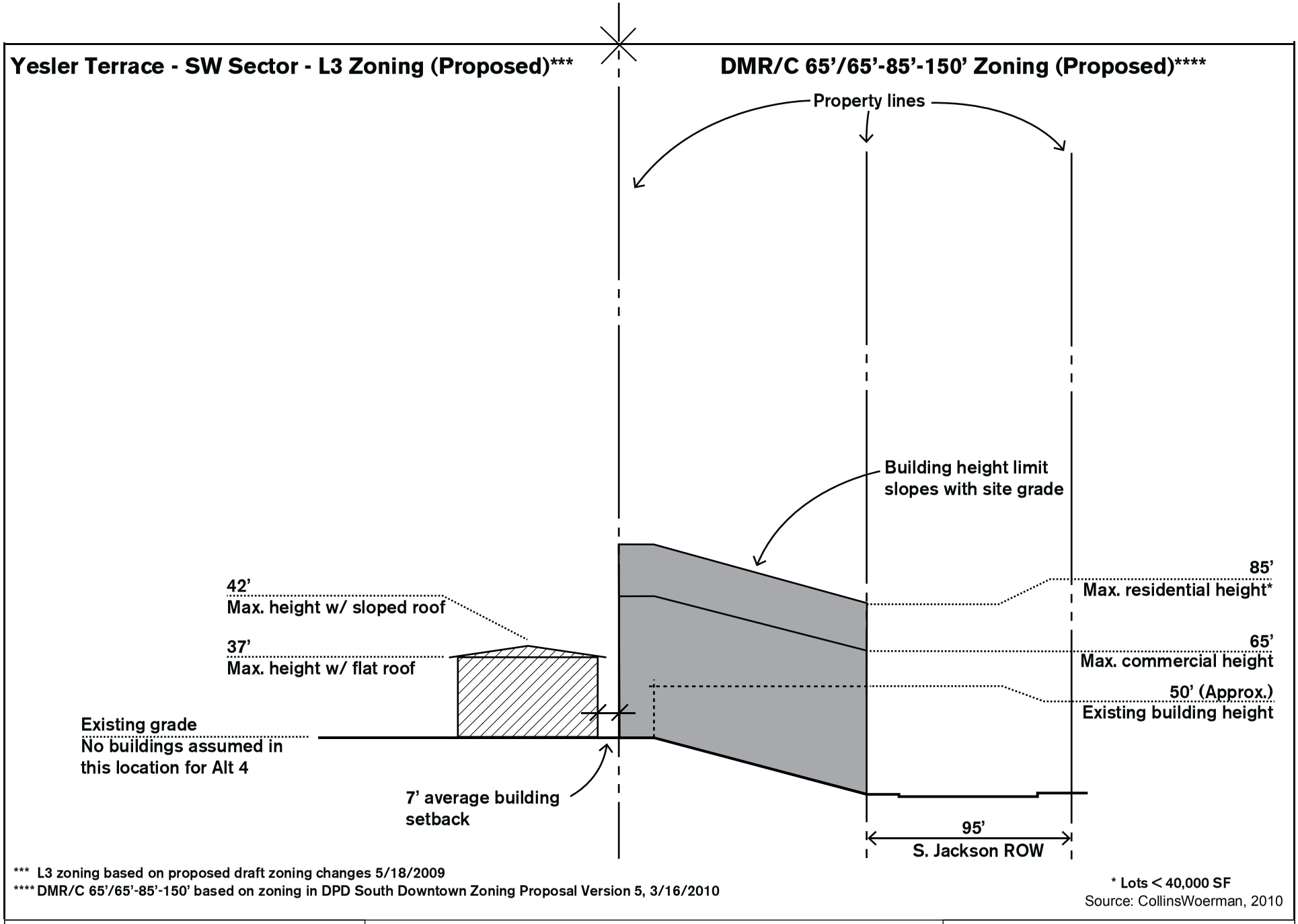


*** L3 zoning based on proposed draft zoning changes 5/18/2009
****DMR/C 65'/65'-85'-150' based on zoning in DPD South Downtown Zoning Proposal Version 5, 3/16/2010

Source: CollinsWoerman, 2010

Figure 3.10-53
Cross-Section H - Alternative 3
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS



*** L3 zoning based on proposed draft zoning changes 5/18/2009
**** DMR/C 65'/65'-85'-150' based on zoning in DPD South Downtown Zoning Proposal Version 5, 3/16/2010

* Lots < 40,000 SF
Source: CollinsWoerman, 2010

Figure 3.10.1-54
Cross-Section H - Alternative 4
Perimeter Zoning Relationships

Yesler Terrace
Redevelopment EIS

Table 3.10-1
ALTERNATIVES 1-3 – SUMMARY OF BUILDING HEIGHT DIFFERENCES AND POTENTIAL SIGNIFICANT IMPACTS

	Yesler Terrace (YT) Maximum Zoning Building Height	Height Difference Between YT Max. Zoning and Existing Offsite Building	Height Difference Between YT Max Zoning & Offsite Max. Zoning	YT Capacity Modeled Building Height	Height Difference Between YT Capacity Modeled Ht. & Existing Offsite Building	Height difference Between YT Capacity Modeled Ht. & Offsite Max. Zoning
CROSS-SECTION A						
Alt. 1	240'	115' taller	None	225'	100' taller	15' shorter
Alt. 1A	240'	115' taller	None	125'	None	115' shorter
Alt. 2	240'	115' taller	None	237.5	112.5' taller	2.5' shorter
Alt. 3	300' residential 240' office/hotel	175' taller 115' taller	None	225'	100' taller	15' shorter
CROSS-SECTION B						
Alt.1	240'	200' taller	N/A*	156'	116' taller	N/A
Alt. 1A	240'	200' taller	N/A	75'	35' taller	N/A
Alt.2	240'	200' taller	N/A	188'	148' taller	N/A
Alt.3	300' residential 240' office/hotel	260' taller 200' taller	N/A	225'	185' taller	N/A
CROSS-SECTION C						
Alts. 1, 1A & 2	240'	165' taller	135' taller	75'	None	30' shorter
Alt. 3	300' residential 240' office/hotel	225' taller 165' taller	195' taller 135' taller	280'	205' taller	175' taller
CROSS-SECTION D						
Alts. 1 & 1A	240'	200' taller	165' taller	75'	35' taller	None
Alt. 2	240'	200' taller	165' taller	190'	150' taller	115' taller
Alt. 3	300' residential 240' office/hotel	260' taller 200' taller	225' taller 165' taller	75'	35' taller	None
CROSS-SECTION E						
Alts. 1, 1A & 2	240'	210' taller	165' taller	230'	200' taller	125' taller
Alt. 3	300' residential	270' taller	225' taller	280'	250' taller	205' taller
CROSS-SECTION F						
Alts. 1 & 1A	180'	155' taller	115' taller	75'	50' taller	10' taller
Alts. 2 & 3	240'	215' taller	175' taller	75'	50' taller	10' taller
CROSS-SECTION G						
Alts. 1 & 1A	180'	N/A – no existing building at this location	-30' to 95' taller than residential bldg. -115' taller than commercial building	75'	N/A – no existing building at this location	-75' to 30' shorter than residential building -10' higher than commercial building
Alternative 2	240'	N/A – no existing building at	-90' to 155' taller than residential building	75'	N/A – no existing building at	-75' to 10' shorter than residential building

		this location	-175' taller than commercial building		this location	-10' taller than commercial building
Alt. 3	240'	N/A – no existing building at this location	-90' to 155' taller than residential building -175' taller than commercial building	220'	N/A – no existing building at this location	-70' to 135' taller than residential building -155' taller than commercial building
CROSS-SECTION H						
Alts.1 & 1A	180'	130' taller	-95' taller than residential bldg. -115' taller than commercial bldg.	No building would be built at this location under these alternatives	N/A	N/A
Alt. 2	240'	190' taller	-155' taller than residential building -175' taller than commercial building	75'	25' taller	-10' shorter than residential building -10' taller than commercial building
Alternative 3	240'	190' taller	-155' taller than residential building -175' taller than commercial building	220'	200' taller due to topography	-135' taller than residential building -155' taller than commercial building

Source: Blumen Consulting Group. 2010.

Cumulative and Indirect Impacts

Under Alternatives 1-3, the redeveloped view of the site would generally be more prominent than occurs under existing conditions, and the visual density and height, bulk and scale of new buildings would be substantially greater. The scale and intensity of buildings on the site would appear similar to and as a continuation of the existing Harborview Medical Center buildings to the north, while somewhat lower than Downtown buildings to the west.

It is possible that the increase in intensity of development on the site under Alternatives 1-3 could result in requested zoning changes in the areas adjacent to the site. Any development in the area generated indirectly by Yesler Terrace redevelopment would likely occur incrementally over time and would be assumed to be consistent with City land use goals and regulations; therefore, significant indirect aesthetic impacts would not be anticipated.

3.10.1.3 Mitigation Measures

Required/Proposed Mitigation Measures

Aesthetics

The following measures would be implemented to lessen potential aesthetic impacts.

- The Land Use Code text amendment, and/or Planned Action Ordinance, is expected to include zoning standards that specify heights and setbacks, and also design guidelines. As permit applications are submitted, the City will review the proposed development for conformance with those standards and guidelines.

- Street landscaping would be provided that meets or exceeds City of Seattle regulations, and would serve as a partial buffer to offsite development.

Other Possible Mitigation Measures

Height, Bulk and Scale

The following measures, or ones similar to them, could be implemented to lessen potential height, bulk and scale impacts to offsite development surrounding the site.

- Yesler Terrace building heights could be limited where Yesler Terrace development would be across the street from offsite areas where zoning regulations limit offsite building heights to 75 feet or less. For example, Yesler Terrace building heights could be limited to 150 feet within 80 to 120 feet of such offsite locations. The actual setback distance and heights could be determined on a case by case basis since some site locations may not pose unreasonable impacts to lower height buildings. This approach would create a stepping of building heights adjacent to the lower height and density zoning and subsequently limit shadow impacts and increase the availability of light to the adjacent sites.

- Upper level building setbacks could be required for buildings above 65 to 85 feet in order to open the sky view from the street and create a less imposing physical building scale near the lower, offsite height and density zoning.

- Building façade lengths could be limited and minimum building spacing required above building heights of 65 feet to 85 feet to reduce the wall effect from tall buildings which could create excessive shadow and view impacts to adjacent buildings.

- Maximum floor plate sizes could be established for residential highrise buildings, similar to limits currently in place for residential towers in Downtown zones.

- Ground level building setbacks could be used for high-rise buildings to create a wider separation between lower and higher density zoning.

- Minimum ground and upper level building setbacks could be required for buildings adjacent to the property lines of offsite parcels with considerably lower maximum

building heights in order to provide separation between areas with lower density development.

3.10.1.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse height, bulk or scale related impacts would be anticipated with implementation of appropriate mitigation measures, including those listed above.

3.10.2 LIGHT and GLARE

This section describes existing light and glare conditions at the Yesler Terrace site and evaluates potential impacts from the EIS Alternatives. Mitigation measures to reduce light and glare impacts and a description of any significant unavoidable adverse impacts are provided.

3.10.2.1 Existing Conditions

Light

Site Lighting

Current lighting conditions on the site are indicative of an urban residential setting, and light is emitted from both stationary and mobile sources. Pole-mounted lights are located along streets within and surrounding the site, and along the main north/south pedestrian walkways that traverse the site. The sidewalks and interior pathways that provide access to the residential entrances are lit by fixtures mounted to the facades of the buildings and under the entrance canopies (i.e. porch lights). Interior building lighting also emits light at night and times of the day with low light levels. The existing open spaces at Yesler Terrace, including the ball field, do not contain large amounts of night time illumination. Each of the play areas and other open spaces throughout the site contain only one or two light poles. Similarly, the surface parking lots at Yesler Terrace are relatively modest in size and typically have two light poles at most. Mobile light sources include vehicles travelling on the site roadways and vehicles navigating surface parking lots.

Surrounding Area Lighting

The neighborhoods to the east and south of the site have nighttime lighting conditions that are generally similar in character to Yesler Terrace. That is, light is emitted from both stationary and mobile sources including interior and exterior building lighting, street lighting and vehicles traveling on and accessing parking on area roadways and property. Lighting conditions to the north of the site, where Harborview Medical Center is located, are brighter and more constant. The hospital operates 24 hours a day, and much of its interior is illuminated on a constant basis. In addition, Harborview has some areas with higher levels of outdoor lighting, such as around the building entrances, in and around parking garages, and at the helicopter landing facility. The I-5 roadway directly to the west of the site has nighttime lighting sources that include overhead poles and the headlights of passing vehicles. However, because the I-5 roadway is at a lower elevation than the Yesler Terrace site, these lighting sources do not have much impact on the site. An exception is the southwest edge of the SW Sector, where the site slopes down to the west and is nearly at the same grade as the I-5 roadway; vehicle headlights are more likely to intrude onto the site at this location.

Glare

Existing buildings and vehicles traveling on the site currently generate some glare. In the vicinity of the site, the primary sources of glare are buildings (including glare from windows and building materials) and automobiles on area roadways.

3.10.2.2 Impacts

Light and Glare

Construction

New temporary sources of light would be introduced to the site during construction activities over the long-term buildout of the site. The lighting sources would be associated with infrastructure and building construction, lighting of the job site (to meet safety requirements), trucks and other equipment. Construction lighting could potentially be noticeable in certain areas proximate to the site. Also, glare could reflect off construction vehicles and equipment, and construction-related vehicle headlights could at times produce light and glare when accessing the site from area roadways. While noticeable, such lighting is not expected to cause significant impacts. Construction lighting could be shielded from on and off-site residential buildings, and lighting associated with construction activities would be limited by City of Seattle regulations which limit activities during nighttime hours.

Operation

Redevelopment of the site under Alternatives 1 through 4 would add a variety of sources of light and glare to the site. General light sources and lighting types would be similar for these alternatives; however, due to the overall building density assumed for each alternative (lower density level under Alternatives 1 and 1A, and highest density under Alternative 3), it would also be assumed that Alternative 3 would feature the greatest amount of light and glare on the site, with Alternative 4 providing the least.

Impacts Common to Alternatives 1-3

West of Boren Sectors

Following redevelopment, new office, hotel, residential and neighborhood commercial (restaurant and retail) uses would result in new light sources on the site under Alternatives 1-3. Stationary sources of light produced by the project would include interior and exterior building lighting, commercial sign lighting, pedestrian level lighting along pathways, park and open space lighting and street lighting. Mobile sources would include light and glare from vehicle headlights associated with vehicles entering and exiting structured below-ground parking lots from area roadways, and to a lesser degree, vehicles accessing surface parking. Light levels would be generally higher in the evenings and during the winter months, when there are more hours of darkness. Given the mix of uses including residential, retail and restaurant uses, nighttime lighting levels would be higher. Redevelopment under Alternatives 1 through 3 would result in the elimination of many of the existing sources of light on the site; however, because the overall level of redevelopment on the site and the number of vehicles traveling through the site would be greater than under existing conditions, the overall level of light on the site would increase.

Lighting sources associated with redevelopment on the site would be generally similar to or somewhat less than those found in areas to the north on the Harborview Hospital campus and to the west in Downtown Seattle. General lighting levels on the site would be somewhat higher than those in the areas to the east and south due to the overall building density assumed for the site, including street lighting and vehicular lighting levels on the site. From areas farther to the north and west, lighting on the site would appear as a continuation of the urban lighting pattern

associated with the Harborview Medical campus and the South Downtown Neighborhood. Significant light impacts would not be anticipated.

New sources of glare on the site under the Redevelopment Alternatives could include reflection from building facades and windows and reflections from vehicle traffic. Specific glare impacts would depend upon the degree of reflective surfaces (glass windows) selected for building facades. Buildings containing office, neighborhood commercial and neighborhood service uses would likely include some degree of glass exteriors and could produce more glare than other uses. The amount of glare generated would be typical of urban development. Potential glare impacts to I-5 and Boren Avenue are discussed separately below.

East of Boren Sector

Following redevelopment, new residential and neighborhood commercial (restaurant and retail) uses would result in new light sources in the East of Boren Sector. Stationary and mobile sources of light would be similar to what is described for the West of Boren Sectors. Given the mix of uses including residential, retail and restaurant uses, nighttime lighting levels would be higher than under existing conditions. Redevelopment would result in the elimination of many of the existing sources of light on the site; however, because the overall level of redevelopment on the site and the number of vehicles traveling through the site would be greater than under existing conditions, the overall level of light in this Sector would be anticipated to increase.

Alternative 4

West of Boren Sectors

Under Alternative 4, additional residential uses would be added to the site, but no new office, neighborhood commercial or neighborhood services space would be added. The new residential uses would result in new light sources on the site and additional vehicles accessing onsite parking areas. Overall, due to the similarity of uses which would occur onsite under Alternative 4, the character of light and glare would be slightly greater than but generally similar to existing conditions.

East of Boren Sector

Light and glare conditions would be similar to Alternatives 1-3.

No Action Alternative

Under the No Action Alternative, light and glare levels similar to those described under existing conditions are expected to continue on the site.

Potential Glare Impacts to I-5 and Boren Avenue

A Solar Glare Analysis has been prepared to evaluate glare-related impacts – specifically reflected solar glare – and the potential environmental impacts resulting from glazing and specular (mirror-like) surfaces on buildings on the redeveloped Yesler Terrace site.

This glare analysis has been prepared consistent with provisions of Seattle's Land Use Code and acceptable methodology[8] for projects within the City. Because of the proximity of the proposed redevelopment to I-5, and the fact that I-5 is the primary north-south freeway through Downtown Seattle, this analysis focuses on potential glare impacts on the freeway. As well, because of the proximity of the proposed redevelopment to Boren Avenue, a principal arterial, the glare analysis also accounts for potential impacts on this street.

Environmental Impacts

While vehicle headlights, glazing and/or other specular surfaces on vehicles occasionally create glare, the principal source of glare associated with most development projects is sunlight reflected from specular surfaces on building facades. Factors influencing the amount of reflective solar glare that may occur include: weather (e.g., cloud cover); building height, width and orientation of the façade; percent of the façade that is glazed or composed of specular material; reflectivity of the glass or specular surfaces; design relationship between the glazed and non-glazed portions of the façade (e.g., glass inset from the sash, horizontal and vertical modulation); the color and texture of building materials that comprise the façade; and the proximity of other intervening structures or significant landscaping.

Alternatives 1 through 3 would replace the existing primarily 2-story wood-frame buildings on-site with a series of high-rise and mid-rise buildings. Mid-rise buildings could be 5 to 8-stories in height, and high-rise buildings could be from 10 to 23 stories tall. This glare analysis focuses solely on Alternative 3, as this is the alternative that assumes the greatest building heights and densities across the site, and therefore the greatest glare impacts could result. Potential impacts under the other Alternatives (1, 1A and 2) would be assumed to be similar to or less than what is presented for Alternative 3. No glare impacts would be assumed to occur under Alternative 4, due to the similarity to existing conditions.

As mentioned previously, certain assumptions have been made regarding building footprints on the redeveloped Yesler Terrace site (i.e., where and how buildings would be situated throughout the site) based on a capacity model. However, as actual building locations have not yet been determined, and the EIS can help test potential building locations, glare impacts were considered for four possible building orientations, as depicted by Orientations A-D in **Figure 3.10.1-55**. The glare analysis determined which building orientation would result in the worst case glare impacts for each season and time analyzed within the analysis, and the glare diagrams with these building orientations were completed for the EIS. The worst case glare diagrams only evaluate the glare impacts of high-rise buildings. As well, a second set of glare diagrams was completed with the building orientations and locations identified for the Alternative 3 capacity model development scenario (see **Figure 3.10.1-56**). The capacity model glare analysis is based on high-rise buildings and mid-rise buildings located near I-5 along the western boundary of the site.

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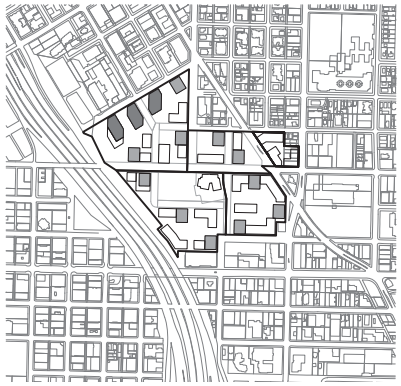
[8] City of Seattle; Department of Community Development. 1979 and 1980. Light and Glare Study, Phase I and Light and Glare Study, Phase II.

Orientation A
(Parellel to Alder St.)

Orientation B
(Parellel to Broadway)

Orientation C
(Parellel to Yesler Way)

Orientation D
(Parellel to Boren Ave.)



Orientation E
(Orientation shown in Visualization study)

High-rise Office, 240' max

Residential Tower
300' max in NW & NE Sectors
240' max in SW & SE Sectors

Building Orientation

Five different building orientations were considered for the glare impact studies. Each of these were based on the Alternative 3 assumptions for office and residential high-rise buildings, which would cast the longest glare pathways into the surrounding areas.

Four of these (shown above) were studied to determine if specific building orientation would affect the degree of glare impact to the areas surrounding the site. For each of the times studied the orientation which is most impactful to the surrounding area has been shown.

The fifth building orientation studied was the building configuration used in the Visualization Study for Alternative 3 which anticipates that not all buildings will be oriented in a similar direction.

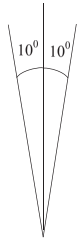
General Notes about Glare impacts

Building locations – Glare impacts shown do not assume any blockage of sun from other foreground buildings on site. Blockage of sun from foreground buildings in some locations will reduce the amount of glare impact directly adjacent to the buildings. The extent of this reduction will vary depending on the distance between buildings and the elevation of the sun.

Glare pathways vs. actual glare impacts – All diagrams show glare pathways. Due to the elevation of the sun at certain times of the year and the topography of the site, as well as the surrounding area, some of the pathways shown will not produce glare impacts to adjacent areas because the glare will not reach the ground within the diagram area shown. Text notes will describe where no or limited glare impact will occur along glare pathways.

Glare shadows – Certain physical features on the site may limit the glare impact to areas surrounding the site by shadowing glare coming from tall buildings. Examples of these include the retaining wall along Interstate 5, vegetation within the Interstate 5 right-of-way, and steep topography sloping generally to the southwest across the site. See Figure 3.10.1-57 (Section at interstate 5) for a graphic representation of glare shadows. Text notes describe where glare shadows will limit glare impacts along the glare pathways.

Cone of Vision used for determining Glare Impact -

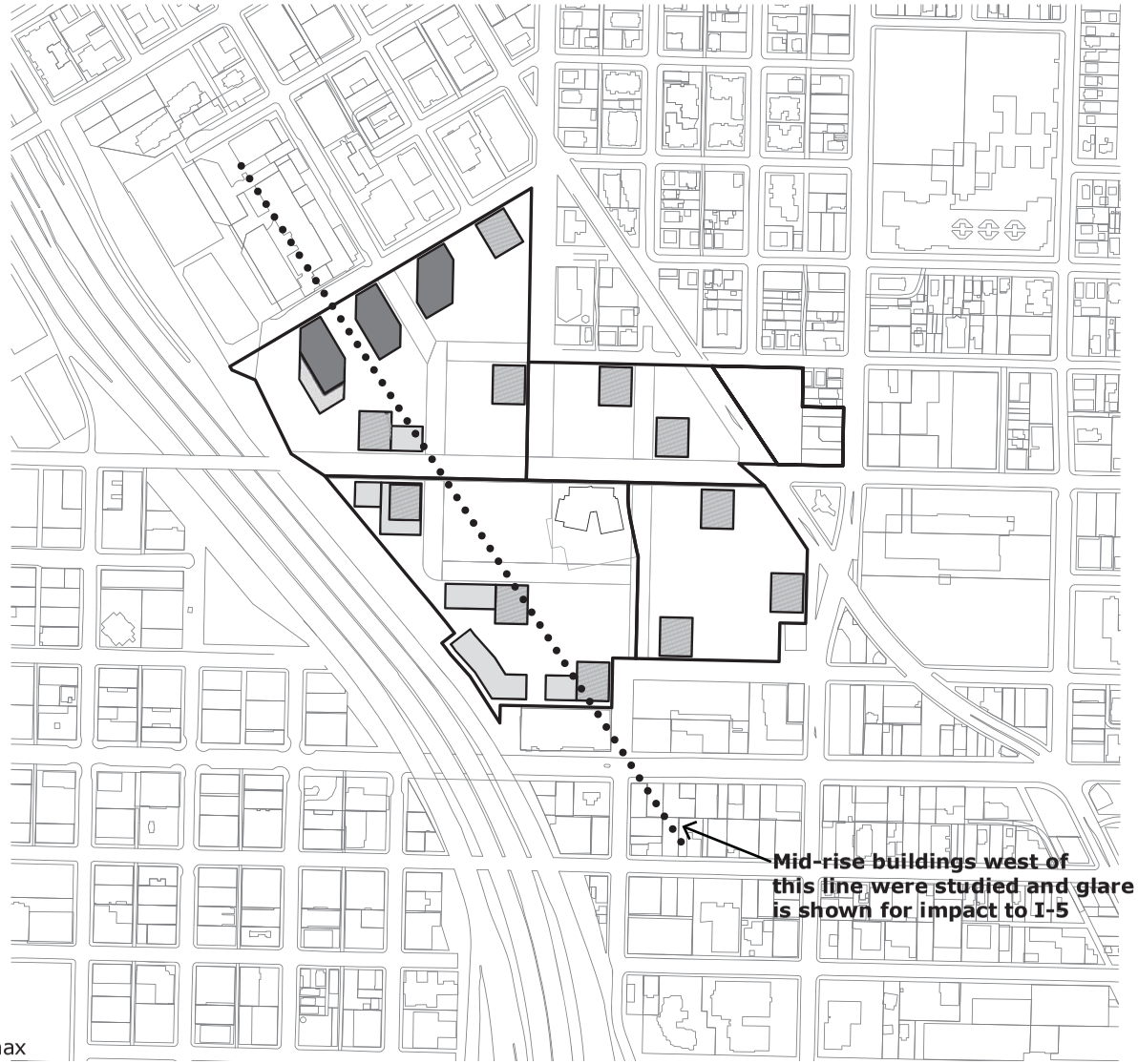


For determing glare impacts to drivers, a cone of vision 10° either side to the vehicles direction travel was used. Areas of glare which fall within the visual cone are show with duration of the glare impact identified.

Source: CollinsWoerman, 2010

Figure 3.10-55
Building Orientations For Glare Analysis

Yesler Terrace
Redevelopment EIS



High-rise Office, 300' max

High-rise Residential
300' max in NW & NE Sectors
240' max in SW & SE Sectors

Mid-rise Residential, 70' max

Source: CollinsWoerman, 2010

Figure 3.10-56
Buildings Included In Glare Analysis - Alternative 3

Yesler Terrace
Redevelopment EIS

The glare analysis for both the worst case and capacity modeled building orientations and locations is based on the assumption that all buildings on the Yesler Terrace site would have curtain walls and would be entirely covered in windows with no recessed windows. These assumptions allow for a worst case assessment of potential impacts.

Figures K1.1 through K1.16 in **Appendix K** depict potential reflected solar glare from the Yesler Terrace redevelopment under the worst case building orientations and the Alternative 3 capacity model building orientations and locations, at two times of the day during each of the four key days of the solar year – vernal equinox (approximately March 21st), summer solstice (approximately June 21st), autumnal equinox (approximately September 21st), and winter solstice (approximately December 21st). The two times of the day (8 AM and 5 PM) reflect peak hour traffic periods.[9] These four dates were analyzed for the glare analysis because they are representatives of times of the year. It should be noted, however, that solar glare-related impacts may also occur at other times of the day and days of the year. Also, because of the earth's rotation, the duration of reflected solar glare impacts will vary – from several minutes[10] for a stationary observer to substantially less for a mobile observer.

Structures and, to a lesser extent, vegetation can mitigate the environmental impacts of reflected solar glare from glazing and specular surfaces. This can occur if these mitigating factors are located between the sun and the glass or specular surface or between the reflective surface of the façade and the area potentially affected by reflected solar glare. For example, the retaining wall along I-5, vegetation within the I-5 right-of-way, and steep topography sloping generally to the southwest across the site, may limit the extent of glare impact to I-5. See **Figure 3.10.1-57** as an example of these features which may lessen glare impacts.

A key consideration for motorists is the effect of potential solar glare on a driver's cone-of-influence.[11] The cone-of-influence is defined as the driver's viewing area and is within 20 degrees of the horizontal axis that points in the direction of vehicle travel. This typically represents the most sensitive viewing area for motorists. Glare impacts that occur outside the 20-degree cone-of-influence are considered less critical considering the driver's requirement and responsibility to look forward and the vertical limitation imposed by the height of a windshield and would not result in significant impacts. In the glare diagrams, glare pathways that would appear within the driver's cone-of-influence are noted. As discussed in the analysis below, only the worst case building orientation on December 21st at 4:00 PM resulted in glare that would be within the driver's cone-of-influence for motorists on I-5. It should be noted, however, that solar glare-related impacts may also occur at other times of the day and days of the year. In the diagrams, the term 'general glare impacts' is used to indicate the estimated location and extent of glare impacts.

The glare impacts shown for this analysis do not assume any blockage of the sun from other foreground buildings onsite, which would reduce the amount of glare impact to some extent. The scope of this reduction would vary depending on the distance between buildings and the elevation of the sun.

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[9] 4 PM is analyzed for the winter solstice due to the lack of light at 5 PM

[10] The rate of change of the sun's angle relative to the earth varies widely by season – from about 5 degrees horizontally and 2 degrees vertically every 15 minutes in June to 3 degrees horizontally and 1 degree vertically every 15 minutes in December.

[11] Washington Mutual/Seattle Art Museum Final EIS, Section 2.2.2, November 2003.

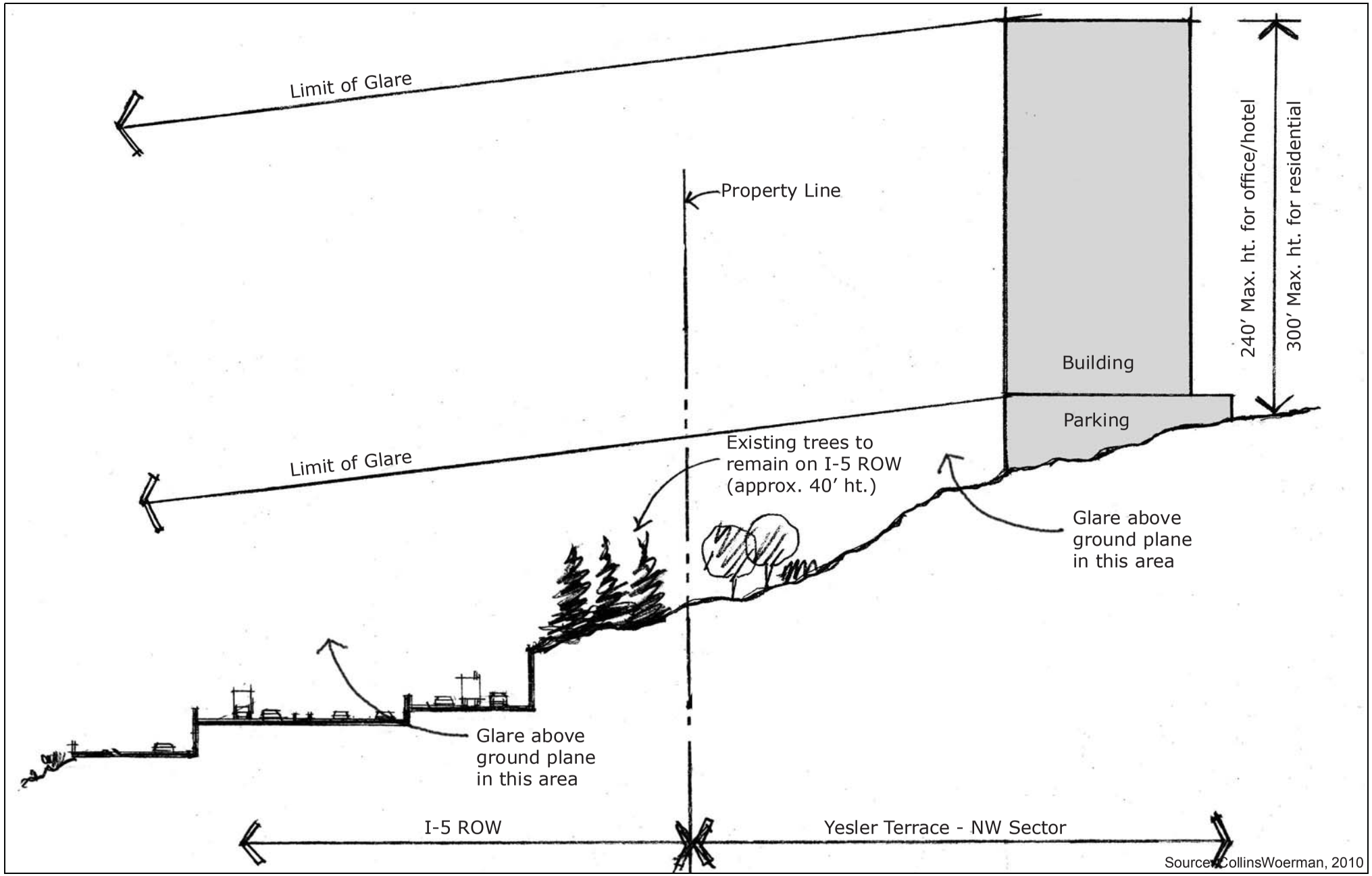

Figure 3.10-57
Section at Interstate 5 - Glare Shadows

Yesler Terrace
Redevelopment EIS

Vernal Equinox – Approximately March 21st

Climatic data indicate that March typically has 4 clear days, 8 partly cloudy days and 19 cloudy days.[12]

Worst Case Building Orientations

- At 8 AM, Building Orientation A (Figure K1.1) would result in the greatest glare impacts. Reflected solar glare would extend from the south and east facades of Yesler Terrace buildings southwest towards I-5 and northeast towards Boren Avenue. Glare impacts to I-5 would occur south of the dotted line shown on the diagram, even accounting for the I-5 retaining wall. Glare would be intermittently visible to motorists in northbound lanes This intermittent glare would be outside the cone-of-influence and would not be expected to impair the visibility of drivers. Reflected solar glare would not extend into the southbound lanes of I-5. On Boren Avenue, glare from Yesler Terrace buildings would be intermittently visible in both lanes of travel. While noticeable, this glare would be outside the cone-of-influence, and would not be expected to impair the visibility of drivers.

Capacity Model Building Orientations

- At 8 AM (Figure K1.2), reflected solar glare from the capacity modeled building orientations would extend as described above. Glare impacts to I-5 would occur south and west of the dotted lines. Due to the orientation of the buildings, narrow glare pathways would reflect onto the northbound and southbound lanes of I-5. The retaining wall adjacent to the north side of I-5 would shadow most of the roadway where glare would occur (as shown in the diagram). Some glare would be visible in north and southbound lanes, but would be outside the cone-of-influence and would not be expected to impair the vision of drivers. On Boren Avenue, glare would be visible in the north and southbound lanes. This glare would be outside the cone-of-influence and is not expected to impair the vision of drivers. Glare would also be visible in both lanes of travel to the north of the site. This glare would also be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Worst Case Building Orientations

- At 5 PM, Building Orientation B (Figure K1.3) would result in the greatest glare impacts. Reflected solar glare would extend from the south and west facades of Yesler Terrace buildings northwest towards I-5 and southeast towards Boren Avenue. For I-5, almost all the actual glare on the ground would occur as shown on the diagram, except for a small portion in the northbound lanes of I-5 where a glare shadow would be created along the I-5 retaining wall. Glare would be intermittently visible to motorists in the northbound lanes. This intermittent glare, while noticeable, would not be within the cone-of-influence, and would not be expected to impair the vision of drivers. Reflected solar glare would not extend into the southbound lanes. On Boren Avenue, glare would be intermittently visible to motorists in both lanes of travel. This glare, while noticeable,

[12] NOAA, 2005. NOAA defines a clear day as one with zero to 3/10 tenths average sky cover, a partly cloudy day is one with 4/10 to 7/10 tenths average sky cover and a cloudy day is one with 8/10 to 10/10 tenths average sky cover.

would not be within the cone-of-influence and would not be expected to impair the vision of drivers.

Capacity Model Building Orientations

- At 5 PM (Figure K1.4), reflected solar glare would extend from the west and south facades of buildings on Yesler Terrace to the west/southwest towards I-5 and to the southeast towards Boren Avenue. Glare impacts to I-5 would primarily occur to the west of the dotted line shown on the diagram and would be visible to motorists in the north and southbound lanes at a location parallel to the NW Sector, and to motorists in the northbound lanes at a location parallel to the SW Sector, , except for a small portion in the northbound lanes of I-5 where a glare shadow would be created along the I-5 retaining wall. The glare at both locations, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers. On Boren Avenue, glare would be intermittently visible in both directions of travel. This glare would not be within the driver's cone-of-influence and would not be expected to impair the vision of drivers.

Summer Solstice – Approximately June 21st

Climatic data indicate that June typically has 7 clear days, 8 partly cloudy days and 15 cloudy days.[13]

Worst Case Building Orientations

- At 8 AM, Building Orientation A (Figure K1.5) would result in the greatest glare impacts. Reflected solar glare would extend from the south and east facades of Yesler Terrace buildings southwest towards I-5 and northeast towards Boren Avenue. Glare impacts to I-5 would occur west of the dotted line shown on the diagram, except for a small portion in the northbound lanes of I-5 where a glare shadow would be created along the I-5 retaining wall, and would intermittently be visible to motorists in north and southbound lanes. This intermittent glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers. On Boren Avenue, glare from Yesler Terrace buildings would be intermittently visible in north and southbound lanes. This glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Capacity Model Building Orientations

- At 8 AM (Figure K1.6), reflected solar glare would extend from the north and east facades of Yesler Terrace buildings to the northwest and southwest towards I-5 and the southeast and northeast towards Boren Avenue. On I-5, glare would intermittently be visible to motorists in the northbound lanes, except for a small portion in the northbound lanes of I-5 where a glare shadow would be created along the I-5 retaining wall, and glare would be visible at one location in the southbound lanes. This glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers. On Boren Avenue, glare from Yesler Terrace buildings would be intermittently visible in north and southbound lanes over a distance of 750 feet, to the

[13] NOAA, 2005.

south of Spruce Street, and would also be visible at a location near the Boren Avenue/Broadway intersection. This glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Worst Case Building Orientations

- At 5 PM, Building Orientation B (Figure K1.7) would result in the greatest glare impacts. Reflected solar glare would primarily extend from the west facades of Yesler Terrace buildings to the west towards I-5. Glare impacts to I-5 would occur south of the dotted line shown on the diagram due to shading from the I-5 retaining wall, and would intermittently be visible to motorists in the northbound lanes. This intermittent glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers. . A very minimal amount of glare could also extend from the south facades of Yesler Terrace buildings to the east towards Boren Avenue. This glare would be extremely limited and could be visible in both lanes of travel. This glare would be outside the cone-of-influence and would not be expected to impair the vision of drivers. .

Capacity Model Building Orientations

- At 5 PM (Figure K1.8), reflected solar glare would extend from the west and south facades of Yesler Terrace buildings to the northwest towards I-5 and to the east/southeast towards Boren Avenue. Glare would hit the ground at two locations within the northbound lanes of I-5, except for a very small portion of the eastern most northbound lane of I-5, where a glare shadow will be created along the retaining wall. Some reflected solar glare at this time of the day would be visible to drivers in the northbound lanes. While noticeable, this glare would be outside the cone-of-influence and is not expected to impair the vision of drivers. No glare would be visible to drivers in the southbound lanes of I-5. On Boren Avenue, glare would be intermittently visible in north and southbound lanes. This glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

<u>Autumnal Equinox – Approximately September 21st</u>

Climatic data indicate that September typically has 3 clear days, 6 partly cloudy days and 22 cloudy days.[14]

Worst Case Building Orientations

- At 8 AM, Building Orientation A (Figure K1.9) would result in the greatest glare impacts. Reflected solar glare would extend from the south and east facades of Yesler Terrace buildings southwest towards I-5 and northeast towards Boren Avenue. Glare impacts to I-5 would occur south of the dotted line shown on the diagram, and would intermittently be visible to motorists in the northbound lanes, and to a lesser extent in southbound lanes. This glare, while noticeable, would appear outside the cone-of-influence, and would not be expected to impair the vision of drivers. On Boren Avenue, glare from Yesler Terrace buildings would be intermittently visible in north and southbound lanes.

[14] NOAA, 2005.

This glare would, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Capacity Model Building Orientations

- At 8 AM (Figure K1.10) reflected solar glare would extend from the south and east building facades to the west and southwest towards I-5 and to the north and northeast towards Boren Avenue. For the west and southwest oriented glare, a glare shadow would be created along the retaining wall adjacent to I-5 and that would protect much of the travel lanes from glare impacts. Some glare would be intermittently visible to drivers in the northbound and southbound lanes of travel. While noticeable, this glare would be outside the cone-of-influence and would not be expected to impair the vision of drivers. On Boren Avenue, glare would be intermittently visible in both lanes of travel on the roadway located roughly parallel to the Yesler Terrace site, and at locations to the north of the site. This glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Worst Case Building Orientations

- At 5 PM, Building Orientation B (Figure K1.11) would result in the greatest glare impacts. Reflected solar glare would extend from the west and south facades of Yesler Terrace buildings to the northwest towards I-5 and to the southeast towards Boren Avenue. Glare impacts to I-5 would occur to the west of the dotted line shown in the diagram, except for a small portion in the northbound lanes of I-5 where a glare shadow would be created along the I-5 retaining wall, and would intermittently be visible to motorists, primarily in the northbound lanes, and to a lesser extent in southbound lanes. This intermittent glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers. On Boren Avenue, glare from Yesler Terrace buildings would be intermittently visible in north and southbound lanes. This glare would, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Capacity Model Building Orientations

- At 5 PM (Figure K1.12) reflected solar glare would extend from the west and south facades of Yesler Terrace buildings to the northwest and southwest towards I-5 and to the southeast and northeast towards Boren Avenue. Almost all of the actual glare on the ground would occur as shown in the diagram, except for a small portion of the northbound lanes of I-5, where a shadow would be created along the I-5 retaining wall. Glare would be intermittently visible to motorists in the northbound lanes and would be visible in southbound lanes at one location. This glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers. On Boren Avenue, glare would be intermittently visible in both lanes of travel to the north of the site and again to the west/southwest of the SE Sector. The glare at all locations on Boren Avenue, while visible, would be outside the cone-of-influence and is not expected to impair the vision of drivers.

Winter Solstice – Approximately December 21st

Climatic data indicate that December typically has 3 clear days, 4 partly cloudy days and 23 cloudy days.[15] On this day of the year at 8:30 AM and 4 PM the altitude of the sun above the horizon is approximately 2 degrees, therefore, reflected solar glare distances are great. Anticipated glare impacts that are identified would occur infrequently due to the few number of sunny days on this date.

Worst Case Building Orientations

- At 8 AM, Building Orientation A (Figure K1.13) would result in the greatest glare impacts. Reflected solar glare would extend from the south and east facades of Yesler Terrace buildings southeast towards I-5 and northwest towards Boren Avenue. Due to the topography of the site and the surrounding area, and the low elevation of the sun at this time of year, any glare from buildings on Yesler Terrace would fall 1 to 3 miles from the site and would not affect northbound or southbound travel on I-5. On Boren Avenue, glare from Yesler Terrace buildings would be intermittently visible in north and southbound lanes. This glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Capacity Model Building Orientations

- At 8 AM (Figure K1.14) reflected solar glare would extend from the south and east facades of Yesler Terrace buildings to the south and southwest towards I-5 and to the north and northeast towards Boren Avenue. Due to the topography of the site and the surrounding area, and the low elevation of the sun at this time of year, any glare from buildings on Yesler Terrace would fall 1 to 3 miles from the site and would not affect northbound or southbound travel on I-5. On Boren Avenue, glare would be intermittently visible to motorists in both lanes of travel. This intermittent glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Worst Case Building Orientations

- At 4 PM, Building Orientation B (Figure K1.15) would result in the greatest glare impacts. Reflected solar glare would extend from the west and south facades of Yesler Terrace buildings northwest towards I-5 and southeast towards Boren Avenue. Glare would continually be visible to motorists in the northbound lanes. This glare, while noticeable, would be outside the cone-of-influence, and would not be expected to impair the vision of drivers. Glare would also be visible in the southbound lanes over a distance of roughly 750 feet. As shown in the glare diagram, for a length of approximately 400 feet, reflected solar glare would fall within the cone-of-influence in the east southbound lane of I-5, and could be a significant impact. At travel speeds of 50 mph, this would result in approximately 5.5 seconds of exposure to glare within the cone-of-influence. Lower travel speeds of 30 mph and 10 mph would result in approximately 9 and 14.7 seconds of exposure to glare. These glare impacts would occur infrequently due to the few number of sunny days at this time of year. This date was analyzed for the glare analysis because it is representative of the winter season. It should be noted, however, that solar

[15] NOAA, 2005.

glare-related impacts may also occur at other times of the day and days of the year. On Boren Avenue, glare from Yesler Terrace buildings would be visible in north and southbound lanes. This glare, while noticeable, would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Capacity Model Building Orientations

- At 4 PM (Figure K1.16) reflected solar glare would extend from the west and south facades of Yesler Terrace buildings to the southwest and northwest towards I-5 and the northeast towards Boren Avenue. Glare pathways shown in the diagram to the southwest of the onsite buildings (towards I-5) represents only glare pathways, as any actual glare would be above the groundplane in these locations, and would not affect motorists. Glare reflecting to the northwest is actual glare hitting the ground plane and could be intermittently visible to motorists in the northbound lanes and at a location in the southbound lanes. While noticeable, the glare in both lanes of travel would be outside the cone-of-influence and would not be expected to impair the vision of drivers. On Boren Avenue, glare would be intermittently visible in both lanes of travel at a location parallel to the NW Sector. While noticeable, this glare would be outside the cone-of-influence and would not be expected to impair the vision of drivers.

Cumulative Impacts

Under Alternatives 1-4, additional sources of light and glare would be added to the area as a result of redevelopment of the site. This light and glare would add to and combine with light and glare created by existing and future new development in the site vicinity. Due to the site's location within an urban, developed area that is close to Downtown Seattle and other intense land uses such as Harborview Medical Center, no significant cumulative impacts would be expected.

3.10.2.3 Mitigation Measures

Required/Proposed Mitigation Measures

Light and Glare

The following measures would help to reduce overall light and glare impacts for the project in the immediate vicinity of the Yesler Terrace site.

- Street trees and the use of building materials with relatively low-reflectivity at street level would minimize reflective glare-related impacts to pedestrians and nearby residents immediately adjacent to the site.

- Pedestrian-scale lighting would be provided consistent with code, function and safety requirements.

- Exterior lighting would include fixtures to direct the light downward and/or upward and away from on and off-site land uses.

Other Possible Mitigation Measures

Light and Glare

- Construction-related lighting could be shielded and directed away from adjacent land uses.

Reflected Solar Glare

As the glare analysis indicates, neither the worst case building orientations nor the capacity modeled building orientations and locations would result in significant glare impacts (i.e. glare within the driver's cone-of-influence) to I-5 at any times of day or year except on December 21st, at 4 PM under the worst case building orientations.[16] In this instance, the high-rise building located at the south end of the SW Sector causes the glare impact. In order to avoid this glare impact, the worst case building orientation could be avoided for the building causing the glare. It is assumed that changing the building orientation, alone or in combination with other measures, would mitigate this impact, as the building orientation within the capacity model does not create a reflected glare impact. No significant glare impacts to Boren Avenue are anticipated to occur under either the worst case or capacity modeled building orientations for the times of day and year evaluated.

The following measures could help to reduce overall light and glare from the redevelopment proposal.

- While building façade materials have not yet been determined, reflectivity of glazing would likely be dictated by the nature of glass that is employed and the requirements set forth by the City's Energy Code and LEED energy requirements, if LEED certification is sought. Excessively-reflective surfaces (i.e. mirrored glass, or polished metals) that go beyond what is required to meet energy-related code provisions could be avoided for buildings with the potential to result in glare impacts.

- Additional measures to mitigate glare could include recessing glazing to produce areas of glare shadow which would reduce the amount of glare being reflected from the building, angling glazing in the building façade with an orientation that will eliminate glare in a driver's cone-of-influence and will cast glare in directions with less of an impact to traffic, and limiting the percentage of glazing on certain building facades to reduce glare impacts to surrounding buildings and roadways. Additional glare studies could be required for individual permit application to verify glare impacts and mitigation

3.10.2.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

[16] The four dates analyzed for the glare analysis were selected because they are representatives of times of the year. It should be noted, however, that solar glare-related impacts may also occur at other times of the day and days of the year.

3.10.3 SHADOWS

This section describes existing sources of shadows on the site, and evaluates potential shadow impacts on nearby protected park and open space areas, as well as on two of the main onsite open space areas: the Commons Park and the Yesler Community Center playground.

3.10.3.1 Affected Environment

The primary sources of shadows on the Yesler Terrace site are existing 2 and 3-story residential structures, several taller buildings including the Yesler Community Center and the Jesse Epstein building, and the cluster of administration buildings in the SW Sector (Gym, Head Start, and Administration building). Mature trees located throughout the site and street trees along roadways bisecting and surrounding the site also contribute to shading of the site.

Due to the location and topography of the Yesler Terrace site, offsite buildings rarely contribute to shading of the site. As well, due to the height of existing buildings, shadows from the site rarely shade offsite land uses.

3.10.3.2 Impacts

Seattle's SEPA policies aim to "minimize or prevent light blockage and the creation of shadows on open spaces most used by the public." Policy background, however, indicates that "(t)he City's Land Use Code (Title 23) attempts to protect private property from undue shadow impacts through height, bulk and setback controls, but it is impractical to protect private properties from shadows through project-specific review." Areas located outside of Downtown that are identified in the City's SEPA polices and that are to be protected include: publicly-owned parks; public schoolyards; private schools that allow public use of schoolyards during non-school hours; and publicly-owned street ends in shoreline areas. Of these areas, the following parks and open spaces are in proximity to the site, and have the potential to be impacted by the proposed redevelopment alternatives (see **Figure 3.10.1-58** for the location of these parks and open spaces).

- Horiuchi Park – This is a small, 0.28-acre park that contains a viewpoint, open space and park benches.
- Boren Place – This is a small, 0.03-acre park that contains a park bench and open space and is located at the center of three busy roads.
- Harborview Park/Viewpoint – This is a 3.6 acre paved open space area containing a viewpoint and benches.
- Bailey-Gatzert Elementary Schoolyard – The 6.7-acre schoolyard contains a playground and baseball/softball/soccer field.

In addition to the above identified offsite areas, the following onsite park/recreation areas are considered in this shadow analysis.

- Yesler Community Center Playground - The Community Center contains a 0.7-acre playground.

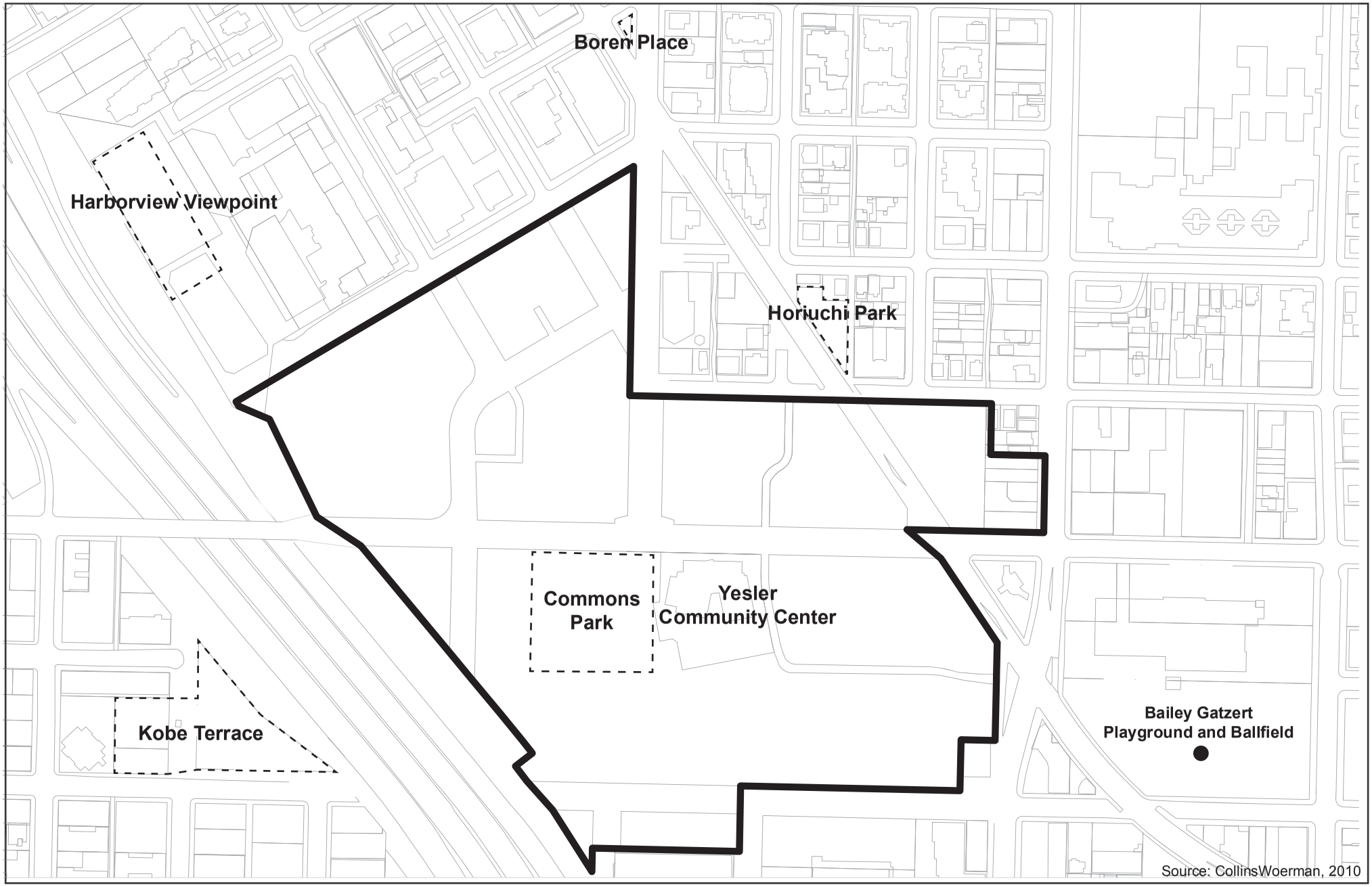

Figure 3.10-58
Public Parks / Open Spaces Noted in Shadow Analysis

Yesler Terrace
Redevelopment EIS

- Commons Park – The 1.7-acre Commons Park would contain both active and passive recreational opportunities to serve the community. Active areas could include the relocated P-Patch community gardens, an amphitheater, farmers market plaza, community center terrace, and a children's play area.

Seattle's SEPA policies also identify specific Downtown parks where mitigation of shadow impacts may be considered. Kobe Terrace Park is one of these Downtown parks, and is located directly to the west of the site, on the west side of I-5. This Park was included in the shadow diagrams in order to evaluate potential shading impacts. However, as demonstrated by Figures K1.17 through K1.76 in **Appendix K**, no shading of this park would ever occur under any of the Alternatives on the key days of the solar year and times of day depicted in the shadow diagrams.

Factors that influence the extent of shading include: weather (e.g., cloud cover); building height, width and façade orientation, the proximity of other intervening structures, topographic variations, and significant landscaping.

Shadow diagrams are available in **Appendix K** that depict shading from the proposed Yesler Terrace redevelopment alternatives for the vernal equinox (approx., March 21st), summer solstice (approx. June 21st), autumnal equinox (approx Sept 21st), and winter solstice (approx. December 21st). This subsection describes possible shadow impacts on the six park and open space areas identified above, which could result from the redevelopment alternatives. The City's SEPA policies address shadow impacts with consideration given to the effect "at times when the public most frequently uses that space."

The following analysis identifies shadow impacts for various times of the day on each of the key days of the solar year described above. These key days of the solar year and times of the day depict worst-case impacts. Shadow-related impacts, however, can also occur at other times of the day throughout the year. Because of the earth's rotation, the duration of shadow-related impacts varies for a stationary observer based on season, depending on the width of the shadow. The shadow graphics have been adjusted to compensate for topography and, in the case of vernal equinox, summer solstice, and autumnal equinox, daylight savings time.

Shadows cast by the Yesler Community Center, which is an existing building, are not included in the following discussion of impacts. Shadows from this building would periodically shade portions of the Commons Park, as is shown in the shadow diagrams.

Vernal (Spring) Equinox

Sunrise on vernal equinox (approximately March 21st) occurs at about 6:11 AM and sunset at 6:21 PM.

The extent of possible shading from existing buildings and proposed development must also be considered within the context of climatic data for the month (e.g., on average the number of clear, partly cloudy and cloudy days). Data indicate that on average, March has 4 clear days, 8 partly cloudy days and 19 cloudy days.[17]

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[17] NOAA defines a clear day as one with zero to 3/10 tenths average sky cover, a partly cloudy day is one with 4/10 to 7/10 tenths average sky cover and a cloudy day is one with 8/10 to 10/10 tenths average sky cover.

Figures K1.17 through K1.31 in **Appendix K** address shadow impacts for vernal equinox at 9 AM, 12 PM and 5 PM, respectively. Potential shadows from the proposed redevelopment together with shadows from other nearby buildings, are depicted in these figures. Potential impacts to the six park and open space areas identified above are described below. Pacific Daylight Savings Time is in effect on this day.

- At **9 AM**, shadows from the Yesler Terrace redevelopment would extend in a northwesterly direction.

  Under Alternative 1, a small portion of the southern area of the Commons Park and most of the Harborview Park would be shaded. Shadows from adjacent Harborview Medical Center buildings would already contribute considerable shading to the Harborview Park, however, and shading from Yesler Terrace buildings would be minimal.

  Under Alternative 1A, shadow impacts would be as described for Alternative 1, except that no shading of Harborview Park would occur.

  Under Alternative 2, shadow impacts would be as described for Alternative 1.

  Under Alternative 3, shadow impacts would be as described for Alternative 1

  Under Alternative 4, no shading would occur to any of the park or open space areas identified for analysis.

- At **12 PM**, shadows from the Yesler Terrace redevelopment would extend in a northerly/northwesterly direction.

  Under Alternatives 1 and 1A, portions of the Commons Parks and Yesler Community Center playground would be shaded.

  Under Alternative 2, shadow impacts would be as described for Alternatives 1 and 1A, except that the Yesler Community Center playground would not be shaded.

  Under Alternative 3, shadow impacts would be as described for Alternative 2.

  Under Alternative 4, no shading would occur to any of the park or open space areas identified for analysis.

- At **5 PM**, shadows from the Yesler Terrace redevelopment would extend in a northeasterly direction.

  Under Alternatives 1 and 1A, small portions of Horiuchi Park and the Commons Park would be shaded.

  Under Alternative 2, shadow impacts would be as described for Alternatives 1 and 1A, except that small portions of the Yesler Community Center playground and Bailey-Gatzert Elementary Schoolyard would also be shaded.

  Under Alternative 3, shadow impacts would be as described for Alternative 2, except that shadows cast by Yesler Terrace would shade most of Horiuchi Park.

Under Alternative 4, a very minimal amount of shading could occur to the Commons Park.

Although periodic shading could occur to small portions of the Commons Park, the Yesler Community Center playground, Harborview Park and Bailey-Gatzert Elementary Schoolyard under some of the redevelopment alternatives at certain times of day, the majority of these areas would remain un-shaded, and shadow impacts would not be considered significant. Horiuchi Park could be entirely cast in shadows under Alternative 3 at 5 PM. Due to the time of year and the extent of cloudy days in March, however, this shading would not be considered significant.

Summer Solstice

Sunrise on summer solstice (approx. June 21st) occurs at about 5:11 AM and sunset at 9:10 PM. Pacific Daylight Savings Time remains in-effect on this day.

The extent of possible shading from the proposed development must be considered within the context of climatic data for the month (e.g., on average the number of clear, partly cloudy and cloudy days). Data indicate that on average, June has 7 clear days, 8 partly cloudy days and 15 cloudy days.

Figures K1.32 through K1.46 in **Appendix K** address shadow impacts for summer equinox at 9 AM, 12 PM and 5 PM, respectively. Potential shadows from the proposed redevelopment together with shadows from other nearby buildings, are depicted in these figures. Potential impacts to the six park and open space areas identified above are described. Pacific Standard Time remains in-effect on this day.

- At **9 AM**, shadows from the Yesler Terrace redevelopment would extend in a westerly direction.

  Under Alternatives 1-4, no shadow impacts to onsite or offsite park or open space areas would be expected.

- At **12 PM**, shadows from the Yesler Terrace redevelopment would extend in a northwesterly direction.

  Under Alternatives 1-4, no shadow impacts to onsite or offsite park or open space areas would be expected.

- At **5 PM**, shadows from the Yesler Terrace redevelopment would extend in an easterly direction.

  Under Alternatives 1 and 1A, most of the northern portion of the Commons Park would be shaded.

  Under Alternatives 2 and 3, a smaller portion of the northern portion of the Commons Park would be shaded as compared to Alternative 1 and 1A. A very small portion of the Bailey-Gatzert Elementary Schoolyard would also be shaded.

  Under Alternative 4, no shadow impacts to onsite or offsite park or open space areas would be expected.

Although periodic shading could occur to small portions of the Commons Park and Bailey-Gatzert Elementary Schoolyard under several of the redevelopment alternatives at certain times of day, the majority of these areas would remain un-shaded, and shadow impacts would not be considered significant.

Autumnal Equinox

Sunrise on autumnal equinox (approx. September 21st) occurs at about 6:13 AM and sunset at 8:11 PM.

With regard to climatic data for the month of September, data indicate that on average, September typically has 3 clear days, 6 partly cloudy days and 22 cloudy days.

Figures K1.47 through K1.61 in **Appendix K** address shadow impacts for autumnal equinox at 9 AM, 12 PM and 5 PM, respectively. Potential shadows from the proposed redevelopment together with shadows from other nearby buildings, are depicted in these figures. Potential impacts to the six park and open space areas identified above are described. Pacific Daylight Savings Time remains in-effect on this day.

- At **9 AM**, shadows from the Yesler Terrace redevelopment would extend in a northwesterly direction.

  Under Alternatives 1 and 1A, portions of the southern area of the Commons Park would be shaded.

  Under Alternatives 2 and 3, shadow impacts would be as described for Alternatives 1 and 1A, except that a small portion of Harborview Park would also be shaded. Shadows from adjacent Harborview Medical Center buildings would already contribute considerable shading to the Harborview Park, however, and shading from Yesler Terrace buildings would be minimal.

  Under Alternative 4, no shadow impacts to onsite or offsite park or open space areas would be expected.

- At **12 PM**, shadows from the Yesler Terrace redevelopment would extend in a northwesterly direction.

  Under Alternatives 1 and 1A, approximately half of the Yesler Community Center playground and a small portion of the Commons Park would be shaded.

  Under Alternative 2, shadow impacts would be as described for Alternatives 1 and 1A, except that the Yesler Community Center playground would not be shaded.

  Under Alternative 3, shadow impacts would be as described for Alternative 2, except that more area on the Commons Park would be shaded.

  Under Alternative 4, no shadow impacts to onsite or offsite park or open space areas would be expected.

- At **5 PM**, shadows from the Yesler Terrace redevelopment would extend in a northeasterly direction.

Under Alternatives 1 and 1A, portions of the northern area of the Commons Park and Horiuchi Park would be periodically shaded.

Under Alternative 2, small portions of the Commons Park and the Bailey-Gatzert Elementary Schoolyard would be periodically shaded.

Under Alternative 3, shadow impacts would be as described for Alternative 2, except that more area on the Bailey-Gatzert Elementary Schoolyard would be shaded.

Under Alternative 4, no shadow impacts to onsite or offsite park or open space areas would be expected.

Although periodic shading could occur to portions of the Commons Park, the Yesler Community Center playground and Bailey-Gatzert Elementary Schoolyard under the redevelopment alternatives, the majority of these areas would remain un-shaded, and shadow impacts would not be considered significant.

Winter Solstice

Sunrise on winter solstice (approx. December 21st) occurs at about 7:54 AM and sunset at 5:19 PM.

With regard to climatic data for the month of December, data indicate that on average, December has 3 clear days, 4 partly cloudy days and 23 cloudy days.

Figures K1.62 through K1.76 in **Appendix K** address shadow impacts for winter solstice at 9 AM, 12 PM and 3:30 PM, respectively. Winter shadow studies are depicted at an earlier afternoon time due to the lack of sun at 5 PM. Potential shadows from the proposed redevelopment together with shadows from other nearby buildings, are depicted in these figures. Potential impacts to the six park and open space areas identified above are described. Pacific Standard Time remains in-effect on this day.

- At **9 AM**, shadows from the Yesler Terrace redevelopment would extend in a northwesterly direction.

  Under Alternatives 1 and 1A, the majority of the Commons Park as well as the Yesler Community Center playground would be shaded. Portions of the Harborview Park would also be cast in shadows. Shadows from adjacent Harborview Medical Center buildings would also contribute shading to the Harborview Park, however, and shading from Yesler Terrace buildings would be minimal.

  Under Alternative 2, the majority of the Commons Park, Yesler Community Center playground and the Harborview Park would be cast in shadows.

  Under Alternative 3, shadow impacts would be generally as described for Alternative 2, except that the entirety of the Commons Park and Yesler Community Center would be shaded.

  Under Alternative 4, portions of the southern area of the Commons Park and most of the Yesler Community Center playground would be shaded.

- At **12 PM**, shadows from the Yesler Terrace redevelopment would extend in a northerly direction.

  Under Alternatives 1 and 1A, portions of the southern area of the Commons Park would be shaded and all of the Yesler Community Center playground would be cast in shadows.

  Under Alternative 2, shadow impacts would be generally as described for Alternatives 1 and 1A, except more area within the Commons Park would be shaded, and a small portion of Horiuchi Park would also be shaded.

  Under Alternative 3, shadow impacts would be generally as described for Alternative 2, except that more area within the Commons Park and Horiuchi Park would be shaded.

  Under Alternative 4, small portions of the Commons Park and some of the Yesler Community Center playground would be periodically shaded.

- At **3:30 PM**, shadows from the Yesler Terrace redevelopment would extend in a northeasterly direction

  Under Alternatives 1 and 1A, the majority of the Commons Park and all of the Yesler Community Center playground and Horiuchi Park would be shaded.

  Under Alternative 2 and 3, shadow impacts would be generally as described under Alternatives 1 and 1A, except that less of the Commons Park would be shaded.

  Under Alternative 4, small portions of the southern area of the Commons Park and all of the Yesler Community Center playground would be shaded.

The most extensive shading impacts described under the alternatives for the winter solstice would occur to onsite areas (i.e., Yesler Community Center playground and the Commons Park) and to Horiuchi Park. A small amount of shading could also occur to Harborview Park. Public use of outdoor park and open space areas would be expected to be minimal in December, due to the typical extent of cloudy days and inclement weather. Overall, the shading impacts described for winter solstice would not be considered significant.

Cumulative Impacts

Under Alternatives 1-4, additional sources of shadows would be added to the area as a result of redevelopment of the site. Shadows would add to and combine with shadows from existing development in the site vicinity. Due to the site's location within an urban, developed area that is adjacent to Downtown Seattle and other intense land uses such as Harborview Medical Center, no significant cumulative impacts would be expected.

3.10.3.3 Mitigation Measures

No significant impacts have been identified and no mitigation is proposed.

3.10.3.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.11 HISTORIC RESOURCES

This section characterizes existing historic resource conditions on the Yesler Terrace site and in the site vicinity, and identifies the potential for impacts to these resources under the EIS alternatives. The section is based on the *Yesler Terrace Redevelopment Historic Resources* report prepared by BOLA Architecture + Planning (October 2010) which is provided in **Appendix L**.

3.11.1 Affected Environment

This section describes the regulatory framework for evaluating historic resources; provides a description of the existing Yesler Terrace Redevelopment, its buildings and site features; and a map and list of nearby historic\potentially historic properties within the Area of Potential Effect (APE). The boundaries of the APE have been reviewed and approved by the State Historic Preservation Officer (SHPO).

For purposes of this historic resources analysis, the APE has been defined as the area that is bounded on the west by the eastern edge of I-5, on the north approximately by Terrace Street, on the east by a collection of residential and some small-scale commercial buildings (the east boundary is generally one block east of Boren Avenue between E Alder Street and South Jackson Street), and on the south by South Jackson Street (see **Figure 3.11-1,** Historic Resources APE).

Included in **Appendix L** are: a description of the research methods used to develop the *Historic Resources* report; a brief context statement about the area of Seattle in which the Yesler Terrace site is located; supplemental historical information about the site; supplemental information about the onsite buildings; and, a description and illustrative photographs of each historic property within the APE.

Regulatory Overview

Federal, Washington State and City of Seattle regulations and processes that govern the designation of historic resources are briefly described in this section (see **Appendix L** for details). Designated landmarks are those properties/structures/objects that have been recognized locally, regionally, or nationally as significant resources to the community, city, state, or nation.

National Register of Historic Places

The National Register of Historic Places (NRHP) is administered by the National Park Service and is the official federal list of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology, engineering and culture. Eligible properties must be at least 50 years old[1], possess integrity of physical characteristics, and meet at least one of four criteria of significance, including: 1) association with events that have made a significant contribution to the broad patterns of

[1] Properties less than 50 years old can be eligible if part of a district or meet special criteria in 36 CFR 60.4.

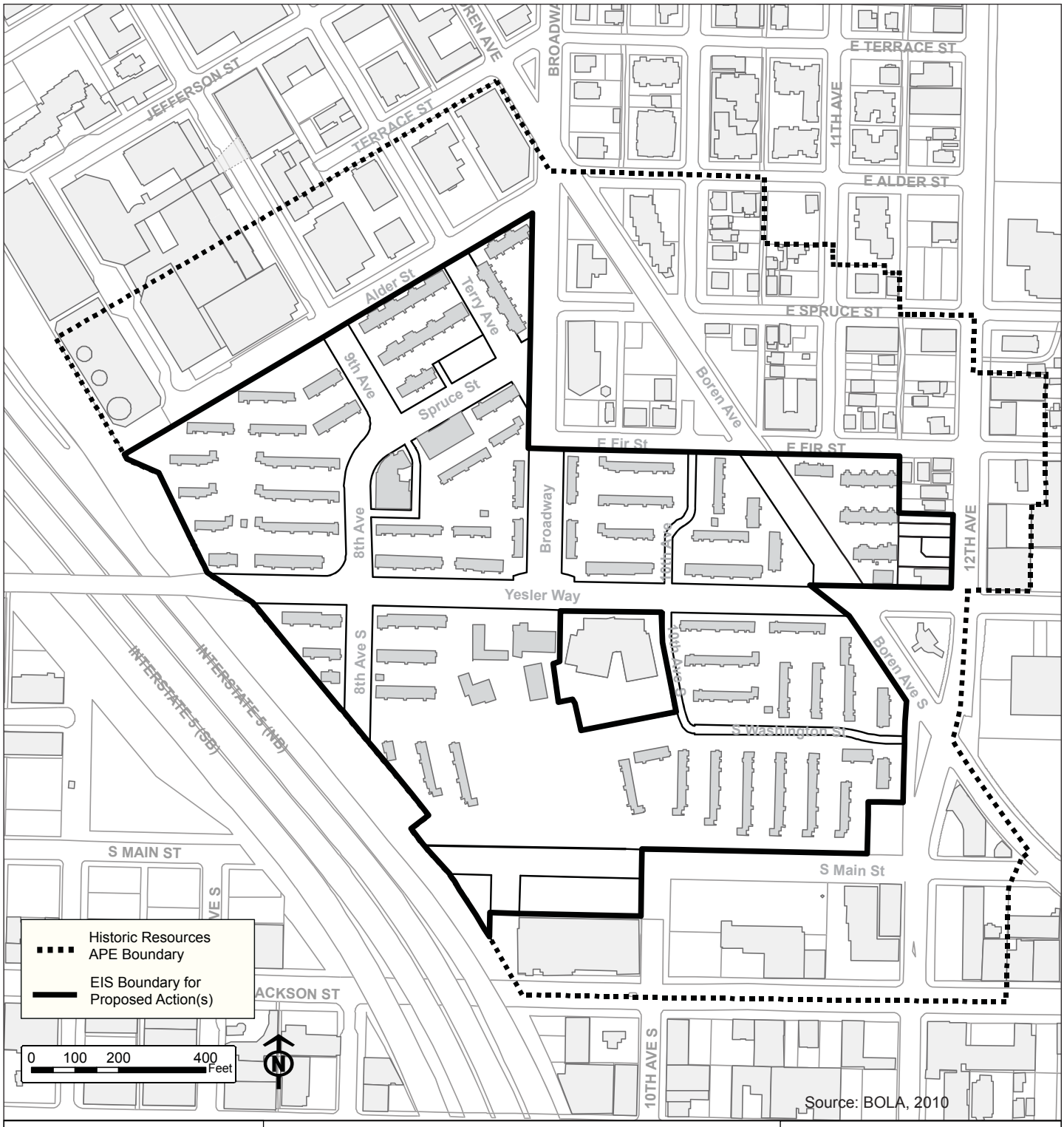


Figure 3.11-1
Historic Resources: Area of Potential Effects (APE)

Yesler Terrace Redevelopment EIS

our history; 2) association with the lives of persons significant in our past; 3) embodies the distinctive characteristics of a type, period or method of construction or represents the work of a master, or possesses high artistic values, or presents a significant and distinguishable entity whose components lack individual distinction; and/or 4) has yielded, or is likely to yield, information important in prehistory or history. See **Appendix L** for details on the NRHP as it relates to historic buildings/structures.

The Yesler Terrace site is currently undergoing the Section 106 process, which includes consideration for listing in the NRHP. One NRHP-listed property, Fire Station No. 3, is located within the APE. Six other structures within the APE have been evaluated as potentially eligible for listing in the NRHP in the historic resources analysis for this Draft EIS.

National Historic Preservation Act

The Yesler Terrace Redevelopment is considered a federal undertaking subject to compliance with Section 106 of the National Historic Preservation Act (NHPA). The U.S. Department of Housing and Urban Development (HUD) has delegated its responsibilities for Section 106 compliance to the City of Seattle Human Services Department (HSD). In turn, under a 2008 Memorandum of Agreement between HSD and SHA, SHA has been delegated responsibility for review of the federal undertaking under Section 106. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties. The process includes consultation among the lead agency and other parties with an interest in the effects of the proposed project on historic properties. In accordance with Section 101(b)(3) of the NHPA, the SHPO advises and assists federal agencies in carrying out their Section 106 responsibilities. The historic resource evaluation included in **Appendix L** was performed pursuant to Section 106 and consultation with the SHPO is underway.

Washington State Heritage Register

The Washington Heritage Register (WHR), administered by the Department of Archaeology and Historic Preservation (DAHP), is the official listing of historically significant sites, districts, buildings, structures and objects in the state. WHR-eligible properties must meet certain criteria to be designated as significant including: 1) be at least 50 years old, 2) have a medium to high level of integrity, and 3) have a documented historical significance at the local, state or federal level. Properties that are listed in the NRHP are automatically added to the WHR.

The Yesler Terrace property is a designated resource listed in the WHR. One WHR-designated property, Fire Station No. 3, is located within the APE.

Seattle Landmarks Designation

Local recognition of historical significance in Seattle is provided through the process of designation of the property as a Seattle Landmark. The process consists of three sequential steps involving the Landmarks Preservation Board (Board): 1) submission of a nomination as a Landmark and its review and approval by the Board; 2) designation as a Landmark by the Board; and, 3) negotiation of Controls and Incentives by the property owner and the Board staff. A final step in Seattle's Landmarks process is approval of the Landmark designation by an ordinance passed by City Council.

The City of Seattle's Landmarks Preservation Ordinance (SMC 25.12.350) requires a property to be more than 25 years old and have "significant character, interest or value, as part of the development, heritage or cultural characteristics of the City, State or Nation." The standard calling for significant character may be described as a standard of integrity. Integrity is a term used to indicate that sufficient original building fabric is present to convey the historical and architectural significance of the property. The City's Ordinance also requires that a property meet one or more of the following six designation criteria:

A. It is associated in a significant way with an historic event, which has had a significant effect on 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. It is an easily identifiable feature of its neighborhood or the city due to the prominence of its spatial location; contrasts of siting, age or scale; and it contributes to the distinctive quality or identity of its neighborhood or the city.

Under the Landmarks Ordinance, an estimated 350 individual properties have been designated Landmarks in the City of Seattle. Designated Landmark properties in Seattle include individual buildings and structures, building assemblies, landscapes, and objects.

The Seattle Housing Authority (SHA) submitted a landmark nomination for Yesler Terrace in March 2010, in order to determine its landmark status. The Landmarks Preservation Board considered the entire property and designated only the Yesler Terrace Steam Plant. Under the Landmarks Ordinance, a denial of nomination or designation is final for a period of five years, unless within that time the property owner wishes to have the Board consider a new nomination.

Two (2) other designated Seattle Landmark structures are located within the APE: Fire Station No. 3 and the Central Wing of Harborview Hospital. These structures are labeled "2" and "1," respectively, on **Figure 3.11-3**. Six structures within the APE have been determined to be eligible for the NRHP and for nomination as a Seattle Landmark (see **Table 3.11-1** and the Historic Resources in the APE later in this section and **Appendix L** for details).

SEPA and Cultural Resource Regulations

The City of Seattle has established Environmental Policies and Procedures for Historic Preservation (SMC 25.05.675.H) (see **Appendix L** for details).

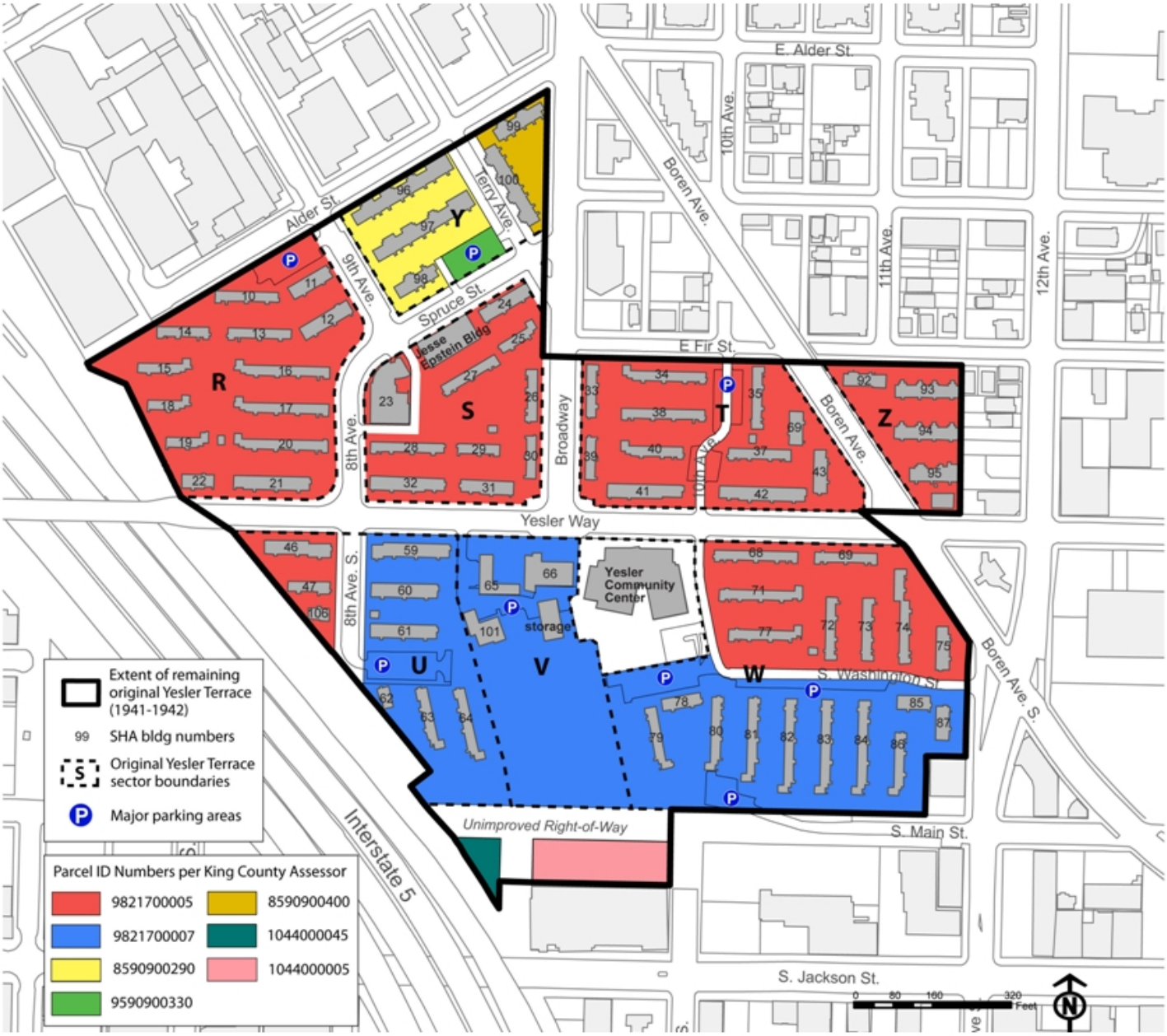
The applicable SEPA policies would apply to the Yesler Terrace Steam Plant building. In addition, two nearby designated local landmarks within the APE trigger or may trigger the "Adjacency Analysis" requirement cited in these policies: Seattle Fire Station No. 3 (directly across the street from the Yesler Terrace site) and the Central Wing of Harborview Hospital (across the street from Yesler Terrace and separated from it by the 15-story East Clinic building). According to Section 2.d of these policies, when a project is proposed adjacent to or across the street from a designated site or structure, the City's Historic Preservation Officer will prepare an assessment of any adverse impacts on the designated landmark and provide comments on possible mitigating measures (see **Appendix L** for details).

Onsite Structures

Yesler Terrace was the first project undertaken by the Seattle Housing Authority (SHA) following its organization in 1938. It was also the first low income housing development in Washington State and was racially integrated. The project was promoted by Jesse Epstein as a means of stimulating housing construction after the Depression. Site selection for the project needed to meet the U.S. Housing Act (1937) requirement that "for every new home that a local housing authority builds, one substandard unit must be eliminated". There were 158 buildings on the original 60-acre site, with 478 dwellings units, mostly rented out by absentee landlords. All existing buildings on the site, except for the Kenyon Apartments later renamed the Jesse Epstein Building, were demolished in 1940. Following are brief descriptions of the buildings that remain onsite (see **Appendix L** for further information).

Yesler Terrace Residential Buildings (1941-1942)

The original Yesler Terrace development included 863 dwelling units in 97 residential buildings. Typical buildings built in the first phase of construction contained 7 to 12 dwellings; buildings built in the second phase of construction contained 16 to 72 units (five of these buildings are the only three-story buildings remaining onsite). Original residential buildings were constructed of wood framing with concrete foundations. Built-up roofing clad the flat roofs, and exterior walls were finished with cedar siding. Floor plans were repetitive, with 33 similar plans used for buildings of different capacities (see **Appendix L** for details). Only 69 of the 97 original Yesler Terrace residential buildings remain due to construction of I-5 and the new Yesler Community Center (see **Figure 3.11-2**). The remaining residential buildings have been modified over time; see the Modifications to Original Yesler Terrace Development discussion below for details. The residences continue to be utilized by SHA as housing for extremely low-income families in Seattle.



Source: *CollinsWoerman*, 2010.

	Figure 3.11-2 Site Plan	Yesler Terrace Redevelopment EIS

Steam Plant (1941)

Yesler Terrace was the first low-income housing project in the West to provide heat from a central steam plant which was constructed in 1941. The plant provided steam heat to the residential units until it was decommissioned in 1989-1990. The steam plant is located where 8th Avenue, 9th Avenue, and Spruce Street intersect onsite (see Building 23 on **Figure 3.11-2**).

The plant is a utilitarian service structure that exhibits some clearly Modern[2] design features, in contrast to the traditional designs of earlier power plants in the city. These features include the simple curvilinear massing, the flat roof and overhang over a horizontal bands of windows along the northwest facade, and the expressive use of architecturally finished concrete as both structure and finish (see **Appendix L** for details).

Currently, portions of the building are used by Yesler Terrace for facilities storage and by Harborview Hospital for cabinet shop and grounds shop uses.

In October 2010, the City's Landmarks Preservation Board designated this building as a City Landmark.

Community Building (1942)

A community building was constructed in 1942 as part of the original Yesler Terrace complex. This building is located on the south side of Yesler Way, at the foot of Broadway Avenue (see Buildings 65 and 66 on **Figure 3.11-2**).

This one- and two-story structure is a combination of wood-frame and brick masonry construction. The building has flat roofs with projecting eaves. Substantial modifications to this building have occurred over time (see **Appendix L** for details).

The western portion of the building originally served as the main office for SHA.

The eastern portion of the building contains a lobby, auditorium, and associated service spaces. This facility currently houses community services office uses, classrooms and meeting rooms. Current tenants in this facility include Yesler Terrace Neighborhood House, Yesler Terrace Community Council, Catholic Community Services and a SHA Jobs Resource Center.

Neighborhood House and Child Center (1943)

Historic information indicates that the Neighborhood House and Child Center was constructed to the south of the original community building in 1943 (see Building 101 on **Figure 3.11-2**).

The building is a single story with no basement, and has double frame construction. The flat roof has slightly overhanging eaves. Modifications to this building have occurred over time (see **Appendix L** for details).

This building is presently leased by the Head Start pre-school program.

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[2] **Modern architecture** is characterized by simplification of form and creation of ornament from the structure and theme of the building. The first variants were conceived early in the 20th century.

Laundry Buildings

At present there are five small, non-original laundry buildings on the site (see **Figure 3.11-2**). They are typically situated in the center of a group of buildings and surrounded by open space and/or play areas, with paved outdoor space. The construction dates of these buildings are unknown, but they do not appear original as these buildings do not appear on the original Yesler Terrace overall site plan or as-built drawings completed in May 1996.

The Kenyon Apartment Building / Jesse Epstein Building

The original Kenyon Apartment Building was built in 1909 and was utilized as a hotel and subsequently an apartment building until it was acquired by SHA in 1977. The building was not part of the original Yesler Terrace overall site plan, although it is located in the central portion of the site.

The approximately 20,200 square foot Kenyon Apartment is a flat-roofed, three-story unreinforced masonry structure (see **Figure 3.11-2**).

The interior and exterior of the building have been modified significantly over time, including two major upgrades in 1979 and in the 1990s (see **Appendix L** for further information).

In 1978-1979 the Kenyon Apartment was converted by SHA from residential use to office uses. Current tenants include Neighborhood House, YWCA and Puget Sound Neighborhood Health Center.

Modifications to Original Yesler Terrace Development

As stated previously, changes to Yesler Terrace have been made to both the property and individual buildings over time. Originally, there were 863 individual dwellings in 97 residential buildings constructed in 1941–1942. The original site was reportedly over 60 acres in size. Only 28 (excluding rights-of-way) of the original 60 acres and 69 of the original 97 residential buildings remain due to construction of I-5, construction of the new Yesler Community Center and other development that has occurred on or near the site over time. Modifications to the site and buildings include:

- In the 1960s, I-5 was built through the western portion of Yesler Terrace, with an overpass on E Yesler Way to link the project and the southern part of First Hill with downtown Seattle. The freeway's construction resulted in the demolition of 28 of the original buildings with an estimated loss of 256 units and modifications that reduced the sizes of five other buildings. In total, the freeway construction took six blocks of the original 22-block site.

- The original Yesler Terrace site had extended north of Alder and Terrace Streets to include the south half-block between Jefferson and James Street. By the 1970s, 8th Avenue between Jefferson and James Streets, as well as Terrace Street west of 9th Avenue, had been vacated. SHA constructed Jefferson Terrace, a low-income housing apartment building, on the northernmost half-block of this property.

- An additional three buildings with 21 units were removed from Yesler Terrace to allow for construction of the Yesler Community Center in 2003–2005.

- Many modifications have been made to the remaining original residential buildings that have affected their architectural character (see **Appendix L** for details). Other evident changes to Yesler Terrace include the addition of laundry buildings and replacement of fencing.

Historic Resources in the APE

Sixty-seven (67) offsite properties contain buildings that are located within the APE, 47 of which contain buildings constructed in 1964 or earlier[3]. These buildings are illustrated in **Figure 3.11-3** and a description and photograph of each building is provided in **Appendix L**. **Table 3.11-3** identifies the 8 structures within the APE (excluding Yesler Terrace) that are either designated historic structures or potentially eligible for listing as a historic resource in the NRHP or as a Seattle Landmark. Of these structures, Fire Station No. 3 is the only structure currently listed as a historic resource on the NRHP, WHR and as a Seattle Landmark. Harborview Medical Center Central Wing is the only other historic resource within the APE designated as a Seattle Landmark. Descriptions of the Harborview Central Wing and Fire Station No. 3 are provided below:

Harborview Medical Center Central Wing

Harborview Medical Center is a large complex that now surrounds the designated Central wing of the Hospital. The original Moderne style building is characterized by its strong vertical emphasis, minimal ornamentation, and buff finish. Harborview Medical Center is a public hospital, managed by the University of Washington. It began in 1877 as King County Hospital, and in 1931 moved to the present location when the central wing (the portion now a Seattle Landmark) was completed. The original hospital wing has been expanded in many phases over the years.

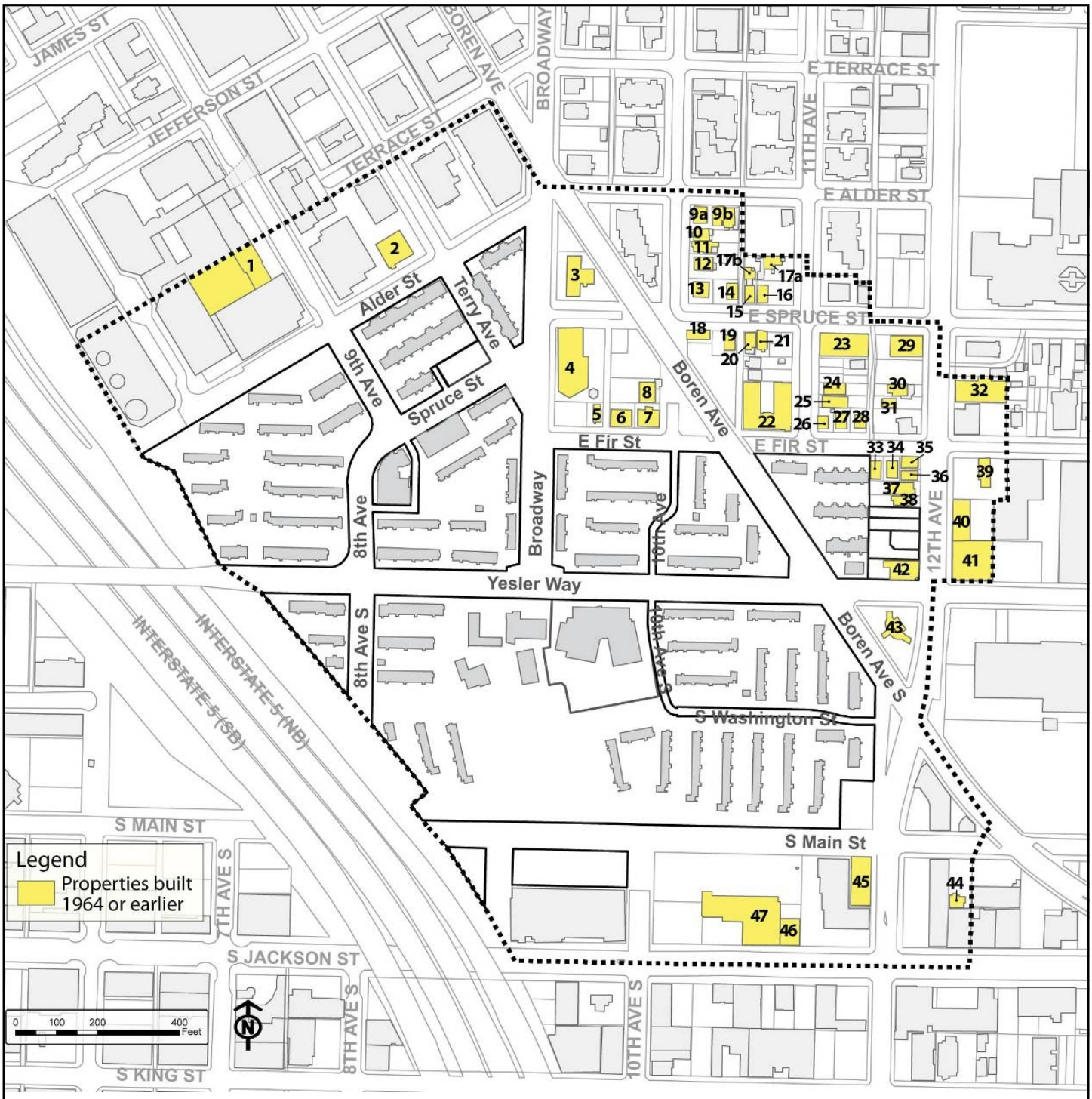
Fire Station No. 3

Located on the corner of Terry Avenue and Alder Street, this two-and-a-half-story frame building is designed in the Tudor Revival style[4]. The first story is clad with purple and buff brick, with half-timbering above in the gable ends. The building served as a fire station from 1903 until 1924, when it was transferred to the Seattle Parks Department.

As shown in **Table 3.11-1,** six offsite structures are potentially eligible for nomination as historic resources on the NRHP and as Seattle Landmarks (SL).

[3] Per the NRHP and Section 106 regulations, a 50-year age requirement was used for this analysis. The City of Seattle Landmark designation guidelines have a 25-year age requirement for historic properties. Buildings that were less than 50 years old were reviewed during this analysis, but none appeared to meet the other criteria to be considered a Seattle Landmark in the City's regulations.

[4] The Tudor Revival architecture of the 20th century first manifested itself in domestic architecture beginning in the United Kingdom in the mid to late 19th century based on a revival of aspects of Tudor style. The emphasis was on the simple, rustic and the less impressive aspects of Tudor architecture, imitating in this way medieval cottages or country houses.



Source: *CollinsWoerman,* 2010.

	Figure 3.11-3 APE Map with Properties Built 1964 or Earlier	Yesler Terrace Redevelopment EIS

Table 3.11-1
DESIGNATED OR ELIGIBLE NRHP, WHR & SEATTLE LANDMARK RESOURCES WITHIN THE YESLER TERRACE APE

Bldg Number	Name	Address	Year Built	Listing Status	NRHP & Seattle Landmark Eligibility Recommendation
1	Harborview Medical Center - Central Wing	325 9th Avenue	1929-Current	SL	Not Eligible NRHP
2	Fire Station No. 3	301 Terry Avenue	1903	NR, WHR, SL	N/A
3	King County Medical Society/Michael Reese Building	200 Broadway	1915		Eligible NRHP and SL
4	Washington Baptist Convention/Japanese Baptist Church	160 Broadway	1922		Eligible NRHP and SL
10	Residence	216 10th Avenue	1900		Eligible NRHP and SL
12	Residence	208 10th Avenue	1905		Eligible NRHP and SL
23	Star Apartments	170 11th Avenue	1901/ 1910		Eligible NRHP and SL
28	Residence	1108 E Fir	1904		Eligible NRHP and SL

Source: BOLA Architecture + Planning, 2010.

3.11.2 Impacts

Alternative 1-4

Construction

Redevelopment under Alternatives 1-4 would require demolition of the remaining residential buildings of the original (1941-1942) Yesler Terrace, as well as its former Community Building. Alternatives 2 and 3 would also result in the demolition of the Yesler Terrace Steam Plant (retained under Alternatives 1, 1A and 4) and the Jesse Epstein Building (retained under Alternative 4). Yesler Terrace was listed in the WHR in 1981 and is under review for eligibility for listing in the NRHP.

The Yesler Terrace Steam Plant was designated as a local landmark in October 2010. Per SMC 25.12.350, a Controls and Incentives Agreement for the Yesler Terrace Steam Plant will be negotiated by the City Historic Preservation Officer and SHA. Controls would define those features of the landmark that would require design review and approval of proposed changes by the Landmarks Board through the Certificate of Approval process, as well identifying potential financial and non-financial incentives. A final step in Seattle's Landmarks process is approval of the Landmark designation by an ordinance passed by City Council.

At the federal review level, if Section 106 consultation results in a finding that the federal undertaking would have an adverse effect upon a NRHP-listed or eligible property or district, Section 106 requires measures to avoid, minimize, or mitigate such effects.

Potential indirect and/or temporary construction-related impacts of Alternatives 1-4 could affect certain nearby properties offsite within the APE. One historic resource (Fire Station No. 3), located across the street from the site, is listed in the NRHP and WHR, and is designated as a Seattle Landmark. Three historic resources (King County Medical Society/Michael Reese Building, Washington Baptist Convention/Japanese Baptist Church, and a single-family residence at 1108 E Fir), located across the street from the site, are potentially eligible for listing on the NRHP and for designation as Seattle Landmarks (see **Figure 3.11-3**). Potential impacts to these buildings could include:

- **Potential Structural Instability/Undermining** – Damage that could occur to an historic resource due to structural instability caused by construction-related vibration and/or earthwork.

- **Temporary Dirt/Unintended Damage** – Introduction of atmospheric elements that may temporarily alter and/or potentially damage historic building fabric or architectural features.

These construction-related impacts would be temporary and periodic in nature. With implementation of appropriate mitigation measures, significant impacts would not be anticipated.

No other significant construction-related impacts to historic resources from redevelopment of the Yesler Terrace site under Alternatives 1-4 would be anticipated.

Adjacency Analysis

Per SMC 25.05.675.H(2)(d), when a project is proposed adjacent to or across the street from a designated Seattle Landmark site or structure, the City's Historic Preservation Officer will prepare an assessment of any adverse impacts on the designated landmark. Mitigation may be required to insure the compatibility of the proposed project with the color, material and architectural character of the designated landmark and to reduce impacts on the character of the landmark's site. As described previously, two buildings located near the site, the Central Wing of Harborview Hospital and Fire Station No. 3, are designated Seattle Landmarks (the Fire Station is also listed in the WHR and NRHP). Both structures are located northwest of the site, across Alder Street, and require or could potentially require an Adjacency Analysis. An adjacency analysis for the recently designated Steam Plant landmark will be completed in the Final EIS (See Section 3.11.3, **Mitigation Measures**).

Central Wing of Harborview Hospital

The Central Wing of Harborview Hospital is not directly adjacent to the Yesler Terrace site. It is across the street from the Yesler Terrace site, although this portion of Harborview Hospital is separated from the site by the intervening 15-story East Clinic building. As a result, an Adjacency Analysis may not be required. Redevelopment of the Yesler Terrace Project in the NW Sector closest to the Central Wing of Harborview would generally be similar to the adjacent Harborview Research and Training building and the East Clinic Building in terms of height, bulk and scale.

Figure 3.10-20 in Section 3.10, **Aesthetics**, provides simulations of the proposed Yesler Terrace Redevelopment alternatives in relation to the Central Wing of Harborview Hospital building.

Fire Station No. 3

Fire Station No. 3 is located north of the Yesler Terrace site, across Alder Street. As such, an Adjacency Analysis would be required. Per SMC 25.05.675.H, the adjacency analysis is required to include a discussion of compatibility of the proposal with the color, material and architectural character of the designated landmark and a proposal to reduce impacts on the character of the landmark's site. Site design details such as building location, orientation, design and materials cannot be determined at this time; therefore, this analysis would need to be done in the future when development is proposed for the area directly adjacent to Fire Station No. 3 and specific design details have been determined. This section provides a preliminary discussion of the height, bulk and scale of development assumed in the area adjacent to Fire Station No. 3.

Figures 3.10-29 through **3.10-33**, in Section 3.10, **Aesthetics**, provide cross sections that demonstrate the potential height, bulk and scale of the proposed Yesler Terrace Redevelopment structures under the EIS alternatives in the area adjacent to Fire Station No. 3. As shown in these cross sections, building heights on the Yesler Terrace site adjacent to the Fire Station No. 3 could range from 75 feet under Alternative 1A to 225 feet under Alternative 3.

Figure 3.10-11 in Section 3.10, **Aesthetics**, provides simulations of the proposed Yesler Terrace Redevelopment alternatives in relation to the Fire Station No. 3 building as viewed from the Terry Avenue and Alder Street intersection.

Under all of the alternatives, the height, bulk and scale of the new buildings on the Yesler Terrace site in the area adjacent to the Fire Station No. 3 building would be greater than under existing conditions and greater than the Fire Station building but would generally be similar in height, bulk and scale to the Harborview Research and Training building and senior housing apartment building located to the west and east of Fire House, respectively. No significant height, bulk or scale impacts to the adjacent Fire Station No. 3 would be anticipated as a result of the proposed redevelopment.

No Action Alternative

The No Action Alternative assumes the continuation of the site in its present condition with general replacement of existing housing occurring over time. No significant impacts would occur to onsite or offsite eligible or designated historic resources.

Cumulative Impacts

This section describes the cumulative impacts of the proposed Yesler Terrace redevelopment in combination with other foreseeable offsite actions in the site vicinity.

Cumulative impacts on historic resources are impacts that occur later in time or removed in distance, but are still reasonably foreseeable. Such indirect effects could include growth-inducing effects; changes in patterns of land use, population density, or growth rate; and,

related effects on historic resources. Redevelopment under Alternatives 1-3 would represent a more dense form of development than currently exists onsite and could have an unintended impact on small-scale historic buildings offsite within the APE. This could occur as a result of increases in property values in the area that could create pressure for redevelopment. Vulnerable historic resources include those that are not already recognized by listing in a historic register, but may be eligible for local designation and the protection that it affords. Smaller-scale, one- and two-story buildings in the APE would be particularly vulnerable to demolition for redevelopment.

Impacts to historic resources associated with three other projects - the First Hill Streetcar, expansion of the King County Youth Detention Facility and the Seattle University Major Institution Master Plan projects - could include impacts to existing historic resources. Due to the relative distance of the King County Youth Detention Facility and the Seattle University campus from the site, no cumulative impacts to historic resources within the APE would be anticipated from these two projects.

The First Hill Streetcar Project is proposed to run through the Yesler Terrace site, within the Broadway and E Yesler Way rights-of-way. Therefore, potential impacts to on-site historic resources (the Yesler Terrace Steam Plant) or to off-site listed or potentially eligible resources could occur. Potential impacts could include structural instability and undermining or temporary dirt/unintended damage as described earlier in this section. Cumulative impacts in the form of development pressure brought on by the redevelopment of Yesler Terrace and construction of the First Hill Streetcar could also result.

As described in Section 3.11.3, **Mitigation Measures**, appropriate measures would be implemented to mitigate any potential impacts to existing historic resources.

3.11.3 Mitigation Measures

The following possible mitigation measures would address potential impacts to historic resources resulting from the Yesler Terrace Redevelopment:

Possible Mitigation Measures

- Demolition of Yesler Terrace Steam Plant (a designated City of Seattle Landmark) – Changes to the exterior (designated feature) of the Steam Plant, including demolition of the building, cannot be undertaken without the review and approval of the Landmarks Preservation Board. There have been few occasions when the Board has approved demolition of a local landmark. However, should the Board approve demolition of the Steam Plant, mitigation would not be required. Given that such a step would result in the loss of a historic resource, it should be mitigated by HABS documentation

- Demolition of original (1941-1942) Yesler Terrace – Documentation of the property should be undertaken to mitigate its loss and should be easily accessible to the public. There are several options for providing a historic record, including development of a historic record in accordance with DAHP standards; development and posting of an expanded entry about Yesler Terrace on HistoryLink.org, the online encyclopedia of Washington State history; development of an oral history program by the Museum of History and Industry involving current and former long-term Yesler Terrace residents and managers, as well as early participants in SHA's history; and development and onsite

installation of interpretive exhibits or interpretive artwork about the original Yesler Terrace, its social and cultural history, and buildings. Such exhibits or artwork should be located on the exterior, in easily accessible and visible locations on the new project site. Consideration should be give to an exhibit within or outside the Steam Plant. Any exhibit text should be provided in a variety of languages given the cultural diversity of Yesler Terrace. Retention and rehabilitation of the original Yesler Terrace Steam Plant, which does have architectural integrity, could also mitigate the loss of the overall property.

- Potential Structural Instability/Undermining – Care should be taken in order to avoid structural damage to nearby buildings that could occur due to construction-related vibrations and/or earthwork. All excavation, earthwork, pile driving, etc. should be designed and monitored in order to minimize and/or immediately address any such impacts to nearby or adjacent historic properties. Monitoring should include crack monitors placed on nearby structures, periodic observation, and photography to document the structural integrity of the historic buildings and determine whether there was resulting damage of interior or exterior finishes, or exterior masonry and/or framing. If such damage occurs as a result of the project, damage should be mitigated through repairs to the affected buildings.

- Temporary Dirt/Unintended Damage – Care should be taken in order to avoid or limit the introduction of atmospheric elements that could alter and/or potentially damage historic building fabric or architectural features of nearby historic resources. All construction activity should be monitored in order to prevent and address any such impacts to adjacent or nearby historic properties. Consider limiting access near historic properties of construction vehicles carrying excavation materials. Dust control measures would be implemented (see **Section 3.2, Air Quality** of the DEIS for details).

- Development pressure on low-scale properties – Mitigation in the form of preservation planning should be undertaken, by development and submittal of landmark nomination reports for those buildings offsite within the APE that are potentially eligible for listing as Seattle Landmarks but not currently designated.

- Adjacency Analysis - SEPA calls for design analysis and review of new construction adjacent to or across the street from a designated local landmark, by the City Historic Preservation Officer.

- If Section 106 consultation results in a finding that the federal undertaking would have an adverse effect upon an NRHP-listed or -eligible property or district, Section 106 requires measures to avoid, minimize, or mitigate such effects. A binding commitment to such measures is memorialized in a Memorandum of Agreement (MOA) between the parties and incorporated into the federal agency's Record of Decision.

3.11.4 Significant Unavoidable Adverse Impacts

With implementation of the proposed mitigation measures, no significant unavoidable adverse impacts would be anticipated.

3.12 CULTURAL RESOURCES

This section characterizes existing cultural resources on the Yesler Terrace site and in the site vicinity, and identifies potential impacts to these resources with the proposed redevelopment. The section is based on the *Archaeological Assessment of the Yesler Terrace Redevelopment Project* prepared by Cultural Resource Consultants, Inc. in June 2010 (see **Appendix M**).

3.12.1 Affected Environment

Regulatory Context

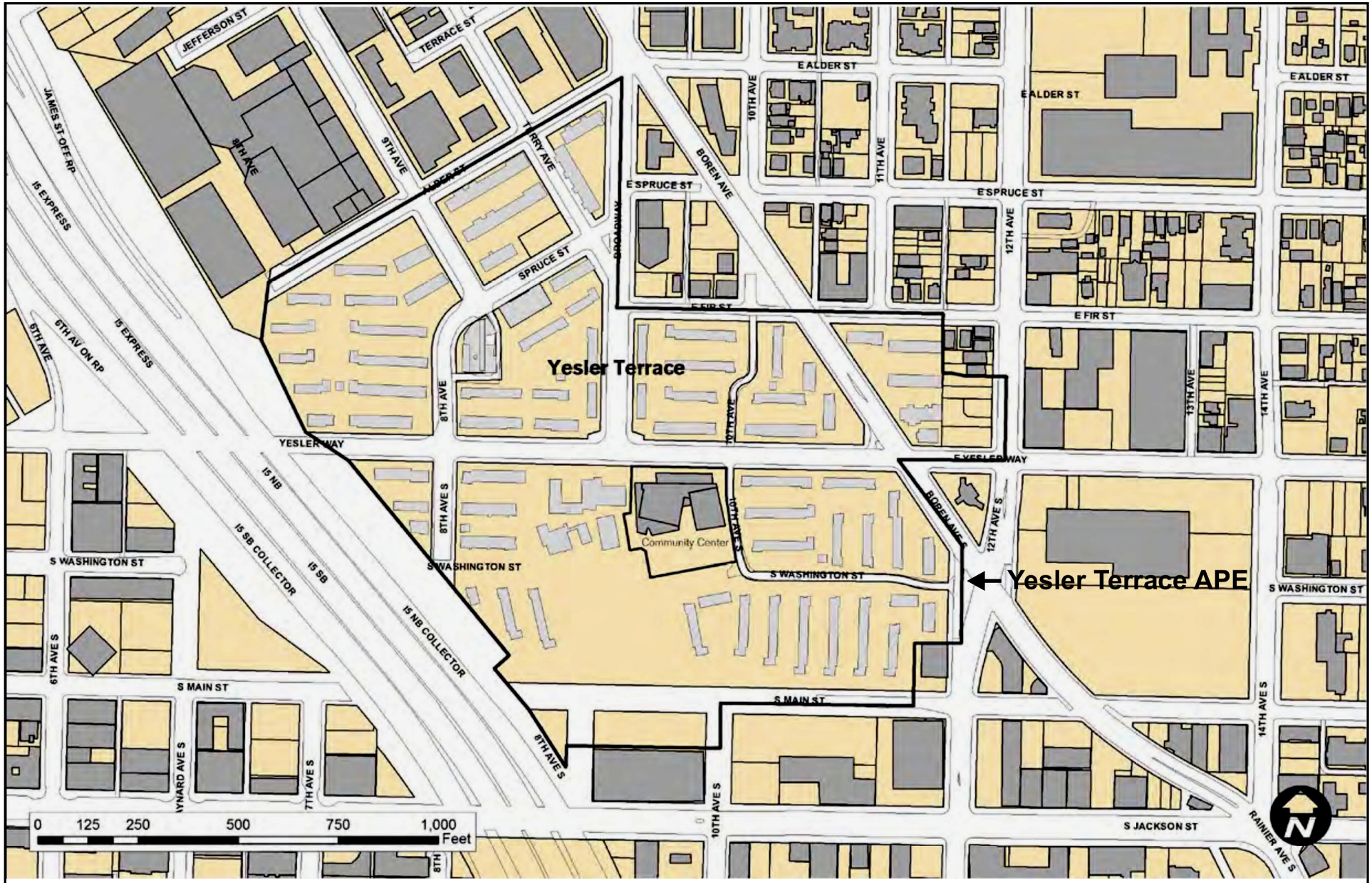
As described in **Chapter 2** of this Draft EIS, the proposed Yesler Terrace Redevelopment is subject to both SEPA and NEPA review; therefore, the applicability of both federal and Washington State regulations are considered in the cultural resources analysis for the project.

Section 106 of the National Historic Preservation Act (NHPA) requires that a federal agency consider the effects of undertakings upon historic properties within the project's Area of Potential Effects (APE). The APE for this project is defined as the area within the site boundary and is illustrated on **Figure 3.12-1**. The site (and APE) is located in the First Hill area of City of Seattle.

Federal code implementing Section 106 (36 CFR 800) requires identification of historic properties. Section 101(d)(6)(B) of the NHPA requires the agency official to consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to historic properties that may be affected by an undertaking. 36 CFR Section 800.8(c) of the NHPA Section 106 regulations allows "use of the NEPA process for Section 106 purposes." Under this subsection, the project proponent can use the NEPA process and the documents it produces "to comply with Section 106 in lieu of the procedures set forth in Sections. 800.3 through 800.6."

Several Washington State laws specifically address archaeological sites and Native American burials, and would pertain to redevelopment of the Yesler Terrace site. The Archaeological Sites and Resources Act [RCW 27.53] prohibits knowingly excavating or disturbing pre-contact (prior to contact with Euroamerican settlers) and historical archaeological sites on public or private land without a permit issued by the Washington State Department of Archaeology and Historic Preservation (DAHP). The Indian Graves and Records Act [RCW 27.44] prohibits knowingly destroying American Indian graves and requires that inadvertent disturbance of these graves by construction or other activity be followed by re-interment (re-burial) under supervision of the appropriate Indian tribe.

An archaeological evaluation was conducted for the project site to consider the effects of the Yesler Terrace redevelopment on below ground historic properties, otherwise known as archaeological resources. This evaluation is intended to meet the applicable NEPA and SEPA requirements for this project described above. See the summary of this evaluation below and **Appendix M** for details.



Source: *Cultural Resource Consultants; CollinsWoerman,* 2010.

Figure 3.12-1
Cultural Resources APE

Yesler Terrace
Redevelopment EIS

Analysis Methodology

The site is within the traditional territory of the Duwamish Tribe, and historically members of the Suquamish and Muckleshoot Tribes have also utilized the site vicinity. All of these tribes were contacted during EIS Scoping to receive their input on the scope of the cultural resources analysis. Informal coordination with representatives of the Duwamish and Suquamish tribes was also undertaken during preparation of the cultural resources analysis in order to solicit questions or concerns about cultural resources on or near the Yesler Terrace site. A representative of the Suquamish Tribe commented indicating that the Tribe does not have any specific concerns about the Yesler Terrace site at this time. No response was received from the Duwamish Tribe (see **Appendix M**).

In developing the archaeological analysis, a search of records was performed including: archaeological, historic, and ethnographic records on file at the DAHP; selected local historical, environmental, and ethnographic data; historic photographs on file at Seattle Municipal Archives and University of Washington Libraries; and historic maps and newspaper articles on file at the Seattle Public Library's Seattle Room. Primary sources included plat maps and cadastral[1] surveys of the late nineteenth and early twentieth centuries (see **Appendix M** for details).

No previously recorded archaeological sites were identified within or in the immediate vicinity of the Yesler Terrace site. Eleven archaeological sites have been recorded within approximately one mile of the Yesler Terrace site during the numerous cultural resources investigations that have been conducted within that radius. The closest recorded archaeological site to the Yesler Terrace site is the "Great Northern Railroad Tunnel" located approximately 0.2 miles west of the site. Recorded pre-contact archaeological sites in Seattle are almost exclusively confined to the shorelines of Elliott Bay, Lake Washington and the Duwamish River; recordings of pre-contact sites on locations away from local waterways, such as Yesler Terrace, are rare.

A visual reconnaissance of the Yesler Terrace site was undertaken to identify any potential cultural resources or evidence of such. No artifacts, archaeological features or other evidence of potentially significant archaeological materials were identified on the site (see **Appendix M** for details). Subsurface explorations were not performed due to the pervasiveness of impervious surfaces, buried utilities, buildings, and maintained, terraced yards and streetscapes on the site which indicate a high degree of soil disturbance and, therefore, a low probability of archaeological resources.

Existing Site Conditions

The Seattle Housing Authority Yesler Terrace housing complex is currently located on the site. The Yesler Terrace site generally slopes from north to south, with a relatively flat portion of the site located immediately south of Yesler Way. The western portion of the site is characterized by moderate to steep grades leading to the I-5 retaining wall.

The formation of the landscape provides a record for the age and types of archaeological resources that may be found at the Yesler Terrace site. Glaciation, sea level change, the response of the land to deglaciation, volcanism and tectonic movements formed and changed the land where people lived. Archaeological sites provide dates, locations, seasonality data and remnants of activities that characterize the pre-contact history of the Puget Sound basin.

[1] A cadastral map is a public record, survey, or map of the value, extent, and ownership of land.

Historical data provides additional detailed accounts of Euroamerican activities within the Puget Sound landscape. See **Appendix M** for further information on the geomorphology, natural resources, paleoenvironments, ethnography, archaeology and archaeological history of the region in which the site alternatives are located.

Archaeological data sources do not indicate the presence of any pre-contact villages within the APE. The closest recorded village is a former Duwamish village located 0.5 miles west southwest of the APE. A trail that connected Elliot Bay to Lake Washington may have followed the route of the existing Yesler Way roadway and may have been used by tribes as a transit path to seasonal fishing and hunting areas.

Historic uses of the site include logging, transportation and residential and commercial activities. The Yesler Terrace site was first logged in the late 1800s and has experienced a series of significant ground disturbing activities since that time including: initial residential development in the late 1800s; increasing residential and commercial development through the 1930s; alteration of the southern portion of the site as part of the Jackson Hill regrade in the 1910s; demolition and redevelopment of the existing Yesler Terrace project on the site in the 1930s; demolition of a portion of the site in the 1950s to accommodate the new I-5 freeway; and, construction of the Yesler Community Center in 2005. Within the Yesler Terrace site, there is a low probability for encountering pre-contact and historical archaeological resources due to the site's environmental setting and its history of disturbance, including construction and demolition of buildings, transportation developments and buried utilities (see **Appendix M** for details).

3.12.2 Impacts

This section summarizes the potential archaeological impacts within the APE associated with the proposed redevelopment of the Yesler Terrace site. There would generally be little difference between the types and levels of potential impacts on cultural resources associated with each of the redevelopment alternatives. Alternatives 1-4 would include similar forms of ground disturbing activities during construction, such as demolition, clearing and grading, and excavating for utilities and foundations, however the depth of excavation may vary between the redevelopment alternatives for underground parking. Each of the alternatives includes similar forms of building, roadway and utility development that would be implemented over the long term. While Alternatives 2 and 3 include new roadway alignments, the site itself has been previously disturbed. The No Action Alternative assumes the remodel, repair or replacement of existing buildings, as necessary as well as the repair of roadways and utilities as necessary, which would result in ground disturbing activities similar to the redevelopment alternatives, although on a smaller scale and over a longer period of time. Therefore, the impacts discussion below generally pertains to all of the redevelopment alternatives.

As indicated previously, there are no recorded archaeological sites or ethnographic places within the Yesler Terrace APE, and none were identified in this analysis. Within the Yesler Terrace APE there is a low probability to encounter pre-contact and historical archaeological resources due to the site's environmental setting and the history of ground disturbance. Therefore, construction and operation of the Yesler Terrace Redevelopment under Alternatives 1-4 and the No Action Alternative would not be expected to encounter archaeologically significant resources and no impacts would be anticipated.

3.12.3 Mitigation Measures

Although no archaeological sites or ethnographic places have been identified within the APE of the Yesler Terrace site and the site is considered to have a low potential to contain such resources, unanticipated resources could be encountered during construction. If at any time during construction archaeological resources were observed, the following mitigation measures would be implemented to address potential impacts to cultural resources resulting from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

- Project site work would be temporarily suspended at the location of the archaeological resource, the project manager would immediately be notified and a professional archeologist would document and assess the discovery. The DAHP and all concerned tribes would be contacted for any issues involving Native American sites.

- If project activities expose human remains, either in the form of burials or isolated bones or teeth, or other mortuary items, work in that area would be stopped immediately. Local law enforcement, DAHP, and affected tribes would be immediately contacted. No additional excavation would be undertaken until a process has been agreed upon by these parties, and no exposed human remains would be left unattended.

3.12.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.13 TRANSPORTATION

This section of the Draft EIS presents a summary of the transportation impact analysis for the proposed Yesler Terrace Redevelopment. Detailed analysis is contained in **Appendix N** - Transportation Technical Report (Heffron Transportation, Inc., July 2010). The transportation issues addressed by this report include Yesler Terrace's potential impacts to the roadway system, intersection operations, traffic safety, transit facilities, non-motorized facilities, freight movements, and parking. It also summarizes analysis of the potential site access and on-site circulation system.

3.13.1 Affected Environment

This section discusses existing and future transportation conditions without the Yesler Terrace redevelopment.

Study Area

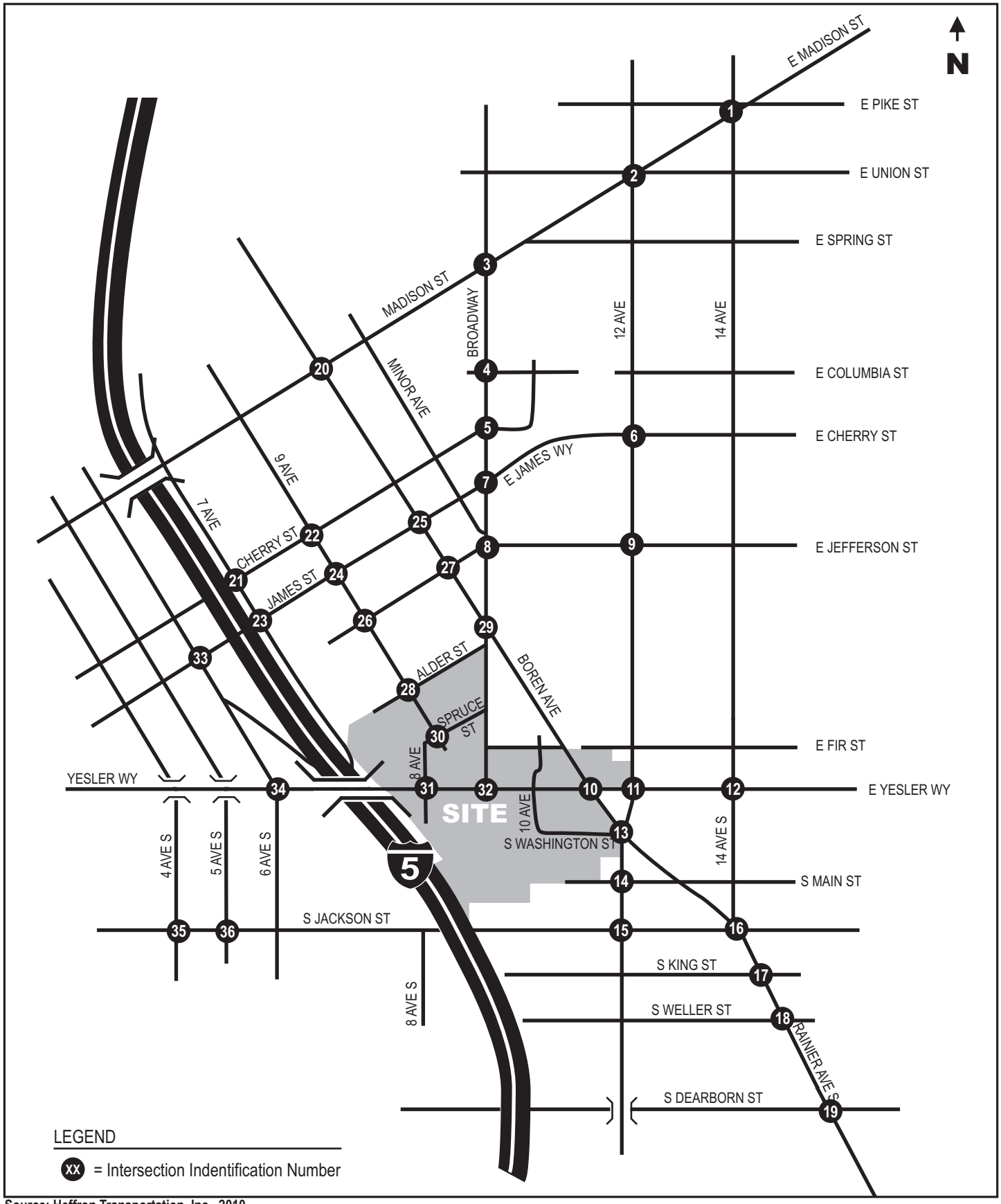
The study area for this analysis was determined based on how trips would arrive to and depart from the area, and was reviewed with City of Seattle Department of Planning and Development (DPD) and Seattle Department of Transportation (SDOT) staff. Overall, 36 off-site intersections were evaluated to determine how the Yesler Terrace EIS alternatives would affect intersection operations. All intersections were evaluated for the AM and PM peak hour conditions, which is when the highest traffic volumes occur. The study area intersections are shown on **Figure 3.13-1**. Each intersection has been assigned an identification number that is used in all tables and traffic volume figures to improve the reader's orientation.

Roadway System

Existing Network

The City of Seattle designates streets as principal arterials, minor arterials, collector arterials, and local access streets depending upon the street's function in the roadway network. There are six arterial streets that border or traverse the Yesler Terrace site: Yesler Way, 12th Avenue, Boren Avenue, 8th Avenue, 9th Avenue, and Broadway. Arterial classifications are shown on Figure 3 in the Transportation Technical Report (**Appendix N**). The key arterial streets that provide access to Yesler Terrace are described below.

> **Yesler Way** is a minor arterial that has one travel lane in each direction plus parking on both sides of the street between 6th Avenue and about 10th Avenue S. Between 10th Avenue S and just east of 12th Avenue S, parking is prohibited to provide two travel lanes in each direction through the intersections at Boren Avenue S and 12th Avenue S.
>
> **Broadway** is a minor arterial that has one travel lane in each direction plus parking on both sides of the street between Yesler Way and Spruce Street. From Spruce Street north to Boren Avenue, Broadway has two lanes in each direction with parking.



Source: Heffron Transportation, Inc., 2010

Figure 3.13-1

Transportation Study Area

Yesler Terrace Redevelopment EIS

8th/9th Avenue meanders through the site and is designated as a minor arterial. Between Yesler Way and Spruce Street, the street is called 8th Avenue; north of Spruce Street, after a ninety degree turn, it becomes 9th Avenue. Through the site, the roadway has one travel lane in each direction plus parking on both sides of the street.

Key features, such as lane configurations and traffic control, on the streets and arterials closest to the project site are shown on **Figure 3.13-2**. Traffic control for all of the study-area intersections is shown on **Figure 3.13-3**. Most intersections are signalized, although some are all-way or two-way stop-controlled intersections. Parking and non-motorized facilities in the study area are discussed later in this section.

Future Road Improvements

There is one major transportation infrastructure project proposed for the area: the First Hill Streetcar. This project, which is funded through Sound Transit's ST2 bond measure, is being planned, permitted, and constructed by SDOT. The City's recommended route[1] is discussed later in this section. Changes in street configuration to account for the First Hill Streetcar and stations have been incorporated into traffic operations models for the year 2030 conditions.

The City of Seattle's *2010-2015 Adopted Capital Improvement Program* (City of Seattle 2009) was reviewed to determine if any proposed projects would affect study-area intersections. Although there are many major infrastructure projects that may affect traffic volumes within the study area (e.g., the Alaskan Way Viaduct), no projects except the First Hill Streetcar are identified that would alter the geometry of existing study area intersections.

The *First Hill Neighborhood Plan* (City of Seattle 1998) outlines the neighborhood's vision and priorities. While walking and transit are major focuses of the plan, it also recognized that because of its location near downtown and Interstate 5 (I-5), the neighborhood accommodates a substantial volume of through vehicular traffic. There are many plan recommendations related to urban design, gateways, and streetscape elements. Three specific transportation recommendations that relate to Yesler Terrace were listed in the plan:

> Work with the City and Yesler Terrace residents to improve pedestrian crossing connections for Boren Avenue and Yesler Street.
>
> Improve paratransit service from Yesler Terrace and Jefferson Terrace to major destinations on the north side of First Hill.
>
> Work with KC/Metro to extend the downtown free ride zone east to Terry Avenue.

When the plan was created, Sound Transit's North Link route was to have a station on First Hill. That station was deemed infeasible by Sound Transit and has been replaced by the First Hill Streetcar route. The new streetcar service would improve the connections between Yesler Terrace and the north part of the First Hill neighborhood.

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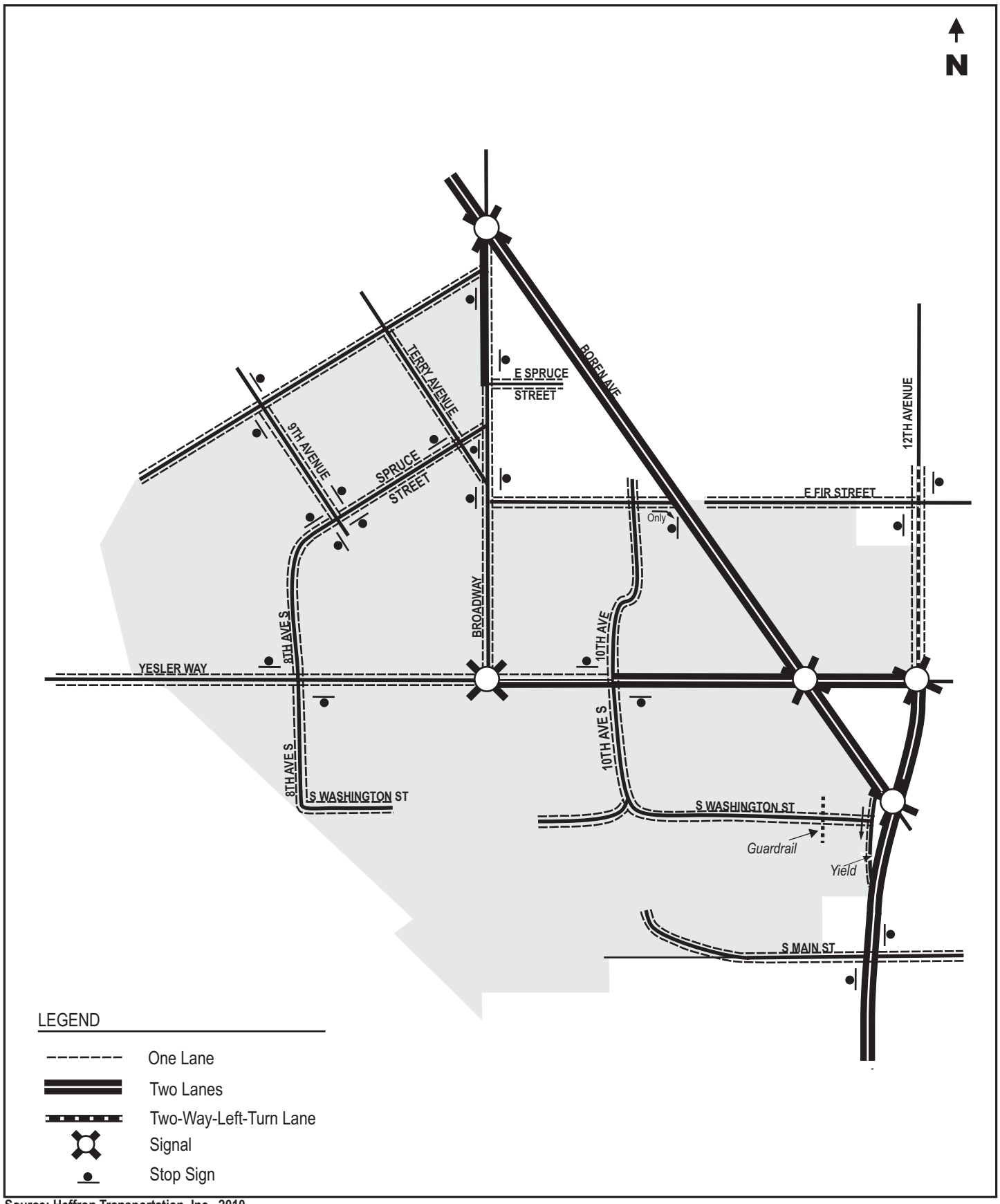
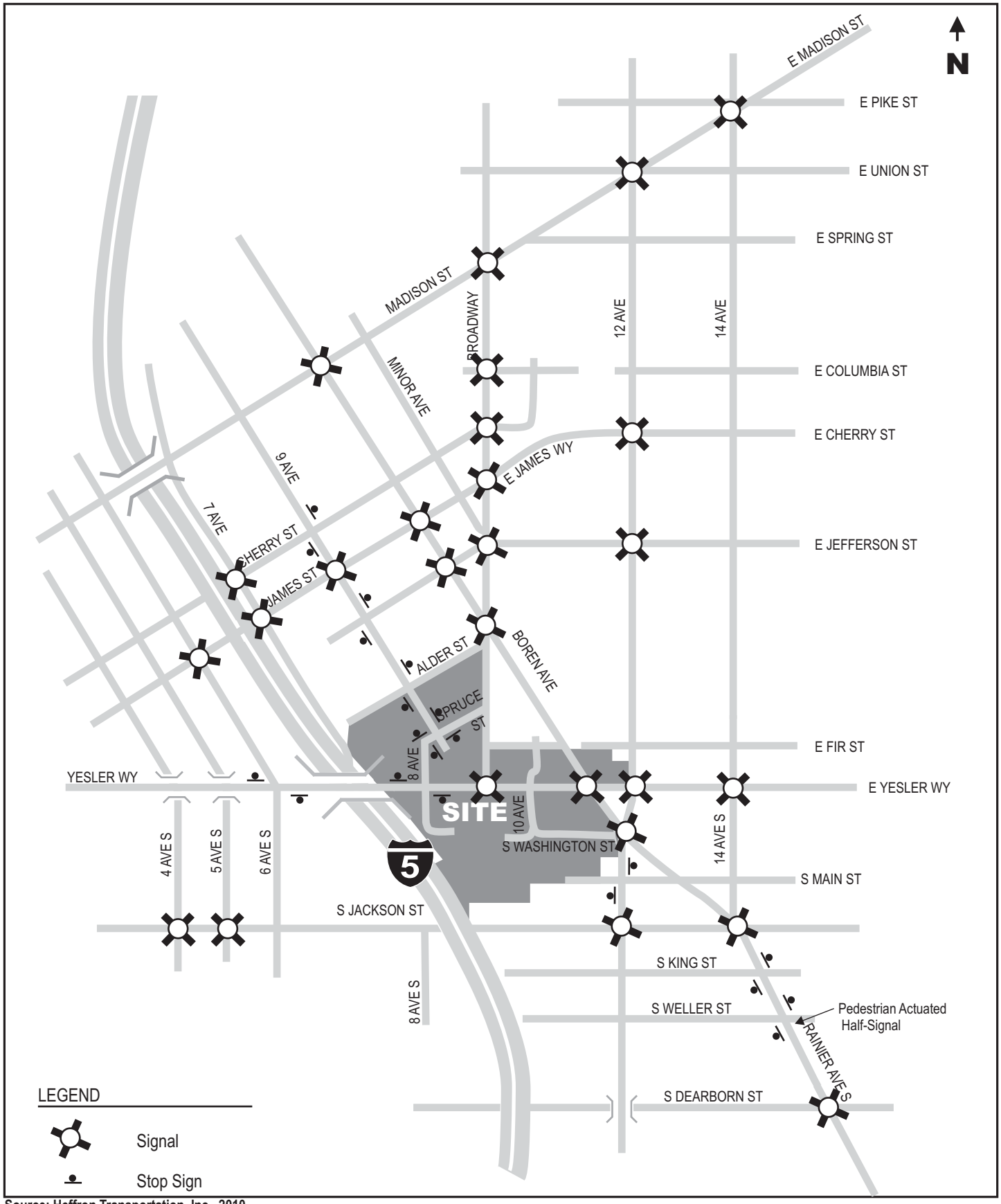
[1] Route developed by SDOT and recommended by the Mayor was unanimously approved for environmental review purposes by the City Council on May 3, 2010. Final approval and funding of the route will occur after environmental review and conceptual design are completed, and will require Sound Transit input per the City/Sound Transit Interlocal Agreement.



Source: Heffron Transportation, Inc., 2010

Figure 3.13-2
Existing Roadway Network
Within and Near Yesler Terrace

Yesler Terrace
Redevelopment EIS



Source: Heffron Transportation, Inc., 2010

Figure 3.13-3
Traffic Control at
Study Area Intersections

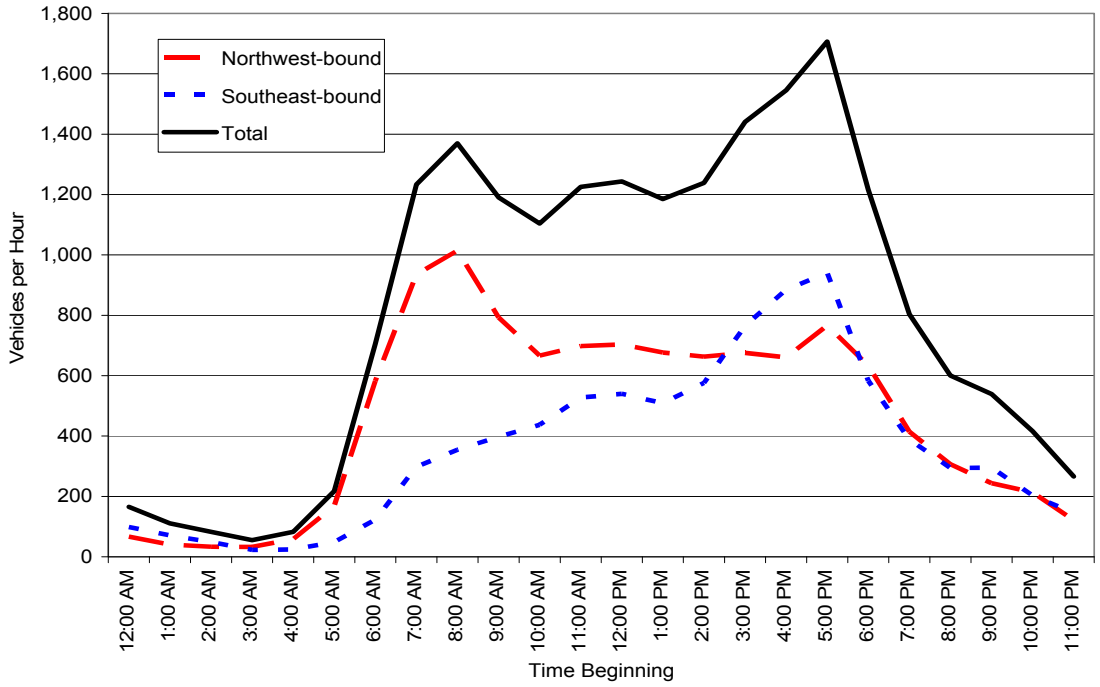
Yesler Terrace
Redevelopment EIS

Traffic Volumes

Existing Traffic Volumes

According to SDOT's traffic count database, the arterial with the highest daily traffic volume in the site vicinity is Boren Avenue. A seven-day count that SDOT performed in July 2008 on Boren Avenue northwest of 12th Avenue was compiled to show how average weekday traffic volume fluctuates by time of day. This is illustrated on **Figure 3.13-4**. The traffic flow is typical of most arterials in Seattle—the AM peak hour occurs between 8:00 and 9:00 AM with the peak flow towards the downtown core, and the PM peak hour occurs between 5:00 and 6:00 PM with the peak flow away from the downtown core. The data show that the total of both directions is highest during the PM peak hour, which is also typical of most arterials in Seattle.

Figure 3.13-4. Hourly Traffic Volumes on Boren Avenue northwest of 12th Avenue



New traffic counts for 14 of the study-area intersections were conducted in Spring 2010; some of these were performed by SDOT for its work on the First Hill Streetcar project and some were commissioned by Heffron Transportation for this analysis. The existing year 2010 traffic volumes are shown on Figure 7 and Figure 8 in the Transportation Technical Report in **Appendix N** for the AM and PM peak hours, respectively.

Future Traffic Forecasts

Year 2030 traffic volume forecasts were developed by DKS Associates, Inc. for the First Hill Streetcar project. These volumes were forecasted using SDOT's enhanced version of the Puget Sound Regional Council (PSRC) regional planning model, which operates on the EMME/2 software platform. The model reflects assumptions for regional population and employment

growth as defined in the PSRC's adopted regional plan. The model also reflects transportation improvements that are identified in the adopted regional plans and have a funding commitment. The major infrastructure improvements included in the model are:

Alaskan Way Viaduct Replacement

Sound Transit's University Link

Sound Transit's North Link (extension to Lynnwood)

Sound Transit's East Link

First Hill Streetcar

King County Transit Now service, including the six RapidRide corridors in King County

Mercer East project

Spokane Street Viaduct Widening project, including the new ramps at 1st and 4th Avenues

Because the 2030 forecasts include substantial growth in Seattle's population and employment, no additional traffic generated by specific development projects ("pipeline" projects) was included in the future volumes. This approach is acceptable to DPD.[2] In addition, any changes in street capacity associated with the First Hill Streetcar project have been accounted for in the volume forecasts. The 2030 No Action traffic volumes for the AM and PM peak hours are shown on Figure 9 and Figure 10, respectively, in the Transportation Technical Report in **Appendix N**.

These base conditions, which reflect the future No Action Alternative, are used to evaluate the impacts of each redevelopment alternative. All future analyses were performed for the year 2030, the anticipated buildout year for Yesler Terrace, which is consistent with the City of Seattle's major update of its Comprehensive Plan, studies for the planned First Hill Streetcar, and buildout of Yesler Terrace. All of the year 2030 analyses assume completion of the First Hill Streetcar project, which is a funded improvement.

Level of Service

Level of service (LOS) is a qualitative measure used to characterize traffic operating conditions. Six letter designations, "A" through "F," are used to define level of service. LOS A is the best and represents good traffic operations with little or no delay to motorists. LOS F is the worst and indicates poor traffic operations with long delays. The City of Seattle level of service standards focus on groups of key arterials (described in Section 3.13.2, **Transportation Concurrency**). The City does not have adopted intersection level of service standards; however, project-related intersection delay that causes an intersection to operate at LOS E or F, or increases delay at an intersection that is projected to operate at LOS E or F without the project, may be considered a significant adverse impact. Levels of service for the study area intersections were determined using the methodology in the *Highway Capacity Manual* (Transportation Research Board 2000).

[2] Per telephone discussion with John Shaw at DPD in May 2010.

The Transportation Technical Report in **Appendix N** provides level of service thresholds and definitions for unsignalized and signalized intersections.

Existing Levels of Service

Levels of service for the study area intersections were determined using Synchro 7.0 analysis software. The existing-conditions (year 2010) Synchro models prepared for the First Hill Streetcar project were expanded by Heffron Transportation to include additional study-area intersections. Intersection geometric and traffic-control data for the expanded models were provided by SDOT. The existing AM and PM peak hour models reflect year 2010 conditions including existing intersection geometries, signal operations, and traffic volumes. The existing-conditions models were used to calculate year 2010 morning and evening peak hour levels of service for the study area. **Table 3.13-1** summarizes the existing levels of service for study area intersections.

The level of service results show that most of the study-area intersections operate at LOS D or better, which is an acceptable level of service. Signalized intersections that currently operate at LOS E or F during the AM and/or PM peak hours include:

Broadway/E James Street (PM peak hour)

14th Avenue S/Rainier Avenue S/S Jackson Street (both peak hours)

6th Avenue/James Street (PM peak hour)

4th Avenue S/S Jackson Street (PM peak hour)

Unsignalized intersections that have one or more minor movements operating at LOS E or F include:

9th Avenue/Cherry Street (PM peak hour)

6th Avenue/Yesler Way (both peak hours)

Table 3.13-1
LEVEL OF SERVICE SUMMARY– EXISTING (2010) AND 2030 NO ACTION CONDITIONS

Int. #	Intersection Name	AM Peak Hour				PM Peak Hour			
		2010 Existing		2030 No Action[3]		2010 Existing		2030 No Action[3]	
		LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Signalized Intersections									
1	14th Avenue / E Madison Street	B	10.5	B	12.5	B	15.3	C	24.6
2	12th Avenue / Madison Street	B	14.8	B	17.7	C	22.0	C	27.8
3	Broadway / E Madison Street	C	29.4	C	32.2	C	24.9	E	55.4
4	Broadway / E Columbia Street	A	5.2	A	5.6	B	14.1	B	19.3
5	Broadway / E Cherry Street	A	8.2	A	7.2	B	11.3	A	9.9
6	12th Avenue / E Cherry Street	D	36.4	D	41.7	D	50.5	F	90.0
7	Broadway / E James Street	C	32.0	D	42.1	E	68.3	D	50.3
8	Broadway / E Jefferson Street	B	15.5	C	22.6	C	21.5	B	19.2
9	12th Avenue / E Jefferson Street	B	16.7	B	19.2	C	26.1	C	28.4
10	Boren Ave S / E Yesler Way	B	17.6	C	22.7	C	33.5	C	32.3
11	12th Avenue / E Yesler Way	B	12.2	D	37.5	B	17.3	D	46.5
12	14th Avenue / E Yesler Way	B	17.3	C	20.6	C	22.1	C	23.8
13	12th Avenue S / Boren Avenue S	C	30.9	C	28.4	C	35.0	D	36.3
15	12th Avenue S / S Jackson Street	C	28.8	D	45.4	C	30.0	C	29.1
16	14th Ave S/Rainier Ave S/S Jackson St	E	64.1	D	47.9	E	61.2	C	34.3
18	Rainier Avenue S/ S Weller Street	A	1.1	A	1.1	A	1.6	A	4.1
19	Rainier Avenue S / S Dearborn Street	D	47.6	F	100.0	D	45.1	F	92.6
20	Boren Avenue / Madison Street	C	34.1	D	41.3	C	29.6	C	30.2
21	7th Avenue / Cherry Street	B	14.0	B	17.2	D	48.9	F	90.1
23	7th Avenue / James Street	C	23.5	C	29.0	B	20.0	C	22.8
24	9th Avenue / James Street	C	20.3	C	24.0	C	23.3	C	33.7
25	Boren Avenue / James Street	D	44.2	D	50.3	D	40.7	D	43.5
27	Boren Avenue / Jefferson Street	B	11.0	B	12.2	B	18.4	B	14.6
29	Broadway / Boren Avenue	B	15.7	C	25.2	C	30.1	D	38.4
32	Broadway / Yesler Way	A	6.8	B	12.3	B	10.1	B	19.5

Int. #	Intersection Name	AM Peak Hour				PM Peak Hour			
		2010 Existing		2030 No Action[3]		2010 Existing		2030 No Action[3]	
		LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]
33	6th Avenue / James Street	C	29.7	D	41.7	F	82.7	F	136.1
35	4th Avenue S / S Jackson Street	C	23.3	C	25.0	F	123.2	C	34.4
36	5th Avenue S / S Jackson Street	B	10.3	B	19.5	B	10.3	B	17.2
Unsignalized Intersections[4]									
14	12th Avenue / S Main Street	B	11.7	C	16.7	C	16.5	C	23.1
17	Rainier Avenue S / S King Street	C	16.4	B	11.7	C	23.2	D	31.4
22	9th Avenue / Cherry Street	C	21.9	D	26.5	F	59.6	F	224.4
26	9th Avenue / Jefferson Street[5]	B	10.7	B	12.4	B	11.7	B	14.7
28	9th Avenue / Alder Street	C	21.9	D	27.6	C	20.3	D	27.0
30	9th Avenue / Spruce Street[5]	A	8.9	A	9.2	A	8.3	A	8.5
31	8th Avenue / Yesler Way	C	20.1	C	25.0	B	13.5	B	14.7
34	6th Avenue / Yesler Way[5]	F	52.0	F	96.7	E	35.2	F	75.9

Source: Heffron Transportation Inc. 2010.

1 Level of service. All analyses were performed using the Synchro 7.0 software.
2 Average seconds of delay per vehicle. Delays reported are from the Synchro methodology.
3 2030 No Action condition reflects completion of the First Hill Streetcar plus regional growth.
4 Delay reported for worst movement at the intersection, which is generally the left turn from a stop sign.
5 All-way stop controlled intersection. Delay reported for total intersection delay.

Year 2030 No Action Levels of Service

Table 3.13-1 also summarizes the Year 2030 No Action levels of service. Year 2030 No Action level of service analyses assume completion of the First Hill Streetcar, which would change the lane configuration at many locations along the proposed alignment. The Synchro models for this No Action condition were originally developed for the First Hill Streetcar project and expanded by Heffron Transportation for the Yesler Terrace study area.

Many of the study area intersections would operate at LOS F in the future due to growth in traffic volumes. The following describes the LOS F intersections under 2030 No Action:

12th Avenue S / E Cherry Street – Growth in traffic volumes would degrade PM peak hour operations from LOS D existing to LOS F in the year 2030.

Rainier Avenue S / S Dearborn Street – Growth in traffic volumes would degrade both AM and PM peak hour operations from LOS D existing to LOS F in the year 2030.

7th Avenue / Cherry Street – Growth in traffic volumes would degrade PM peak hour operations from LOS D existing to LOS F in the year 2030.

6th Avenue / James Street – This intersection currently operates at LOS F during the PM peak hour, and growth in traffic through 2030 would exacerbate operations.

4th Avenue S / S Jackson Street – This intersection currently operates at LOS F during the PM peak hour, and operations are influenced by the close spacing to the adjacent intersection at the 2nd Avenue Extension. However, the Streetcar project would prohibit westbound left turn movements from S Jackson Street, which would improve operations to LOS C.

9th Avenue / Cherry Street – This unsignalized intersection currently has stop signs on the eastbound and westbound approaches (Cherry Street). These stop-controlled movements currently operate at LOS F during the PM peak hour, and will be exacerbated by growth through 2030.

6th Avenue / Yesler Way – This all-way stop-controlled intersection currently operates at LOS F during the AM peak hour. Growth in traffic through 2030 would exacerbate conditions during the AM peak hour, and also cause it to operate at LOS F during the PM peak hour.

Traffic Safety

Collision data for the most recent available three-year period (from January 1, 2007 to December 31, 2009) were obtained from SDOT for the 36 study-area intersections. These data were examined to determine if there are any unusual traffic safety conditions that could impact or be impacted by the proposed project. Signalized intersections with an average of 10 or more collisions per year, and unsignalized intersections with 5 or more average collisions per year are considered high collision locations by SDOT. Detailed collision data are presented in the Transportation Technical Report (**Appendix N**).

During the three year period, one signalized intersection, 6th Avenue/James Street had an average of 15 collisions per year which exceeds the City of Seattle threshold for high collision locations. The majority of the collisions at this intersection involved left-turns, and all of the left-turn collisions involved westbound left turns and eastbound through vehicles. In the three-year period, this type of collision decreased from 11 in 2007, to 8 in 2008 and 5 in 2009. This may be due to the improved signage or signal phasing for the westbound left turns. The intersection of 12th Avenue/E Madison Street did not meet the threshold during the three year period; however, in 2008 and 2009 it exceeded the threshold with 11, and 10 collisions, respectively. The main collision type at this intersection involved left turns. All left turns at this intersection are permissive, meaning they must yield to oncoming traffic.

One pedestrian collision resulted in a fatality at the Broadway/Madison Street intersection. This fatality occurred in 2008.

Transit

King County Metro provides transit service to the site vicinity. The bus routes that pass within one-quarter mile of the site along with detailed information about the hours of service and headways (the time between consecutive bus arrivals) are presented in the Transportation Technical Report (**Appendix N**). Overall, these routes combine to provide over 1,100 bus trips each weekday. Routes in the site vicinity are on E Jefferson Street, Yesler Way, S Jackson Street, 12th Avenue S, and Boren Avenue S/Rainier Avenue S. Most of the bus routes near

Yesler Terrace provide all day and late night service, as well as frequent peak period service. Headways during the AM and PM peak periods range from 6 to 20 minutes, mid-day service is from 6 to 30 minutes, and evening service is 15 to 30 minutes.

King County Metro staff provided information related to the number of daily passenger boardings and alightings at stops in the near site vicinity. These are shown in the Transportation Technical Report (see **Appendix N**). The highest-volume bus stops are located north of the site along 9th Avenue and Jefferson Street and south of the site along S Jackson Street. Within Yesler Terrace, the highest-volume bus stop is on Yesler Way east of Broadway.

The Seattle Transit Plan identifies an "Urban Village Transit Network" (UVTN). The UVTN is described as a comprehensive network of two-way, all-day routes that connect activity centers throughout Seattle. The goal is for these routes to operate with headways of 15 minutes or better, 18 hours per day, 7 days per week, and meet minimum reliability and capacity thresholds. Originally, the *Seattle Transit Plan*, Appendix 5, identified Yesler Way or Jackson Street as a UVTN corridor depending on whether the streetcar extended east on Jackson Street to 23rd Avenue. The *Seattle Transit Plan* recognizes that the UVTN is a network in constant development. The SDOT website includes a map of Transit Priority Corridors that shows Yesler Way as a UVTN arterial. This means that Yesler Way is part of the City's plans to increase transit service levels. In addition, UVTN corridors are candidates for street improvements that would improve transit speed and reliability, as well as improve the transit environment. However, there are no current King County Metro plans for transit infrastructure improvements on Yesler Way or on any streets within the project study area.

In addition, King County Metro has planned service reductions for the fall due to a reduction in revenue. Routes affected within the study area include:

> Route 14: Reduce evening frequency after 9:00 PM to hourly on weekdays and Saturdays.

There is one major transportation infrastructure project proposed for the area: the First Hill Streetcar. This project, which is funded through Sound Transit's ST2 bond measure, is being planned, permitted, and constructed by the SDOT. Near Yesler Terrace, the route would be located on Yesler Way between 14th Avenue and Broadway, and then north on Broadway. A station is proposed on Yesler Way just east of Broadway. The platforms for this station are proposed to be in the center of the street. The streetcar and other vehicles would share one lane in each direction on Yesler Way through this section.

Sound Transit's University Link line will open in 2016 and could change how King County Metro buses serve the area. The First Hill Streetcar could also cause a change in service structure. King County Metro's process for restructuring service typically starts a year in advance of proposed changes. There would be extensive public outreach and a King County Council approval process for any service changes.

Non-Motorized Transportation

This section describes the facilities that serve pedestrian and bicycle travel near Yesler Terrace. It also describes planned or desired improvements in the area. Walkways and stairways within the site boundary were described in **Section 2.6.2** in **Chapter 2.**

Sidewalks exist along almost all streets in the site vicinity. Within one-quarter mile of the site, a sidewalk is only missing on the south side of Main Street west of 12th Avenue.

There are many bicycle facilities in the site vicinity, including separate trails, bicycle lanes, and lanes that are marked with "sharrows," indicating that motorists should share the lane with bicyclists. A "sharrow" is a shared-lane pavement marking that is placed in the roadway lane to highlight the shared space; however, unlike a bicycle lane it does not delineate a particular part of the roadway that a bicyclist should use. The bicycle facilities are shown in the Transportation Technical Report (**Appendix N**).

The project site is entirely within the Tier 1 High Priority Area for pedestrian improvements as identified in the *Seattle Pedestrian Master Plan* (City of Seattle 2009). Two roadways are identified for pedestrian improvements within the project site area; 9th Avenue south of Alder Street, and S Main Street west of 12th Avenue S. The *First Hill Neighborhood Plan* (City of Seattle 2007) recommended improving the pedestrian crossing at Boren Avenue and Yesler Way. This crossing is located on the school walk route between Yesler Terrace and Bailey Gazert Elementary School.

The City of Seattle adopted a Bicycle Master Plan that was approved in 2007 by the Seattle Bicycle Advisory Board. The plan lists bicycle needs that should be completed over the next 10 years for approximately 450 miles of marked or separated bicycle routes. The following improvements are listed within the Yesler Terrace vicinity:

Already completed:

> Yesler Way, I-5 to Broadway – Bicycle Climbing Lane. A bicycle lane was added to the eastbound (uphill) direction, and pavement markings for a shared roadway (sharrows) were added in the westbound (downhill) direction.
>
> Yesler Way, Broadway to 12th Avenue – Bicycle Lane

Not yet completed:

> 8th Avenue/Spruce Street – Shared Roadway
>
> 9th Avenue – Sharrows
>
> Boren Avenue, Yesler Way to Fir Street is identified in the Bicycle Master Plan as "Needs Further Study."

The future First Hill Streetcar project also proposes bicycle enhancements along the streetcar route. This could include a two-way "cycle track" along the east side of Broadway.

Freight Movement

Within the City of Seattle, all arterial streets are designated as truck streets in order to serve local truck traffic. In addition, the City's Comprehensive Plan identifies "Major Truck Streets" meant to serve local and non-local (through) truck traffic. Near Yesler Terrace (east of I-5), only S Dearborn Street west of Rainier Avenue S, and Rainier Avenue S south of S Dearborn Street, are classified as Major Truck Streets. (Seattle Department of Transportation 2003)

Parking

On-street and off-street parking at Yesler Terrace was surveyed to determine the existing parking supply and parking demand. The study area was based on the redevelopment sector boundaries for the EIS, shown in **Figure 2.4** in **Chapter 2**. In order to capture any Yesler Terrace overflow parking, both sides of the streets on the boundary lines were evaluated and parking along Yesler Way from the east boundary to 6th Avenue S was included in the study. The following sections describe the on-street and off-street parking supply as well as the current parking demand and utilization rates.

On-Street and Adjacent to Street Parking Supply

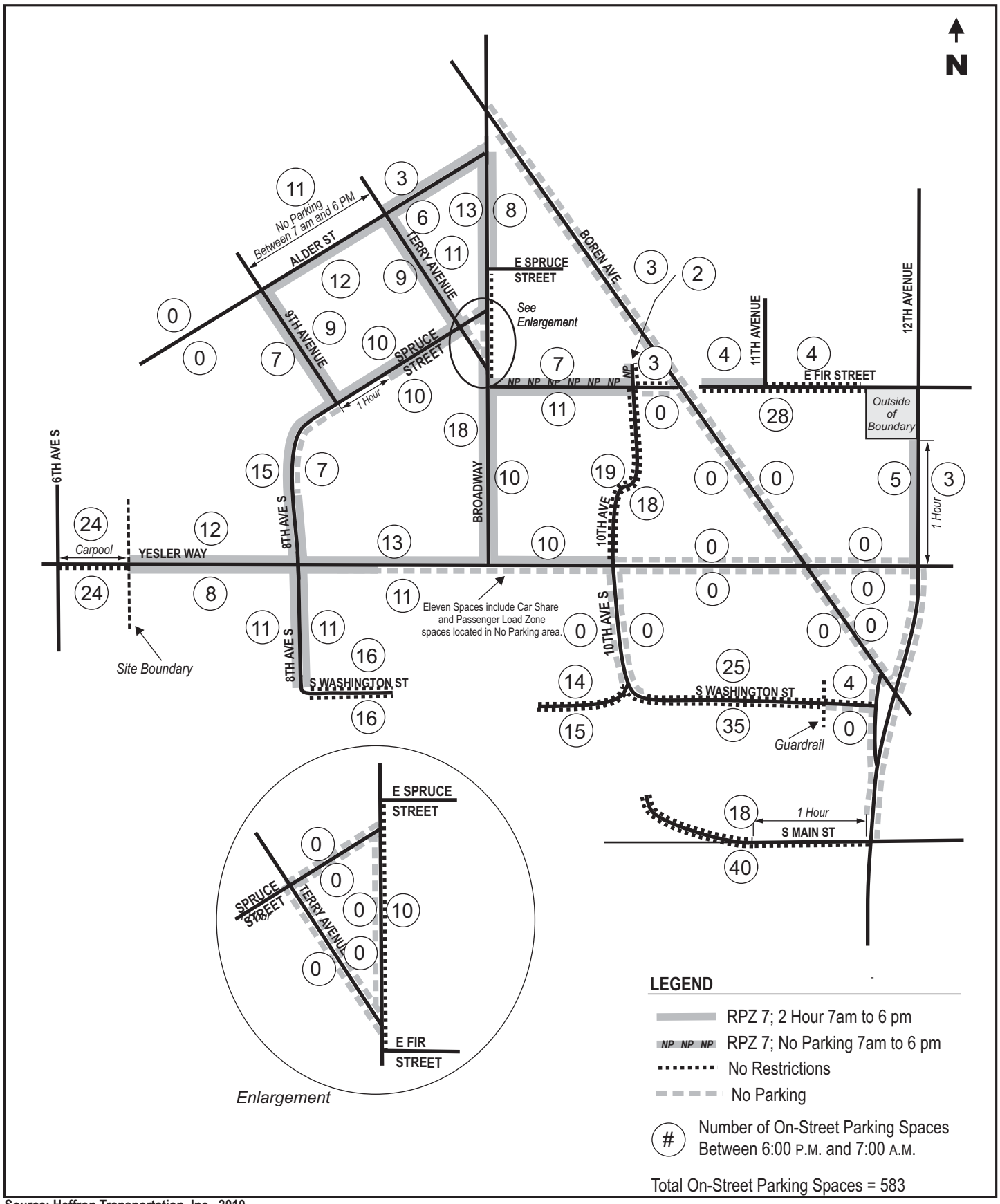
The on-street parking supply within the study area was determined for individual block faces. Along some of the streets, such as S Washington Street and S Main Street, the parking is actually located outside of the street's right-of-way, but a motorist would perceive it to be on-street parking because it is linear parking accessed from the travel way. A block face consists of one side of a street between two cross-streets. Each block face was measured and analyzed to determine the number of available on-street parking spaces. The on-street parking inventory is shown on **Figure 3.13-5**. This shows that there are a total of 583 parking spaces on or along streets within or immediately adjacent to Yesler Terrace, this includes 161 parking spaces located adjacent to S Washington Street and S Main Street that are actually on Yesler Terrace property. On-street parking restrictions reduce the parking supply by 8 spaces during workday hours (7:00 AM to 6:00 PM). A detailed table with parking by block face and by type of restriction is included in the Transportation Technical Report in **Appendix N**.

Off-Street Parking Supply

There are seven off-street parking areas at Yesler Terrace that have a total of 131 parking spaces. Almost half of these spaces (65) are reserved for special uses, including various staff classifications, patrons of the neighborhood health care center, the community center van, and vehicles with disabled permits.

Parking Demand and Utilization

Parking demand was surveyed within the study area on May 11, 2010 prior to 5:30 AM. This time period represents the peak residential parking demand prior to people leaving for work, and thus, reflects the existing peak parking demand associated with the area's residents. In addition, a demand count was performed on April 22, 2010 between the hours of 10:00 AM and 4:00 PM. This time period allows for a count that includes employees working in the area as well as visitors to the various neighborhood services such as the community center. The on-street parking utilization rate was calculated as the average number of on-street parked vehicles divided by the number of legal on-street parking spaces within the study area. The on-street and off-street parking demand is summarized in **Table 3.13-2**.



Source: Heffron Transportation, Inc., 2010

Figure 3.13-5
On-Street Parking Supply
Existing

Yesler Terrace
Redevelopment EIS

Table 3.13-2
EXISTING PARKING DEMAND WITHIN OR ADJACENT TO YESLER TERRACE

Parking Location	Parking Supply	Residential Peak Demand (before 5:30 AM) [1]		Daytime Demand (10:00 AM to 4:00 PM) [2]	
		Total Vehicles Parked	% Utilization	Total Vehicles Parked	% Utilization
On-Street Parking	422/ 414 [3]	331	78%	377	91%
Adjacent to Street Parking[4]	161	100	62%	89	55%
Off Street Parking					
North of Yesler Way	71	34	48%	62	87%
South of Yesler Way	60	7	12%	21	35%
Total Off-Street	131	41	31%	83	63%

Source: Heffron Transportation, Inc. 2010.

[1] Early morning counts were performed between 4:30 and 5:30 AM on May 11, 2010.
[2] Daytime counts were performed between 10:00 AM and 4:00 PM on April 22, 2010.
[3] The available supply changes by time of day. During daytime hours, there are 414 spaces available when parking restrictions are in effect; between 6:00 PM and 8:00 AM, 422 spaces are available.
[4] This is linear parking located along the edge of S Washington and Main Streets, but is outside of the street right of way.

The parking analysis shows that the on-street parking supply is 78 percent utilized in the early morning hours when residential parking demand is typically highest, and 91 percent utilized during daytime hours. Parking adjacent to S Washington Street and S Main Street has a lower utilization at 62% in the early morning and 55% midday. Off-street parking is 31 percent occupied at night and double that amount, 63 percent, during daytime hours. The increase in demand during daytime hours reflects increased demand associated with area employees and neighborhood services such as the community center.

3.13.2 Impacts

This section describes the conditions that would exist with each of the EIS alternatives at build out in the year 2030. It includes detailed trip generation estimates for each alternative with assumptions for various modes of travel, and assesses how increased vehicular traffic, transit ridership and pedestrian traffic would affect the transportation system. All impact analysis was performed for year 2030 conditions.

Roadway System

On-Site Roadway Network Plan

The Yesler Terrace Redevelopment is intended to support all alternative modes of transportation, and the project would include treatments that enhance pedestrian and bicycle modes of travel. The project alternatives would develop amenities such as wider sidewalks, bike lanes, bike parking areas, streetscape improvements, curb bulbs, covered sidewalks, and pocket parks. Two of the build alternatives—Alternatives 2 and 3—would include substantial changes to the existing street system at Yesler Terrace. These two alternatives would vacate and rededicate several streets. **Section 2.7.2** in **Chapter 2** lists the street network changes proposed under each alternative.

Future Travel Demand

The trip generation methodology applied to this project has been established for new urban mixed use development projects. It adjusts typical suburban Institute of Transportation Engineers (ITE) trip generation rates to account for Seattle's urban characteristics and variety of modal choices. This methodology accounts for each site's local characteristics related to transit use, carpooling, walking, and bicycling. For mixed use projects, it also accounts for trips that occur between uses on a site. The analysis methodology produces estimates of daily and peak hour vehicle trips, transit trips, and non-motorized trips that are necessary for transportation impact analyses.

Trip Generation

Trip generation for new projects is typically determined using rates and equations in *Trip Generation*. (Institute of Transportation Engineers 2008) Based on ITE guidelines presented in that document, the ITE trip generation rates must be adjusted to account for Yesler Terrace's location, availability of transit, the mix of uses, as well as Seattle Housing Authority's commitment to reduce trips with transportation demand management (TDM) strategies and programs. Potential TDM strategies, which seek to improve traffic operations through reduction in traffic demand rather than by increase in road capacity, are defined later in the Mitigation section. The following briefly defines the methodology used to adjust the trip generation rates to account for internal trips among uses at the site, transit and non-motorized modes of travel, and TDM programs that would be incorporated into the project.

1. The total number of "person trips" generated by each major land use (residential, office, and retail) was determined using trip generation rates and equations from ITE's Trip Generation plus information about the average number of persons per vehicle (known as an "average vehicle occupancy" [AVO] rate). These person trips reflect all trips generated by a land use component by all modes of travel including transit, bike, and foot. It also reflects the trips made between on-site uses.

2. Internal trips between on-site uses were estimated using the methodology in Chapter 7 of the *Trip Generation Handbook.* (Institute of Transportation Engineers 2004) An office worker who makes a lunchtime trip to a local restaurant or shop or an on-site resident who makes a trip to a job on the site are examples of internal trips. Because all parking on the site would be managed in some manner (e.g., keycard access, paid parking, and other restrictions), it is expected that all internal trips would occur by foot or another non-auto mode. It is possible that some driving trips between uses could occur, particularly on weekends or at night when parking restrictions are not in effect. However, those trips would not affect the AM or PM peak hour volumes used for the traffic operations analysis.

3. The mode of travel used for off-site trips was determined based on historic information about transit and walking modes of travel on First Hill for the residential uses, and near the Downtown core for the office uses. The retail rates used were based on the assumption that most of the retail facilities will be used by the local community.

Each of these steps and key assumptions are described in detail in the Transportation Technical Report in **Appendix N**. It should be noted that a hotel use could develop on the site. However, to reflect the worst-case condition, the space for a potential hotel was assumed to be an office use. On a square footage basis, offices generate more peak hour trips than a hotel.

Table 3.13-3 presents the total and net increase in vehicular trips that are projected for the site.

Table 3.13-3
VEHICLE TRIP GENERATION SUMMARY

Alternative	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Total of All Trips to Site							
No Action Alternative	1,600	45	85	130	80	70	150
Alternative 1 - Lower Density	10,490	405	445	850	415	485	900
Alternative 1a - Less Office	9,070	285	435	720	390	370	760
Alternative 2 - Medium Density	13,750	500	590	1,090	540	630	1,170
Alternative 3 - Higher Density	16,990	590	740	1,330	675	755	1,430
Alternative 4 - Existing L3 Zoning	4,020	80	220	300	190	150	340
Net Increase from No Action Alternative							
Alternative 1 - Lower Density	8,890	360	360	720	335	415	750
Alternative 1a – Less Office	7,470	240	350	590	310	300	610
Alternative 2 - Medium Density	12,150	455	505	960	460	560	1,020
Alternative 3 - Higher Density	15,390	545	655	1,200	595	685	1,280
Alternative 4 – Existing L3 Zoning	2,420	35	135	170	110	80	190

Source: Heffron Transportation, Inc., April 2010.
Note: Trip generation values reflect the build out condition for each alternative.

Table 3.13-4 summarizes the total transit trips that the site would generate for each alternative. This reflects all transit trips (not the net increase from No Action). The two EIS alternatives with the highest proposed density are projected to generate a substantial number of transit trips, ranging from about 10,800 to 13,000 each day. These trips may occur on transit bus routes, Sound Transit's Link light rail system, or the future First Hill Streetcar line. During the peak commute hours, transit ridership for the two highest density alternatives could range from about 1,000 to 1,230 trips per hour, which reflects a net increase from the No Action Alternative of about 900 to 1,100 trips per hour.

Table 3.13-4
TRANSIT TRIP SUMMARY – TOTAL TRANSIT TRIPS

Alternative	Daily Trips	AM Peak Hour	PM Peak Hour
No Action Alternative	1,100	100	130
Alternative 1 - Lower Density	8,490	820	820
Alternative 1a - Lower Density with Less Office	5,910	570	560
Alternative 2 - Medium Density	10,750	1,000	1,025
Alternative 3 - Higher Density	13,000	1,175	1,230
Alternative 4 - Existing L3 Zoning	2,050	165	200

Source: Heffron Transportation, April 2010.
Note: Trip generation values reflect the build out condition for each alternative.

Table 3.13-5 summarizes the pedestrian and bicycle trips anticipated at the site each day for each alternative. These pedestrian trips comprise not only non-motorized trips to off-site locations, but also the internal pedestrian movements among on-site uses and between the site and transit facilities located in the vicinity. Bicycle trips were derived based on existing and future mode-of-travel data shown in **Table 3.13-5**. For existing conditions, bicycle trips comprise 2 percent of the off-site non-motorized trips; in the future, bike trips are estimated to increase to 10 percent of all off-site non-motorized trips.

Table 3.13-5
PEDESTRIAN AND BICYCLE TRIP SUMMARY

Alternative	Daily Bicycle Trips [1]	Pedestrian Trips Per Day			
		Between On-Site Locations [2]	To/From Transit Service [3]	To/From Off-Site Locations [4]	Total Pedestrian Trips
No Action Alternative	30	390	1,100	1,270	2,760
Alternative 1 - Lower Density	620	1,220	8,490	5,610	15,320
Alternative 1a - Less Office	580	1,120	5,910	5,180	12,210
Alternative 2 - Medium Density	820	1,540	10,750	7,420	19,710
Alternative 3 - Higher Density	1,060	1,980	13,000	9,530	24,510
Alternative 4 - Existing L3 Zoning	270	550	2,050	2,400	5,000

Source: Heffron Transportation, April 2010.
Note: Trip generation values reflect the build out condition for each alternative.
[1] Estimated from mode of travel data. Existing bike trips reflect 2% of all off-site non-motorized trips; this is estimated to increase to 10% in the future.
[2] Reflects the internal trips estimated for the project, which are all expected to walk between uses during peak hours.
[3] Reflects the transit trips. Patrons are assumed to walk to bus stops.
[4] Off-site pedestrian trips.

The vehicle trips listed in **Table 3.13-3** were distributed into the five sectors of the Yesler Terrace site based on the land uses proposed in each sector. This information was used in the detailed analysis to evaluate the site access and to size internal roadways, as well as to determine the incremental impacts of the sector east of Boren. The sectors used for this analysis were previously described in **Section 2.6.2** in **Chapter 2** of this Draft EIS. The AM and PM peak hour trips by sector are listed in **Table 3.13-6**.

Table 3.13-6
TOTAL VEHICLE TRIPS BY SECTOR

	Northwest Sector		Northeast Sector		Southeast Sector		Southwest Sector		East of Boren		Total	
	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
AM Peak Hour												
No Action	23	36	4	12	4	16	12	17	2	6	45	87
Alternative 1	313	142	24	80	30	106	26	84	10	35	404	447
Alternative 1a	193	127	24	81	30	106	26	84	10	35	284	433
Alternative 2	379	191	25	83	45	154	40	131	10	34	499	593
Alternative 3	377	233	35	117	53	186	111	164	12	42	588	743
Alternative 4	31	65	9	23	12	43	16	43	12	41	80	215
PM Peak Hour												
No Action	35	43	11	7	14	8	14	11	5	3	79	72
Alternative 1	147	321	71	45	91	56	73	46	31	19	414	487
Alternative 1a	123	200	71	45	92	56	73	47	31	20	391	367
Alternative 2	192	402	73	47	133	84	113	72	31	20	541	625
Alternative 3	226	421	103	65	161	99	147	148	38	24	675	756
Alternative 4	60	61	20	14	37	24	37	25	37	25	191	148

Source: Heffron Transportation, April 2010.

Note: Trips by sector represent the total trips, and not the net change compared to No Action. These trips reflect the condition at build out of each alternative.

Trip Distribution Patterns

Trip distribution patterns were developed for two types of trips—the office/commercial trips and residential trips—using data from the City of Seattle's Concurrency Director's Rule 5-2009. This database provides vehicle trip patterns for various types of land uses for each transportation analysis zone (TAZ) in the City. The data were compiled to determine inbound and outbound patterns during the PM peak hour, which are summarized in **Table 3.13-7**. The trip pattern for AM peak hour trips would reverse the inbound and outbound patterns. The PM peak hour trip distribution patterns are shown on Figure 15 for commercial trips, and on Figure 16 for residential trips in the Transportation Technical Report in **Appendix N**.

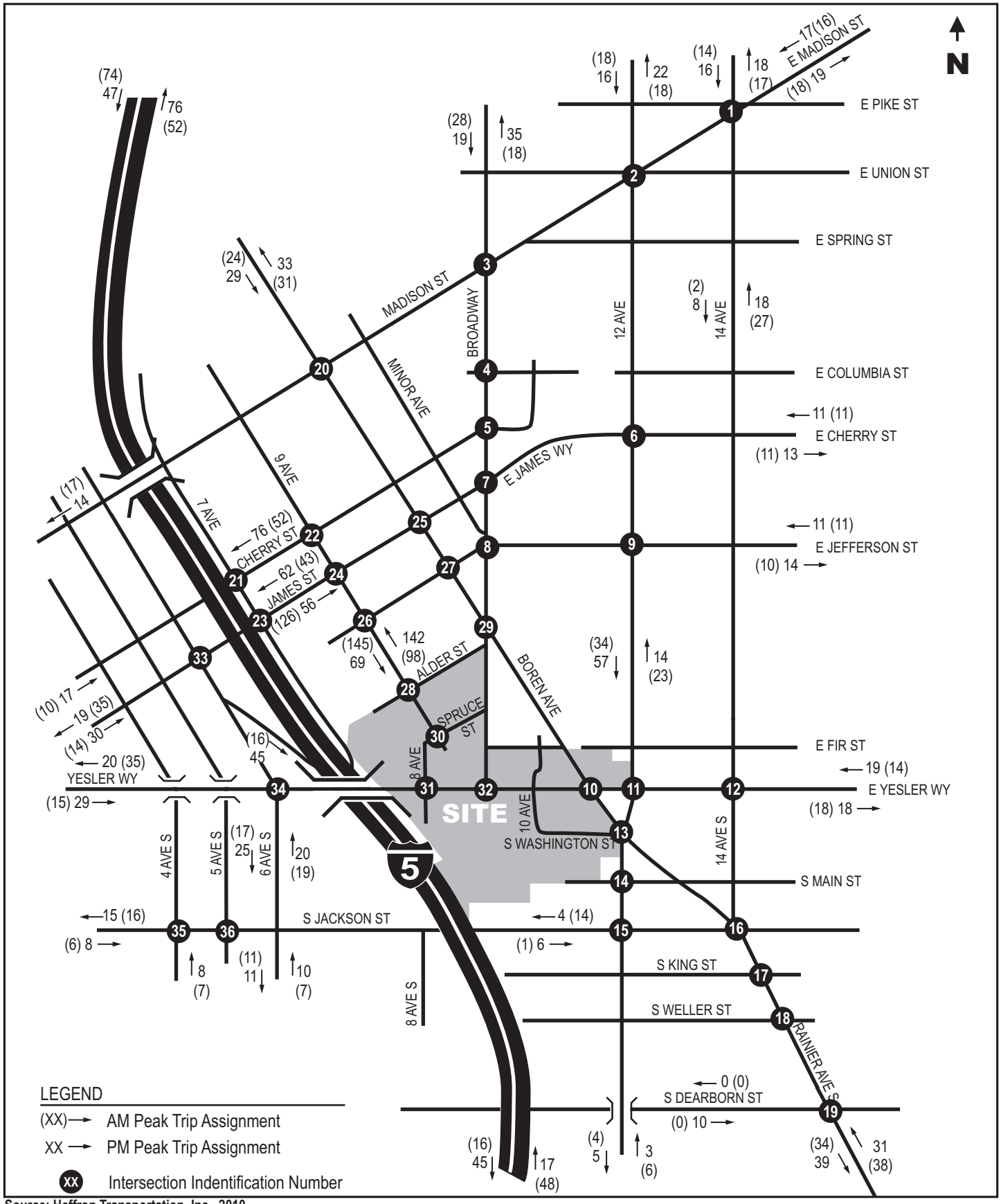
Table 3.13-7
TRIP DISTRIBUTION PATTERNS FOR YESLER TERRACE – PM PEAK HOUR

	Office/Commercial Trips		Residential Trips	
Origin/Destination or Route	**Inbound**	**Outbound**	**Inbound**	**Outbound**
I-5 North of Seattle	4%	7%	1%	0%
I-5 South of Seattle	12%	18%	4%	2%
I-90 East of Seattle	6%	8%	5%	2%
SR 520	2%	3%	2%	1%
Kitsap County	1%	1%	0%	0%
Northwest Seattle	2%	4%	3%	2%
North Seattle	4%	7%	4%	3%
North-Central Seattle	6%	7%	7%	7%
West Seattle, South Seattle	3%	4%	2%	0%
First Hill, Capitol Hill	42%	30%	34%	45%
Rainier Valley, Beacon Hill	6%	5%	5%	6%
SODO/Duwamish	2%	1%	3%	3%
North Downtown/Queen Anne	3%	2%	5%	5%
Central Business District (CBD)	7%	3%	25%	24%
Total Trips	**100%**	**100%**	**100%**	**100%**

Source: Heffron Transportation, Inc. May 2010. Based on Seattle Concurrency Director's Rule 5-2009.
Note: The AM peak hour distribution pattern would be reverse for inbound and outbound trips.

Trip Assignments

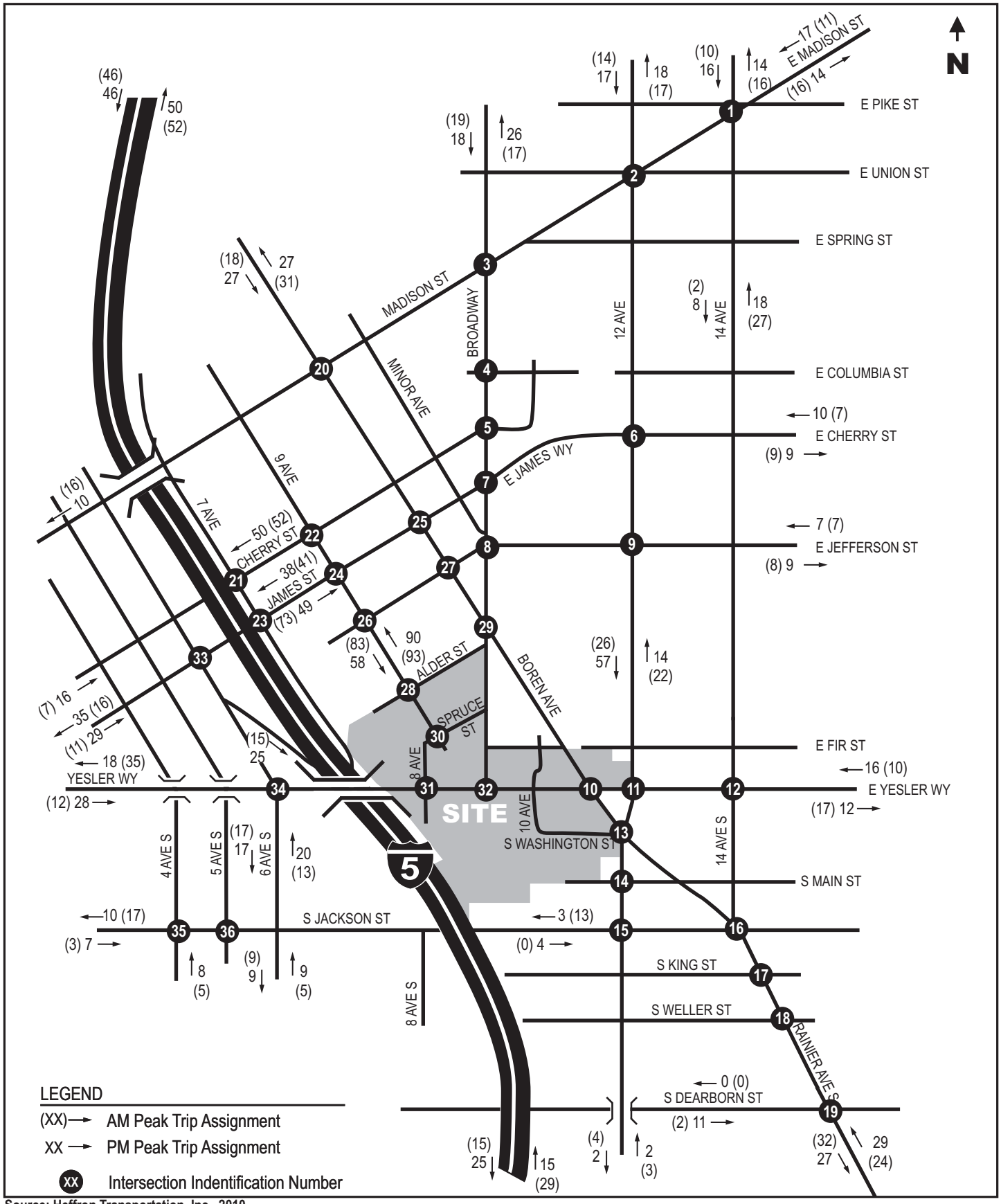
Trips generated by each EIS alternative were assigned to the roadway network based on the trip distribution patterns for each land use. The site access locations for various trip types were based on the trip generation by sector, which relates to where the land uses would access the arterial network. The net increase in trips (compared to the No Action Alternative) for Alternatives 1 through 4 are shown on **Figure 3.13-6** through **Figure 3.13-10**.



Source: Heffron Transportation, Inc., 2010

Figure 3.13-6
Net Increase in Site Trips
for Alternative 1

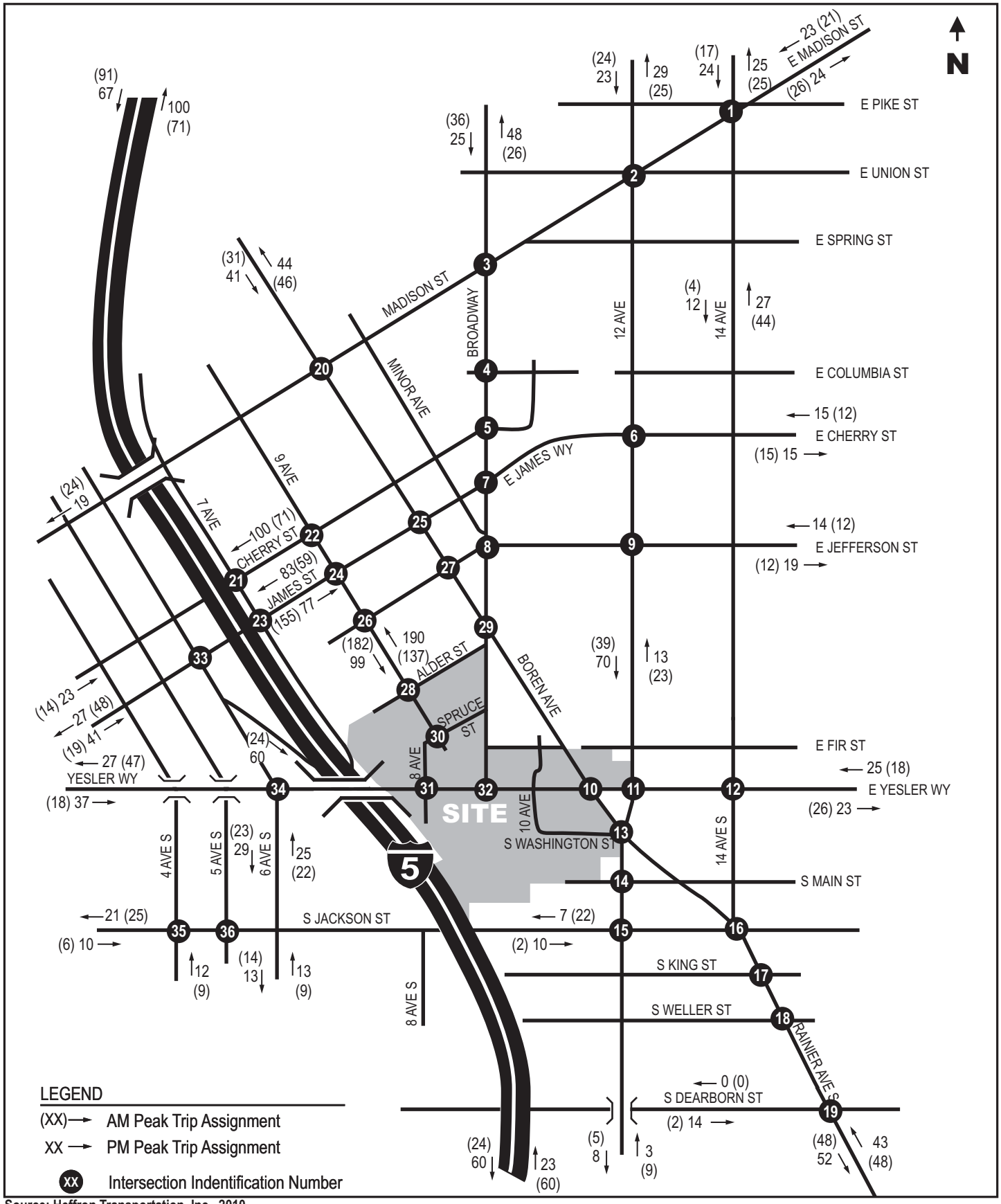
Yesler Terrace
Redevelopment EIS



Source: Heffron Transportation, Inc., 2010

Figure 3.13-7
Net Increase in Site Trips
for Alternative 1a

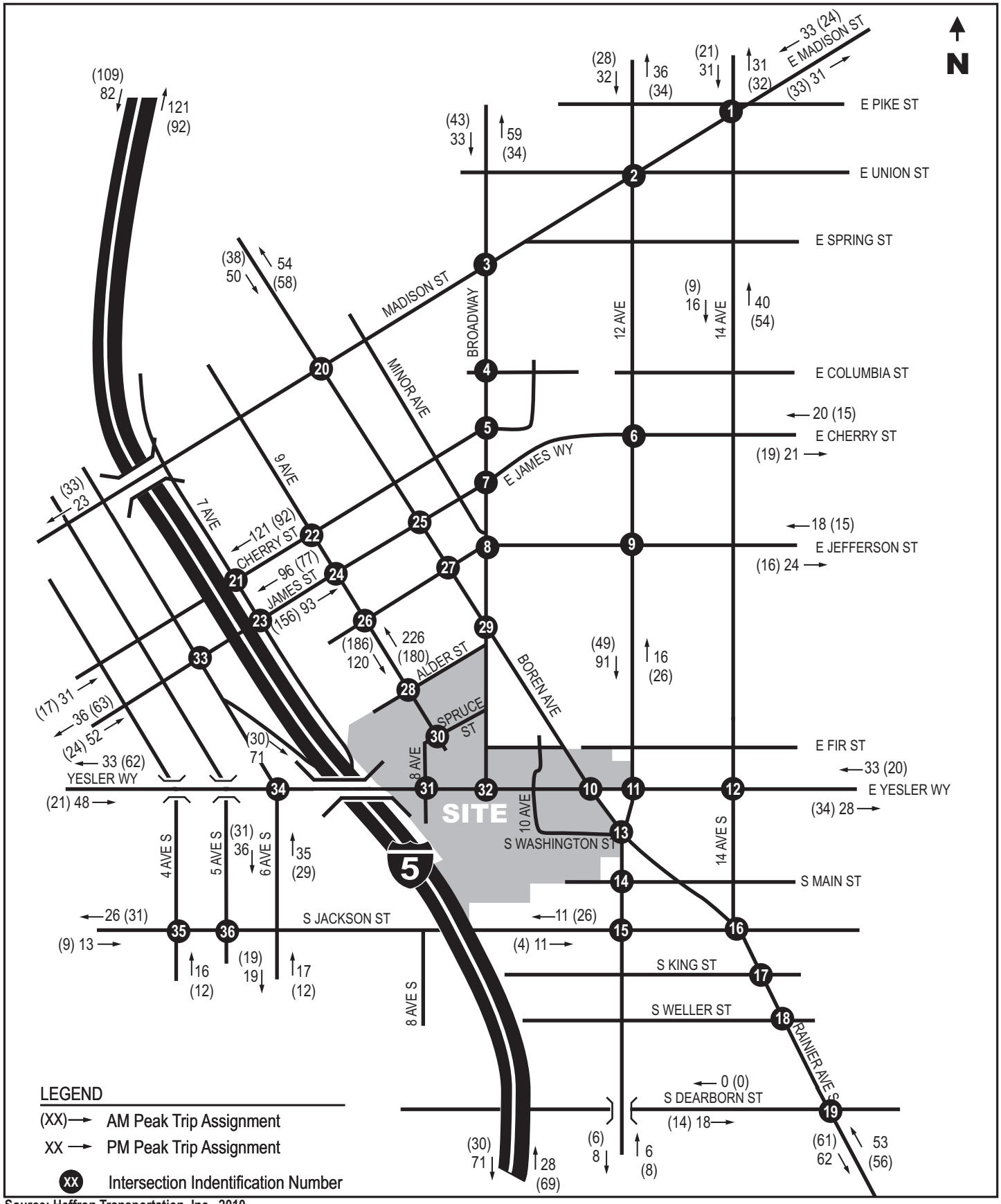
Yesler Terrace
Redevelopment EIS



Source: Heffron Transportation, Inc., 2010

Figure 3.13-8
Net Increase in Site Trips
for Alternative 2

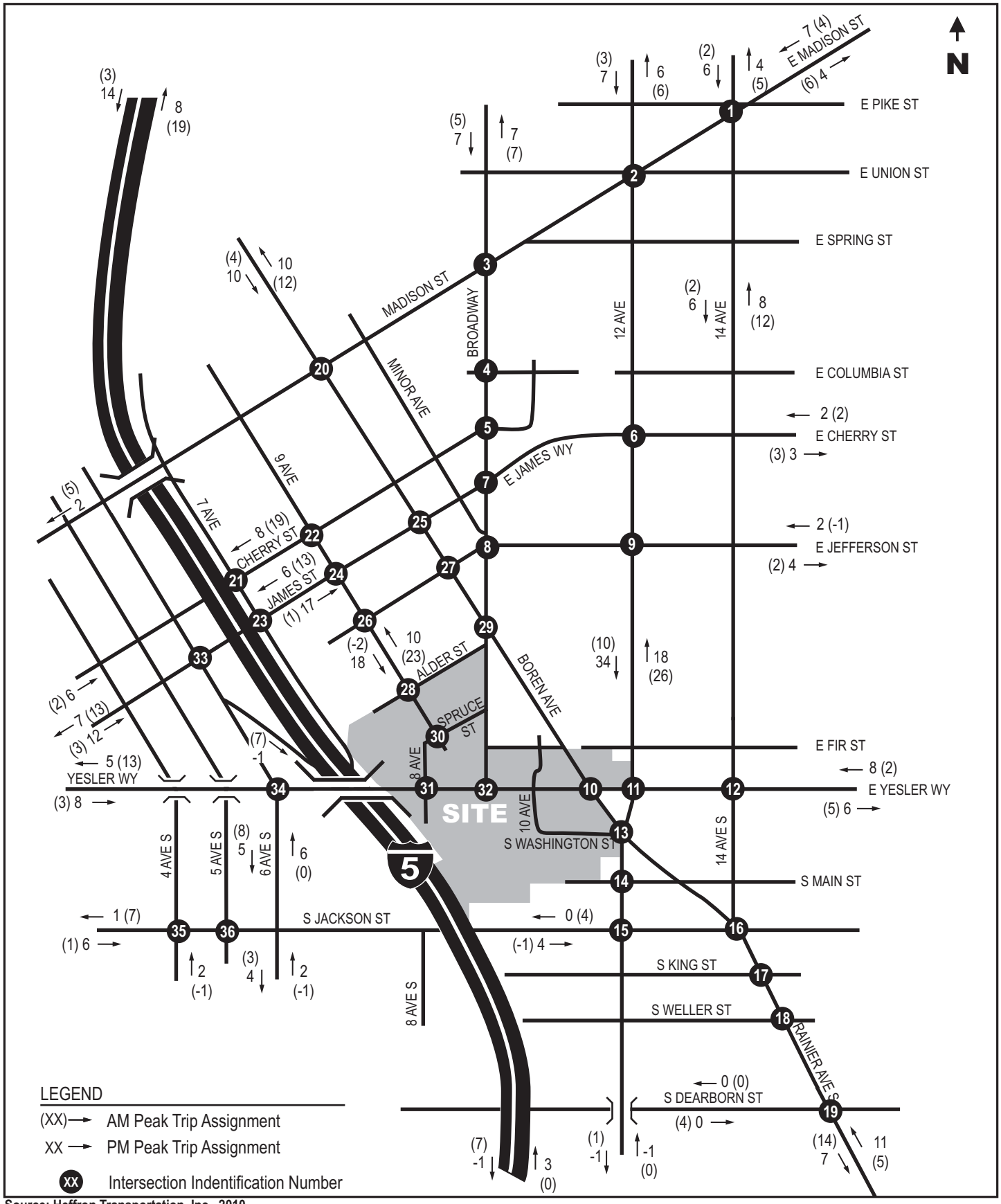
Yesler Terrace
Redevelopment EIS



Source: Heffron Transportation, Inc., 2010

Figure 3.13-9
Net Increase in Site Trips
for Alternative 3

Yesler Terrace
Redevelopment EIS



Source: Heffron Transportation, Inc., 2010

Figure 3.13-10
Net Increase in Site Trips
for Alternative 4

Yesler Terrace
Redevelopment EIS

Level of Service

Vehicle trips generated by each of the EIS alternatives were added to the year 2030 No Action traffic volumes. These with-project volumes were then entered into the Synchro 7.0 traffic operations models to determine the year 2030 study-area intersection levels of service with each alternative added. The analyses for all alternatives assume that the First Hill Streetcar would be complete and operating. **Table 3.13-8** summarizes the AM peak hour level of service results, and **Table 3.13-9** summarizes the PM peak hour results.

The City of Seattle does not have formally adopted intersection level of service standards; however, project-related intersection delay that causes an intersection to operate at LOS E or F, or increases delay at an intersection that is projected to operate at LOS E or F without the project, may be considered a significant adverse impact. Many of the intersections to which the Yesler Terrace project would add project trips would already operate at LOS F in the year 2030 without the project. The additional project traffic would exacerbate congestion at these locations. The intersections that would operate at LOS F without or with the project include:

12th Avenue S/E Cherry Street

Rainier Avenue S / S Dearborn Street

7th Avenue / Cherry Street

6th Avenue / James Street

9th Avenue / Cherry Street

6th Avenue / Yesler Way

Yesler Terrace traffic would degrade several other intersections to LOS F. These include:

Broadway/E James Street (Alternatives 2 and 3)

9th Avenue/Jefferson Street (Alternative 3 only)

9th Avenue/Alder Street (Alternatives 1, 1a, 2 and 3)

8th Avenue/Yesler Way (Alternatives 1, 2 and 3)

Table 3.13-8
LEVEL OF SERVICE SUMMARY– YEAR 2030 AM PEAK HOUR

Int. #	Intersection Name	Alt 1		Alt 1a		Alt 2		Alt 3		Alt 4	
		LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Signalized Intersections											
1	14th Avenue / E Madison Street	B	14.5	B	14.4	B	16.0	B	17.5	B	13.2
2	12th Avenue / Madison Street	B	17.9	B	17.8	B	18.1	B	18.3	B	17.9
3	Broadway / E Madison Street	C	34.7	C	34.1	D	35.4	D	36.1	C	33.1
4	Broadway / E Columbia Street	A	5.9	A	5.8	A	6.0	A	6.1	A	5.6
5	Broadway / E Cherry Street	A	8.0	A	8.0	A	8.3	A	8.9	A	7.4
6	12th Avenue / E Cherry Street	D	43.8	D	43.7	D	43.8	D	43.8	D	42.8
7	Broadway / E James Street	D	50.3	D	49.2	D	53.9	E	60.4	D	44.8
8	Broadway / E Jefferson Street	C	22.1	C	22.3	C	22.3	C	22.7	C	22.5
9	12th Avenue / E Jefferson Street	C	20.7	C	20.2	C	20.8	C	21.1	B	19.4
10	Boren Ave S / E Yesler Way	C	30.7	C	28.7	C	33.5	D	38.5	C	24.2
11	12th Avenue / E Yesler Way	D	51.1	D	49.0	E	58.8	E	68.5	D	40.5
12	14th Avenue / E Yesler Way	C	21.2	C	21.1	C	22.1	C	22.9	C	20.7
13	12th Avenue S / Boren Avenue S	C	29.0	C	28.7	C	29.3	C	29.3	C	28.4
15	12th Avenue S / S Jackson Street	D	47.5	D	47.4	D	49.8	E	55.2	D	45.8
16	14th Ave S/Rainier Ave S/S Jackson St	D	49.6	D	48.8	D	50.0	D	50.7	D	47.9
18	Rainier Avenue S/ S Weller Street	A	1.2	A	1.1	A	1.2	A	1.3	A	1.1
19	Rainier Avenue S / S Dearborn Street	F	101.2	F	102.2	F	103.1	F	117.7	F	100.1
20	Boren Avenue / Madison Street	D	44.3	D	44.3	D	46.4	D	48.2	D	42.3
21	7th Avenue / Cherry Street	B	18.0	B	17.8	B	18.4	B	18.9	B	17.3
23	7th Avenue / James Street	C	33.4	C	31.5	C	34.8	D	35.1	C	29.1
24	9th Avenue / James Street	C	32.1	C	30.8	D	36.1	D	40.7	C	25.2
25	Boren Avenue / James Street	D	53.3	D	53.9	E	55.7	E	57.4	D	52.1
27	Boren Avenue / Jefferson Street	B	12.2	B	12.2	B	12.2	B	12.3	B	12.2
29	Broadway / Boren Avenue	C	29.0	C	29.0	C	32.1	C	34.0	C	26.1
32	Broadway / Yesler Way	B	13.2	B	13.1	B	14.0	B	14.3	B	12.5

Int. #	Intersection Name	Alt 1		Alt 1a		Alt 2		Alt 3		Alt 4	
		LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]
33	6th Avenue / James Street	D	54.5	D	47.3	D	45.7	E	70.2	D	41.4
35	4th Avenue S / S Jackson Street	C	22.6	C	22.6	C	22.6	C	22.7	C	22.5
36	5th Avenue S / S Jackson Street	B	19.5	B	19.5	B	19.6	B	19.6	B	19.4
Unsignalized Intersections [3]											
14	12th Avenue / S Main Street	C	17.6	C	17.6	C	17.9	C	19.0	C	17.0
17	Rainier Avenue S / S King Street	B	11.9	B	11.9	B	11.9	B	11.9	B	11.8
22	9th Avenue / Cherry Street	E	43.0	E	42.3	F	54.7	F	75.1	D	30.5
26	9th Avenue / Jefferson Street[5]	C	19.1	C	16.3	C	24.9	D	32.2	B	12.2
28	9th Avenue / Alder Street	F	84.9	F	57.5	F	133.1	F	172.7	D	29.7
30	9th Avenue / Spruce Street[5]	A	8.7	A	8.7	A	8.7	A	9.2	A	8.7
31	8th Avenue (9th Avenue)/ Yesler Way [4]	F	93.7	F	64.8	F	127.6	F	>500	D	33.5
34	6th Avenue / Yesler Way [5]	F	122.8	F	120.3	F	134.2	F	145.8	F	103.5

Source: Heffron Transportation Inc. 2010.

[1] Level of service. All analyses were performed using the Synchro 7.0 software.
[2] Average seconds of delay per vehicle. Delays reported are from the Synchro methodology.
[3] Delay reported for worst movement at the intersection, which is generally the left turn from a stop sign.
[4] For Alternatives 2 and 3, 8th Avenue would be vacated and replaced with a parallel street at 9th Avenue. Functionally, the intersection would serve the same traffic.
[5] All-way stop controlled intersection. Delay reported for total intersection delay.

Table 3.13-9
LEVEL OF SERVICE SUMMARY– YEAR 2030 PM PEAK HOUR

Int. #	Intersection Name	Alt 1		Alt 1a		Alt 2		Alt 3		Alt 4	
		LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]
Signalized Intersections											
1	14th Avenue / E Madison Street	E	64.0	C	30.9	C	33.8	D	38.3	C	27.1
2	12th Avenue / Madison Street	D	38.9	D	35.8	D	43.7	D	48.9	C	30.1
3	Broadway / E Madison Street	E	66.7	E	63.1	E	72.3	E	77.9	E	56.4
4	Broadway / E Columbia Street	C	20.8	C	20.4	C	21.5	C	22.1	B	19.5
5	Broadway / E Cherry Street	B	12.7	B	11.8	B	15.3	B	19.3	B	10.1
6	12th Avenue / E Cherry Street	F	94.3	F	95.3	F	95.9	F	99.9	F	93.9
7	Broadway / E James Street	E	77.5	E	69.2	F	87.3	F	96.8	E	55.6
8	Broadway / E Jefferson Street	C	20.5	B	19.3	C	24.8	C	28.7	B	19.0
9	12th Avenue / E Jefferson Street	C	29.6	C	29.2	C	30.0	C	30.8	C	28.7
10	Boren Ave S / E Yesler Way	D	38.0	D	36.2	D	41.9	D	50.3	C	34.5
11	12th Avenue / E Yesler Way	E	55.6	E	55.0	E	58.5	E	68.0	E	55.3
12	14th Avenue / E Yesler Way	C	24.3	C	24.3	C	24.6	C	25.3	C	25.9
13	12th Avenue S / Boren Avenue S	D	38.7	D	37.8	D	39.7	D	40.0	D	36.5
15	12th Avenue S / S Jackson Street	C	30.0	C	29.8	C	30.6	C	31.6	C	29.5
16	14th Ave S/Rainier Ave S/S Jackson St	D	35.1	D	35.1	D	35.5	D	35.9	C	34.6
18	Rainier Avenue S/ S Weller Street	A	4.5	A	4.4	A	4.6	A	4.7	A	4.2
19	Rainier Avenue S / S Dearborn Street	F	97.9	F	96.2	F	99.7	F	100.8	F	93.3
20	Boren Avenue / Madison Street	C	30.5	C	30.3	C	30.5	C	30.6	C	30.3
21	7th Avenue / Cherry Street	F	127.0	F	112.7	F	140.0	F	152.0	F	93.2
23	7th Avenue / James Street	C	25.1	C	24.1	C	26.4	C	27.4	C	22.7
24	9th Avenue / James Street	D	43.0	D	39.8	D	46.9	D	50.4	D	35.5
25	Boren Avenue / James Street	D	44.8	D	44.9	D	45.3	D	45.5	D	44.2
27	Boren Avenue / Jefferson Street	B	14.3	B	14.4	B	14.1	B	14.0	B	14.5
29	Broadway / Boren Avenue	E	63.1	E	55.9	D	43.7	E	73.4	D	40.3
32	Broadway / Yesler Way	C	21.4	C	21.1	C	21.6	C	24.5	C	20.2

Int. #	Intersection Name	Alt 1		Alt 1a		Alt 2		Alt 3		Alt 4	
		LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]
33	6th Avenue / James Street	F	149.0	F	148.0	F	154.3	F	160.7	F	140.0
35	4th Avenue S / S Jackson Street	D	35.5	D	35.4	D	36.2	D	37.0	C	34.6
36	5th Avenue S / S Jackson Street	B	17.5	B	17.4	B	17.6	B	17.7	B	17.3
Unsignalized Intersections [3]											
14	12th Avenue / S Main Street	C	24.2	C	24.2	D	25.1	D	25.9	C	23.6
17	Rainier Avenue S / S King Street	D	33.1	D	32.9	D	33.8	D	34.4	D	32.0
22	9th Avenue / Cherry Street	F	>360	F	>250	F	>500	F	>800	F	>250
26	9th Avenue / Jefferson Street[5]	D	29.0	C	20.6	E	44.9	F	56.5	B	14.9
28	9th Avenue / Alder Street	F	72.9	F	50.9	F	114.1	F	164.4	D	29.8
30	9th Avenue / Spruce Street[5]	A	8.9	A	8.8	A	9.1	A	9.5	A	8.5
31	8th Avenue (9th Avenue)/ Yesler Way[4]	F	62.0	D	29.2	F	106.2	F	>250	C	18.5
34	6th Avenue / Yesler Way [5]	F	101.0	F	100.2	F	104.2	F	121.6	F	82.2

Source: Heffron Transportation Inc. 2010.

[1] Level of service. All analyses were performed using the Synchro 7.0 software.
[2] Average seconds of delay per vehicle. Delays reported are from the Synchro methodology.
[3] Delay reported for worst movement at the intersection, which is generally the left turn from a stop sign.
[4] For Alternatives 2 and 3, 8th Avenue would be vacated and replaced with a parallel street at 9th Avenue. Functionally, the intersection would serve the same traffic. [5] All-way stop controlled intersection. Delay reported for total intersection delay.

Street Vacations and New Street Dedications

Section 2.7.2 in **Chapter 2** describes and illustrates the street vacations and street dedications proposed for the Yesler Terrace Redevelopment. Street vacations and new street dedications are proposed for Alternatives 2 and 3; no street vacations are proposed for Alternatives 1, 1A or 4.

The City of Seattle Street Vacation Policies (*Clerk File 310078*) are intended to guide City Council decisions regarding the vacation of public rights-of-way. Policy 1 is related to Circulation and Access. It states, "*Vacations may be approved only if they do not result in negative effects on both the current and future needs for the City's vehicular, bicycle, or pedestrian circulation systems or on access to private property, unless the negative effects can be mitigated."* Sub-elements of this policy are noted below with a discussion of how the proposed street vacation would meet the policy's intent.

A. Streets designated as arterials may be vacated only when an alternative circulation route is substituted and long-term public benefit would result from the vacation. Alternatives 2 and 3 propose to vacate 9th Avenue between Yesler Way and 9th Avenue. This section is currently designated as a "Minor Arterial." The street would be replaced by a newly

dedicated 9th Avenue parallel to the existing 8th Avenue alignment. The new street will be designed to a Minor Arterial standard. The new alignment would eliminate the existing bend in the arterial street and allow for a more conventional traffic control where through-traffic is allowed to flow freely. In addition, King County Metro has expressed interest in realigning this arterial connection so that it could operate transit on it in the future. Thus, the vacation of the arterial section of 8th Avenue and rededication of 9th Avenue would meet this policy's intent by providing an improved alternative route.

B. Petitions for the vacation of streets designated as Access Streets may be approved only if: 1) access is retained to properties on the block where the right-of-way is located; 2) circulation to properties on neighboring street is retained, 3) the right-of-way does not provide a necessary link in the continuity of a route to arterials; and 4) public parking provided by the right-of-way is not needed, can be absorbed on nearby rights-of-way or can be replaced. Alternatives 2 and 3 propose to vacate several access streets. For most of these, a new street in a parallel alignment would be dedicated to replace the function of the street, but in a location that improves the street grid by aligning at intersections or providing better connectivity to adjacent parcels. Three street segments would not be replaced with nearby dedications: S Main Street, the stub of 9th Avenue south of Main Street, and Terry Avenue. S Main Street currently dead-ends into I-5. It and the stub of 9th Avenue provide no access purpose in the proposed redevelopment plan. Because of steep slopes, buildings in this area would be accessed from S Washington Street and/or 10th Avenue S. Terry Avenue between Alder Street and Broadway is also proposed for vacation. The street grid shifts at Broadway—to the west, avenues are oriented at an angle to true north and to the east, the avenues are oriented due north. Therefore, Terry Avenue currently intersects Broadway at an acute angle in close proximity to other intersections. Vacating this segment of Terry Avenue would improve the grid. A newly dedicated Fir Street and 9th Avenue north of Fir Street would provide a good alternative route to access Broadway. Parking along the streets to be vacated and not replaced will be accommodated by on-site parking within the redeveloped site.

C. Streets which contribute to the integrity and continuity of the public transit system will be considered for vacation by the City Council only after review and comment by relevant public transportation agencies.. None of the streets proposed for vacation is currently used by transit. However, as described above, the vacation of 8th Avenue north of Yesler and dedication of a parallel 9th Avenue would improve this arterial's alignment, which would enhance its ability to accommodate transit in the future.

Site Access and Internal Circulation

This section describes the site's access and internal circulation requirements. It includes a discussion of the on-site roadways, including the proposed lane configuration and traffic control needs for each alternative.

As previously described in **Section 2.7.2** in **Chapter 2,** Alternatives 2 and 3 would reconstruct many of the site's internal roadways. Design of these roadways is being closely coordinated with SDOT staff. Three arterials pass through the site: Yesler Way, Broadway, and 9th Avenue north of Yesler Way. Portions of Yesler Way and the entire length of Broadway through the Yesler Terrace site would be rebuilt under the separate City of Seattle project to accommodate the First Hill Streetcar Most of the work on the Streetcar is planned to occur between the existing curbs with sidewalk improvements at stations. There would also be a streetcar station on Yesler Way just east of Broadway that is currently proposed to have side platforms. The location of the tracks within the travelway may eliminate the two-way left turn lane on Yesler

Way east of Broadway. Preliminary cross-sections for Yesler Way east and west of Broadway are included in the Transportation Technical Report (**Appendix N**).

SHA is working with SDOT to determine the best configuration for driveways and intersections along Yesler Way between Broadway and Boren Avenue, particularly the Yesler/10th Avenue intersection. This street serves the existing Community Center on the south side of the street, and would serve the Northeast Sector of Yesler Terrace on the north side of the street. A pedestrian signal is proposed at the east end of the station, which would be approximately where 10th Avenue is located. There are several design treatments that could be implemented for 10th Avenue, which include:

> A two-way street and control vehicle movements at the 10th Avenue/Yesler Way intersection with a full traffic signal (instead of the pedestrian signal proposed for the Streetcar).
>
> Provide a one-way street on 10th Avenue north of Yesler Way.
>
> Provide a woonerf on 10th Avenue north of Yesler Way that connects to Fir Street but not to Yesler Way (A woonerf is a street where bikes and pedestrians have priority over cars and is used as a way to slow down traffic and enhance the streetscape.) A pedestrian connection with emergency vehicle-only access could be provided to Yesler Way.

A two-way 10th Avenue should be provided south of Yesler Way to serve the Community Center, and provide internal and emergency vehicle access to parcels in the Southeast Sector. However, the cross-section for this street could also vary to meet both the needs of the near-term Streetcar construction as well as long-term development needs. There are also large trees on the east side of this street that are desirable to save. Finally, since the Streetcar project would eliminate parking and passenger drop-off zones on Yesler Way, these functions should be relocated to the east side of the Community Center on 10th Avenue.

All arterial streets within Yesler Terrace would be designed to SDOT's arterial standards but with special edge treatments to enhance the pedestrian experience. One option that may be considered is to place the pedestrian zone on one or both sides of the street into an easement for public use so that the planting strip can be expanded to provide bioretention, larger trees, and streetscape amenities.

Non-arterial streets would be designed to residential street standards with a single lane that would serve two-way vehicle traffic. Some of the streets may be designed as "woonerfs" where pedestrian and vehicle uses intermingle on a very low speed street. Example roadway cross sections are shown in the Transportation Technical Report (see **Appendix N**).

The adequacy of each street's proposed vehicle cross section was determined by comparing build-out traffic volumes to roadway capacities for various lane configurations. In addition, intersection level of service analysis was performed to determine the traffic control needs, and to determine if auxiliary lanes or turn pockets would be needed at intersections and driveways. Additional analysis was performed to determine the adequacy of the sidewalk widths (see the Non-Motorized Impacts section below).

In order to test the preliminary street design concepts, the internal roadway network was assessed based on the trip generation estimated by sector (see **Table 3.13-6**) and roadway capacities that are presented in the Transportation Technical Report (see **Appendix N**).

Alternative 3 would generate the highest traffic volumes, and it was used to evaluate the proposed internal roadway network. Detailed level of service analysis was also performed for key internal intersections to determine if auxiliary lanes or turn pockets would be needed and to determine the most appropriate traffic control. Traffic volumes at key internal intersections were determined based on where on-site parking would be located.

The analysis determined that the following traffic control and intersection geometries would be needed for Alternatives 1 through 3; no changes would be needed for Alternative 4:

> Left turn lanes on Yesler Way at the 9th Avenue intersection (8th Avenue for Alternatives 1 and 1A) and eastbound at Broadway.
>
> New traffic signal at the intersection of Yesler Way/9th Avenue (8th Avenue for Alternatives 1 and 1A), with left turn pockets on all approaches. The pockets allow left turns to operate on their own traffic signal phase, separating the vehicle movements from pedestrian crossings.
>
> Four-way stop at the 9th Avenue/Alder Street intersection.

Traffic Safety

Based on statistical trends, higher traffic volumes tend to relate to a higher number of collisions. Thus, the increase in traffic associated with Yesler Terrace is likely to increase the probability for collisions in the study area.

There are a number of measures that can be implemented to reduce the potential for collisions including:

> Where practical, providing left-turn lanes where local roadways meet the arterial streets so that the left-turn vehicle traffic can operate on a separate signal phase than pedestrian crossings.
>
> Calming traffic on internal roadways using measures such as traffic circles, speed humps or cushions, chicanes, and curb-bulbs, which help reduce traffic speeds.
>
> Locating internal driveway access points where they minimize conflicts with pedestrians. Where conflicts cannot be avoided, providing adequate sight lines between motorists and pedestrians.

One of the off-site study area intersections—6th Avenue/James Street—exceeds City of Seattle criteria for a high-collision location. It has experienced an average of 15 collisions per year over the past three years and has a collision rate of about 1.1 collisions per million entering vehicles. The project would increase traffic volumes through the 6th Avenue/James Street intersection and could contribute proportionally to future collision experience. However, project traffic entering this intersection would represent 1.2 percent to 2.3 percent of total entering traffic during the AM peak hour and 0.9 percent to 2.2 percent of the total entering traffic during the PM peak hour depending on the development alternative. Therefore, project traffic is not expected to result in a significant impact to safety conditions.

Transit

The numbers of transit riders generated by each Yesler Terrace alternative were described in the Trip Generation section of this Draft EIS (see **Table 3.13-4**). A distribution for transit trips from Yesler Terrace to key destinations was developed using information in the Puget Sound Regional Council's (PSRC) year 2030 travel demand forecast model. The "trip production and attraction" matrix from this model provided the origins and destinations of transit trips. The resulting transit trip distribution percentages are summarized in the Transportation Technical Report (see **Appendix N**).

The trip distribution percentages were used to assign daily and peak hour trips to transit routes that serve the identified key origins or destinations (or to routes that provide a transfer opportunity to those areas). The bus routing for trips to and from each area was identified by using the King County Metro Trip Planner. For most trips, it was assumed that transit riders would walk a distance of less than ¼ mile. In cases where the trip could involve two or more transfers, the route selected was the one with the fewest transfers. Destinations in Capitol Hill, in South Downtown, and in West Seattle were assigned to Route 60. Destinations in the Rainier Valley/Beacon Hill/Seward Park area were assigned to Route 9, and destinations in East and South King County were assigned to the future Streetcar with a transfer to Commuter Rail or an express bus. It was also assumed that the Streetcar, with its stop conveniently located at Yesler Way and Broadway, would be used for transfers to Link light rail at the Capitol Hill Station or International District Station. Riders destined to Kitsap County were assumed to use Route 27 and walk about 1/3 mile to Colman Dock.

A bus transfer would be required to reach many locations. Route 27 provides the most direct transit connection for these transfers; however, that route does not have very frequent service, with headways ranging from 20 to 30 minutes at most times of the day, and a few headways of 15 minutes. Therefore, many riders may opt to walk to a bus that will provide direct service to their destination rather than wait for a bus and then transfer to another bus. Most of the destinations are served by routes that can be accessed via the Seattle Transit Tunnel or Third Avenue. These stops are located about ½ mile from the Yesler Terrace site, or about 10 to 15 minutes by walking. Other routes can be accessed from S Jackson Street, and there would be an improved pedestrian connection to this street included as part of the Yesler Terrace Redevelopment project. With the improved pedestrian route, King Street Station would also only require about a 10 to 15-minute walk from Yesler Terrace depending on whether the origin is north or south of Yesler Way. Route 3/4 stops near the 9th Avenue/Jefferson Street intersection about 0.3 miles north of Yesler Way, less than a 10-minute walk.

The probability that someone would choose to walk instead of wait for a bus is related to the walking distance, environment along the walking route, weather, grade, lighting, and the time that they may have to wait for a bus. The entrance to the downtown transit tunnel is just under a half mile from the Yesler Way/9th Avenue intersection. At a typical walking speed of 3 mph (20 minutes per mile), it would take about 10 minutes to walk to the transit tunnel or 3rd Avenue where a rider can connect to most bus routes. More time would be needed to walk up hill on the return to Yesler Terrace. The headways on Route 27, which provides service to the transit tunnel, range from 20 to 30 minutes, even during peak hours. If a rider chooses to wait for the bus, they would experience wait time for Route 27, and then wait time for the transfer. Studies have shown that people perceive a disadvantage to transferring beyond the added wait time. Based on these factors, it is estimated that 50 percent of the transit riders would opt to walk to the transit tunnel instead of waiting for the Route 27. Alternatively, a rider could walk the 0.25

mile north to 9th Avenue/Jefferson Street where the more frequent Route 3/4 operates. This route also connects to other routes in the downtown core.

The transit trip distribution pattern, route choice assumptions, and probability that someone may choose to walk to a distant bus stop or station instead of transferring between routes were used to estimate the number of transit trips on each route. The potential increase in daily and PM peak hour trips by route are summarized in **Table 3.13-10**. These values reflect the net increase in transit trips compared to the No Action condition.

Table 3.13-10
ESTIMATED TRANSIT TRIP ASSIGNMENT TO AND FROM YESLER TERRACE REDEVELOPMENT

	Alternative 1		Alternative 1a		Alternative 2		Alternative 3		Alternative 4	
Transit Route	Daily	PM Peak	Daily	PM Peak	Daily	PM Peak	Daily	PM Peak	Daily	PM Peak
27	2,200	195	1,590	135	2,920	260	3,640	325	400	30
60	450	45	260	25	580	55	710	70	30	5
9	520	55	270	30	660	65	800	80	10	0
Streetcar	2,010	200	1,110	105	2,570	255	3,120	300	100	5
Walk to Other Routes[1]	2,200	195	1,590	135	2,920	260	3,640	325	400	30
Total	7,380	690	4,820	430	9,650	895	11,910	1,100	940	70

Source: Heffron Transportation, Inc. May 2010. Based on transit trip distribution percentages, route choice assumptions, and transit trip generation estimates.

Note: These values reflect the net increase in transit trips compared to the No Action condition.

[1] Based on an estimated percent of riders who could choose to walk to another route in order to eliminate a transfer. Estimate is based on the walk distance and the potential bus wait time. The other routes are located within ½ mile of the site.

The table shows that the highest density alternative (Alternative 3) could add up to 325 riders to Route 27 during the peak hour. Of these, about 115 riders would be outbound from the site and 210 would be inbound. An estimated 85 percent would be coming from or destined to the downtown core area. Currently, there are four eastbound buses and two westbound buses that operate on this route during the PM peak hour. Based on this, it is estimated that peak direction ridership would add an average of 58 riders to each westbound bus and 53 riders to each eastbound bus. These values assume full build out of the Yesler Terrace Redevelopment, for the highest density alternative, which generates the greatest number of transit trips. The impact for the other alternatives would be less.

The additional ridership on the Route 27 would increase the load in the route. Although capacity analysis is not regularly monitored by King County Metro, the SDOT did qualitatively evaluate all of the major transit routes in the City as part of its *UVTN (Urban Village Transit Network) Monitoring Project 2007 Update*. (Seattle Department of Transportation 2008) This report included a figure that showed the "Load by Segment" (Figure 13). On it, Route 27 is shown as "Operates at 50-75 percent of seat capacity" on the segment between 3rd Avenue and Boren Avenue. For a 40-passenger bus, this equates to 10 to 20 available seats plus standing room.

Although standing conditions are commonly accepted for short distances during peak hour conditions, the additional load on the Route 27 may be unacceptable, which can cause bus drivers to bypass stops when there is no more room on the bus. It is also recognized that ridership may vary with the weather. On rainy days, passengers may elect to take the bus from downtown instead of walking, which would further increase ridership on this route.

All of the other routes would experience much lower loads per bus. The Streetcar, which is expected to have a similar level of peak hour ridership, would have more frequent service and higher capacity than Route 27. The City's goal for the UVTN is to provide *"….transit at least every 15 minutes…18 hours a day…7 days a week…"* Route 27 operates 18 hours per day 7 days a week, but not at a 15-minute frequency. In the future, if additional service were added to meet the UVTN goals, it would increase the capacity of the Route 27 and reduce the load on each bus.

Another possibility is a route restructuring option that has been discussed by King County Metro and the City of Seattle (although not included in any formal plans), which would involve a potential diversion of the Route 3/4. This route currently operates on James Street through the I-5 interchange, which adds unnecessary delay to this route. The concept of shifting this route to Yesler Way, then 9th Avenue had been broached even before the Yesler Terrace Redevelopment was proposed. This new route would avoid the congestion and delay at the I-5 interchange, while continuing to serve the major hospital demand on First Hill. This route change would add frequent transit service that passes through the site for Yesler Terrace residents and employees. There is no formal plan to move this route, and more analysis about route change impacts and benefits would need to be performed. In addition, since this is an electric trolley route, there would be substantial electrical infrastructure needed to reroute the service. However, the land use changes associated with the Yesler Terrace Redevelopment project may increase the potential for federal funding of this transit enhancement.

Sound Transit's University Link line will open in 2016 and could change how King County Metro buses serve the area. The First Hill Streetcar could also cause a change in service structure. King County Metro's process for restructuring service typically starts a year in advance of proposed changes. There would be extensive public outreach and a King County Council approval process for any service changes. When that process starts, King County Metro should consider the increased ridership associated with the Yesler Terrace Redevelopment. Project phasing would provide opportunity to respond to an increase in transit trips as new high capacity transit comes on line and bus routes are restructured.

SHA will work with King County Metro and the City of Seattle related to transit needs as ridership increases over time. SHA can support grant applications that increase the chance of funding service enhancements.

Non-Motorized Facilities

All of the alternatives would improve pedestrian facilities and connections throughout the site. It is the intent that the Yesler Terrace redevelopment support all alternative modes of transportation, and the project would include treatments that enhance pedestrian and bicycle modes of travel. This would include amenities such as wider sidewalks, bike lanes, bike parking areas, streetscape improvements, curb bulbs, covered sidewalks, and pocket parks. A general description of planned improvements is provided below.

Alternatives 1, 1A and 4 would retain the same street system, widen some streets, and would rebuild most sidewalks as part of frontage improvements. Existing curb cuts would also be closed where they are not needed. Alternatives 2 and 3 would relocate and rebuild many of the internal streets with enhanced pedestrian and bicycle facilities.

All alternatives would create new internal pedestrian connections that link development to key community nodes such as the community center and commercial areas. The off right-of-way paths could meander as needed to provide flatter grades that better serve senior and disabled populations.

Alternatives 1 through 3 would also create a new pedestrian connection south to S Main Street to accommodate a future hillclimb from Jackson Street. Depending on the alternative, this new pedestrian connection could extend south along the 10th Avenue S right of way or create a new connection aligned with Broadway (if it is extended) and curved to meet S Main Street at 10th Avenue S. Stairs that provide a more direct route for able-bodied pedestrians on this steep slope may also be considered. All new connections would be designed to maximize personal safety through proximity to proposed buildings and lighting. This connection would improve pedestrian access to the International District and key transit routes along S Jackson Street or at the International District and King Street Stations.

All of these elements would enhance and improve pedestrian access to, through, and around the site area compared to existing conditions and the No Action conditions.

Proposed sidewalk widths were also evaluated to make sure that they would accommodate the expected pedestrian demand. Daily pedestrian volumes were presented in **Table 3.13-5**. Alternative 3 is projected to generate the highest pedestrian and bicycle volume with over 24,500 trips per day (1,060 bicycle trips and 23,450 pedestrian trips). During the PM peak hour, the number of pedestrian trips is expected to be 2,200. The majority of these (about 1,000) would be generated by the Northwest Sector of the project, which would be served by several streets and off-street pedestrian paths. The adequacy of proposed sidewalks was evaluated using Equation 18-2 in the *Highway Capacity Manual* (Transportation Research Board 2000) and assuming the flow rate thresholds in Exhibit 18-3 Average Flow LOS Criteria for Walkways and Sidewalks. Even if all 1,000 pedestrian trips per hour used the same sidewalk, that would relate to an average pedestrian flow rate of about 17 pedestrians per minute. At that rate, a six-foot sidewalk would operate at LOS A. Therefore, all internal sidewalks would adequately serve the expected pedestrian demand.

An increase in residential units at Yesler Terrace would increase students who would walk between Yesler Terrace and the nearby Bailey-Gatzert Elementary School located east of Boren Avenue. The *First Hill Neighborhood Plan* recommended improving the pedestrian crossing at Boren Avenue and Yesler Way. Most of this intersection will be rebuilt for the First Hill Streetcar, and SHA should coordinate crosswalk improvements with the Streetcar project to make sure they accommodate existing and projected future student crossings.

Freight Impacts

Truck access would be provided for all buildings. Where possible, service drives would be created to the side or back of buildings to provide access to loading docks. Truck access to the site would be determined for individual building applications. In general, all building sites would by accessible by truck. Most trucks are expected to be small to medium-size trucks such as UPS/Fed Ex delivery vans, single-unit trucks used for vendor deliveries, or waste collection

trucks. Some uses, such as a small grocery store, may require access by semi-tractor trailer trucks. The design requirements for the types of vehicles that would serve a building should be determined with each building permit application.

Loading docks and the lengths of loading berths are governed by the City of Seattle's Land Use Code (SMC 23.54.035). The amount of required loading space is based upon the level of demand generated by the use and the aggregate gross area of that use. Loading berths are required to be at least 10-feet wide, have a vertical clearance of at least 14 feet, and be at least 35 feet in length. The DPD Director can grant an exception for a shorter berth if it will not result in loading activity that crosses the property line. When exceptions are granted, the length cannot be reduced below 25 feet.

Because of the tight maneuvering spaces in downtown Seattle, and a prohibition of very large trucks in the downtown Traffic Control Zone (mostly west of I-5), most companies do not use full-size semi-tractor trailer trucks when delivering to buildings located downtown. The largest trucks expected to use the loading dock may include garbage trucks and trucks with a 20 to 30-foot trailer. Therefore, it is likely that most buildings within Yesler Terrace could have a reduced-size loading dock. Larger trucks may be used occasionally (e.g., when tenants are moving into the building). When this occurs, the tenants could load/unload from the street curb with a temporary street-use permit. Off-street service drives that may be created behind buildings should also be designed for a smaller truck size. Again, if larger trucks need to access a building, street-side loading, either temporary with a street-use permit or permanent with a loading zone, could be provided. Any permanent on-street loading zones should be limited to one per block face and located near service drives and away from pedestrian entrances.

Parking Demand and Supply

Residential Parking Demand Rates

The proposed parking demand for each alternative was determined using peak parking demand ratios developed specifically for Yesler Terrace. Typically, for residential uses, an average parking demand rate would be applied on a per-unit basis; however, for Yesler Terrace varying residential parking demand rates were applied depending on the number of bedrooms in each unit and the income target for each unit (market rate or low income). The demand rates range from 0.5 vehicles per unit for low income studio units to 2.5 vehicles for a 4-bedroom unit. The various demand rates assumed for different residential products are summarized in **Table 3.13-11**. These demand rates were applied to the program for Alternative 2, as a potential mix of unit sizes was developed for that Alternative, in order to determine a representative average parking demand rate for all units for all alternatives. As shown in the table, the parking demand rate averages to 0.85 vehicles per unit.

Table 3.13-11
PARKING DEMAND RATES FOR RESIDENTIAL USES – ALTERNATIVE 2

Type of Unit	# Units in Alternative 2				Parking Rate (vehicles per unit)			# of Vehicles			
	SHA	Low to Medium Income	Market Rate	Total Units	SHA	Low to Medium Income	Market Rate	SHA	Low to Medium Income	Market Rate	Total Units
Studio	0	562	314	876	n/a	0.50	1.00	0	281	314	595
1 Bedroom	367	850	390	1,607	0.40	0.75	1.00	147	638	390	1,174
2 Bedroom	364	615	273	1,252	0.75	1.00	1.50	273	615	410	1,298
3 Bedroom	146	77	23	246	1.00	1.50	1.50	146	116	35	296
4 Bedroom	19	0	0	19	2.00	2.50	2.50	38	0	0	38
Total	**896**	**2,104**	**1,000**	**4,000**				**604**	**1,649**	**1,148**	**3,401**
							Average Parking Rate[1]	***0.67***	***0.78***	***1.15***	***0.85***

Source for parking rates by size of units based on input from Heffron Transportation, Inc., Seattle Housing Authority, CollinsWoerman, and Heartland, Inc.

[1] Parking Supply Rate reported in "vehicles per unit."

Parking Demand Rates for Other Uses

Parking demand rates applied for other uses on the site were derived from rates in the *Parking Generation Manual* (Institute of Transportation Engineers 2004). As with trip generation rates, the ITE rates reflect suburban conditions where most trips occur by single-occupant vehicle. Therefore, these rates were adjusted to reflect the high percentage of non-automobile trips at the Yesler Terrace site as well as internal trips for which a person would park once to visit multiple locations. No adjustments for mode of travel or internal trips were made for the residential uses since even if residents walk or take transit for their commute, they could still own a car that needs to be parked on the site for the day. Although some of the land uses could have higher parking demand rates on a Saturday (e.g., retail and the community center), overall parking demand on the site would be much lower on a Saturday because there would be very few office employees parked at the site. Therefore, this analysis focuses on the typical weekday parking demand. **Table 3.13-12** summarizes the adjusted parking rates assumed for Yesler Terrace.

Table 3.13-12
PROJECT PROGRAM AND PARKING DEMAND RATES

Land Use	Peak Parking Demand Rates from ITE	Reductions for:		Adjusted Peak Parking Demand Rate
		% Internal Trips	% Auto Trips [1]	
Office	2.84 vehicles/1,000sf	4%	36%	1.00 vehicles/1,000sf
Retail	Weekday = 2.65 vehicles/1,000sf Saturday = 2.97 vehicles/1,000 sf	4% 4%	10% 60% [2]	0.25 vehicles/1,000sf 1.80 vehicles/1,000 sf
Neighborhood Services	3.83 vehicles/1,000sf	4%	20%	0.75 vehicles/1,000sf
Residential	0.85 vehicles/unit (see Table 3.13-) [3]	0% [4]	Not Applicable [5]	0.85 vehicles/unit

Source: Heffron Transportation, Inc., May 2010 using parking demand rates from ITE's Parking Generation (3rd Edition, 2004) and methodology from ITE's Trip Generation Handbook (2nd Edition, June 2004)

[1] Includes trips by SOV, carpool, and vanpool.
[2] Estimated, assuming that some parking restrictions would be reduced on weekends.
[3] Derived by applying varying rates for size and type of unit. The 0.60 vehicles per unit reflects the demand for Yesler Terrace Redevelopment Alternative 2 with 4,000 units, of which 896 would be owned by SHA.
[4] Although internal trips by residents would occur, a car would likely be parked at the residence.
[5] Resident may still store a car at the site even if they commute by transit, bike or walking.

Off-Street Parking Supply

The parking demand for each use would fluctuate by time of day. This could allow some of the parking supply on the site to be shared among uses. Office uses, for example, would generate their peak demand midday on a weekday, whereas residential uses would generate their peak demand in the evenings and on weekends. Most market-rate residential complexes would require reserved parking for some or all of their units. However, parking for additional vehicles or visitors could be shared with another use to reduce the total amount of parking that needs to be provided at the site.

Parking supply on the site would be determined for individual buildings. The demand values listed above reflect the number of vehicles parked. For uses that generate short-term customer trips, parking spaces typically fill and empty throughout the day (referred to as "parking turnover"). A buffer in short-term parking supply is desired to provide slightly more spaces than the demand to reduce the amount of time patrons must circulate in a garage before they find an available space. It also allows for motorists who park beyond the lines and take more than one space. Therefore, for retail and office uses, a buffer of 10% to 15% is desired.

Parking supply for all alternatives assumes a ratio of 0.85 parking stalls per residential unit. Parking for neighborhood commercial and service uses would be provided at a parking ratio of 2 stalls per 1,000 square feet; parking for office uses would be provided at 1.5 stalls per 1,000 square feet; and parking for hotel uses would be less than office uses at 0.25 stalls per room. As shown above, these parking ratios would accommodate the expected parking demand, and provide a parking supply buffer for the office and retail uses. It may be possible to reduce the parking ratios for individual buildings if a mix of uses allows some parking to be shared (for example, providing for office parking on weekdays and increased retail parking on evenings and weekends). Further reductions in needed supply may be possible through the use of parking

demand management measures such as car-sharing, which allows residents and employees to have use of a pool of cars when needed.

On-Street Parking Supply

Most of the on-street parking within the existing Yesler Terrace site is part of residential parking zone (RPZ) 7. With the redevelopment, most of the RPZ should be retained; however, the large increase in residents may substantially increase demand for RPZ permits. This could be particularly true if there is a cost for off-street parking associated with a new unit. The City's RPZ policies related to permit eligibility are applied evenly to all RPZ zones throughout Seattle. Therefore, changing the eligibility requirements may require that a subzone be created for just Yesler Terrace, and new ordinance language adopted limiting the eligibility of RPZ permits in this subzone. Potential policy changes are detailed in the *Mitigation* section of this chapter.

Some of the on-street parking should be converted to short-term parking for use by customers of adjacent retail businesses or neighborhood services. Because of its location near the downtown core, it is likely that short-term on-street parking would be enforced as paid parking with payment available at pay stations.

Transportation Concurrency

The City of Seattle developed a Transportation Concurrency policy as part of its Comprehensive Plan. Transportation concurrency is a requirement of the Washington State Growth Management Act[3], and is intended to ensure that adequate facilities and services, as measured by a level of service standard, are available when the impacts of development occur; or that commitments are in place to complete the facilities and services within six years of the time the need is triggered. The City's Transportation Concurrency policy was updated with the Transportation Concurrency Project Review System, Director's Rule 5-2009 in 2009. Within the transportation concurrency policy, the City has adopted level of service standards for 30 screenlines, each of which encompasses one or more arterials in Seattle. Screenline analysis is a transportation-planning tool that groups key arterials of a transportation network together to measure the operating conditions of a corridor. For example, the Ship Canal functions as a screenline to measure north-south travel north of downtown Seattle. A detailed Transportation Concurrency analysis was performed, and is presented in the Transportation Technical Report (see **Appendix N**). Transportation concurrency would be met for all of the EIS alternatives.

Sustainable Transportation Features

The Yesler Terrace Redevelopment would be designed with many features that promote sustainable transportation. According to a new report, *Promoting Sustainable Transportation Through Site Design: an ITE Recommended Practice*, "Effective site design can enhance the attractiveness, convenience and safety of walking, cycling and transit use." Promoting these alternative modes of travel reduces dependence on oil, reduces greenhouse gas emissions, and promotes better health—all attributes of a sustainable transportation system. Promoting sustainable design is also a focus of the new U.S. Department of Transportation (USDOT) Strategic Plan (2010). The Strategic Plan includes a "Livable Communities Strategic Goal" that is intended to "Foster livable communities through place-based policies and investments that increase transportation choices and access to transportation services." One of the approaches

[3] Revised Code of Washington, Section 36.70A.070.

to achieving this goal is to coordinate existing and new programs among three federal agencies: USDOT, Environmental Protection Agency (EPA), and Housing and Urban Development (HUD). The USDOT collaborates with EPA in the administration of HUD's Sustainable Communities Planning Grants. In addition to the sustainable benefits listed above, the USDOT Strategic Plan recognizes that "communities with coordinated infrastructure investments are economically resilient because their residents can utilize transportation alternatives to driving, and are better able to adjust to higher gas prices than those living in car-dependent areas."

Recommended Practice for Sustainable Transportation (Institute of Transportation Engineers 2010) includes a checklist of site design features that should be considered. The Yesler Terrace Redevelopment project would include almost every element on this 52-item list. Some of the elements would be addressed in Design Guidelines developed for the site that individual building developers would address as part of their design process. The Sustainable Transportation Site Design Prompt List is included in the Transportation Technical Report (see **Appendix N**). Based on these criteria, the Yesler Terrace Redevelopment would create a very sustainable transportation system.

Construction Traffic Impacts

Construction impacts would occur in stages until all development at Yesler Terrace is complete. The most noticeable construction-related traffic impacts are likely to occur during demolition of existing uses and major earthwork stages. Other major impacts could occur during large concrete pours when a continuous supply of concrete would likely be trucked to the site. Other materials, such as steel, lumber, and other building supplies are expected to be trucked to the site as needed, but would not typically arrive in fleet shipments like those required for earthwork and concrete. Construction employees would also generate traffic and parking demand, but this volume would be much less than the site would generate when occupied.

Prior to commencing construction, the Seattle Housing Authority and/or its prime contractor(s) would prepare a Construction Management Plan. This plan would include information related to truck haul routes, staging areas, and employee parking. Details that should be included in the plan are described later in the Mitigation section of this report.

Project Impacts - East of Boren Sector Only

This Draft EIS is intended to fulfill SEPA requirements for a Planned Action environmental review for future redevelopment of the majority of the Yesler Terrace site. However, the area east of Boren Avenue could be redeveloped under its existing zoning and would not require a Comprehensive Plan or Land Use Code text amendment or rezone. Therefore, development of this area could occur without the Planned Action or rezone. (See **Section 2.3** of **Chapter 2** for more detailed discussion) The analysis presented in Chapter 3 of the Transportation report (**Appendix N**) encompassed all development proposed at the Yesler Terrace site, including the East of Boren site. To support potential permitting of the East of Boren sector, impacts associated with just that portion of the redevelopment have also been assessed separately.

Development alternatives for the East of Boren sector would provide between 253 and 304 residential units, and between 10,000 SF and 18,000 SF of retail space. Trip generation estimates for each alternative were provided earlier in this section (see **Table 3.13-6**). The site is expected to generate 62 PM peak hour vehicle trips (38 enter and 24 exit). Overall, it was expected that 6 of the PM peak hour trips could be internal trips made to retail or office uses that are located in other sectors of the Yesler Terrace site. However, before those sectors are

developed, off-site vehicle trips may be needed to reach a job or similar retail services. Therefore, at most the East of Boren sector could generate up to 60 trips during the AM peak hour (15 enter and 45 exit) and 68 trips during the PM peak hour (41 enter and 27 exit). These trips reflect a net increase over the No Action condition of 52 AM peak hour trips and 60 PM peak hour trips.

If the East of Boren sector is permitted separately, it could be the first to develop. Therefore, a near-term analysis year of 2013 was selected for the purpose of evaluating the effect of the East of Boren site traffic. To reflect a worst-case condition, it was assumed that the First Hill Streetcar would be complete, which could reduce vehicular capacity at nearby intersections. The two nearest intersections to the East of Boren site—Boren Avenue/E Yesler Way and 12th Avenue/E Yesler Way—were evaluated. Traffic volume forecasts and level of service models for a year 2013 condition were previously prepared by the City for the First Hill Streetcar project. The East of Boren site traffic was added to these models to determine the effect of proposed development on traffic operations. The results of this analysis are presented in **Table 3.13-13**.

Table 3.13-13
LEVEL OF SERVICE SUMMARY FOR EAST OF BOREN SECTOR ONLY – YEAR 2013 CONDITIONS

		AM Peak Hour				PM Peak Hour			
		2013 No Action [a]		2013 With East of Boren Only [b]		2013 No Action [a]		2013 With East of Boren Only [b]	
Int. #	Intersection Name	LOS [c]	Delay [d]	LOS	Delay	LOS	Delay	LOS	Delay
10	Boren Ave S/ E Yesler Way	C	22.3	C	22.8	C	32.4	C	32.7
11	12th Avenue/ E Yesler Way	C	27.0	C	27.8	C	30.7	C	31.3

a. 2013 No Action condition reflects completion of the First Hill Streetcar plus regional growth.
b. Alternative 3 traffic generation was used, which reflects the highest trip generation for the East of Boren site.
c. Level of service.
d. Average seconds of delay per vehicle.

The analysis shows that the East of Boren sector would add very little delay to area intersections. Both nearby intersections are projected to operate at LOS C without or with the proposed project.

3.13.3 Mitigation Measures

This section presents potential measures to mitigate the transportation-related impacts of the project. Many of these measures would be incorporated into the site design. The following sections present measures to mitigate short-term construction impacts as well as long-term impacts to all modes of travel. It also details potential Transportation Management Plan elements to reduce travel by single-occupant vehicle.

Required/Proposed Mitigation Measures

Mitigation of Construction Impacts

Construction impacts would occur in stages until all development at Yesler Terrace is complete. Prior to commencing construction of the West of Boren Sectors, SHA and/or its prime contractor(s) would prepare a Construction Management Plan. This plan would document the following:

Truck haul routes to and from the site.

Peak hour restrictions for construction truck traffic and how those restrictions would be communicated and enforced.

Truck staging areas (e.g., locations where empty or full dump trucks would wait or stage prior to loading or unloading.)

Construction employee parking areas.

Road or lane closures that may be needed during utility construction or relocation, roadway construction, or building construction. If any arterial street is affected by a partial or full closure, the contractor should also prepare a Maintenance of Traffic Plan detailing temporary traffic control, channelization, and signage measures.

Mechanism for notifying community if road or lane closures would be required.

Sidewalk and/or bus stop closures and relocations.

Other elements or details may be required in the Construction Management Plan to satisfy street use permit requirements of the City of Seattle. SHA and the contractor would incorporate other City requirements into an overall plan, if applicable.

Off Site Roadway Improvements

The traffic operations analysis determined that the Yesler Terrace redevelopment in its entirety would increase vehicle delay at 6 intersections that would operate at LOS F without the Yesler Terrace redevelopment (intersections #6, 19, 21, 22, 33, and 34), and cause up to 4 other intersections to degrade to LOS F (intersections #7, 26, 28, and 31), depending on the alternative. Potential mitigation measures at 9 of the 10 locations have been evaluated and are summarized in **Table 3.13-14**. No mitigation is possible for the intersection of Broadway/E James Street (intersection #7) where changes to the signal timing and phasing are already proposed to accommodate the First Hill Streetcar. The project's impact to this intersection is noted as an unavoidable adverse impact for Alternatives 2 and 3.

Table 3.13-14
POTENTIAL INTERSECTION MITIGATION

Int. #	Intersection Name	Description of Improvement	Mitigation Needed for Alternative?				
			Alt 1	Alt 1a	Alt 2	Alt 3	Alt 4
6	12th Avenue/ E Cherry Street	Restripe E Cherry Street to provide conventional left turn phasing (instead of separate phases for eastbound and westbound traffic).	✓	✓	✓	✓	✓
19	Rainier Avenue S/ S Dearborn Street	Add a southbound right turn pocket on Rainier Avenue S.			✓	✓	
21	7th Avenue/ Cherry Street	Change cycle length to full cycle to match intersection at 6th Avenue/Cherry Street.	✓	✓	✓	✓	✓
22	9th Avenue/ Cherry Street	Convert to an all-way, stop-controlled intersection.	✓	✓	✓	✓	✓
26	9th Avenue/ Jefferson Street	Provide a second northbound lane at the all-way stop-controlled intersection.			✓	✓	
28	9th Avenue/ Alder Street	Convert to an all-way, stop-controlled intersection.	✓	✓	✓	✓	
31	8th Avenue/ Yesler Way (Alts 1 & 4) or 9th Avenue/Yesler Way (Alts 2 & 3) [a]	Install a traffic signal with left-turn pockets on all approaches. The left-turn pockets would allow the traffic signal phase for left turning vehicles to be separated from pedestrian crossing movements.	✓	✓	✓	✓	
33	6th Avenue/ James Street	Retime intersection.	✓	✓	✓	✓	✓
34	6th Avenue/ Yesler Way	Signalize.	✓	✓	✓	✓	✓

Source: Heffron Transportation, Inc., September 2010.

[a] Intersection would not exist with this alternative. Alternatives 2 and 3 would vacate 8th Avenue and replace it with a parallel street, 9th Avenue.

Transit

Increased ridership from the project could increase loads on Route 27 to unacceptable levels. This route currently operates on 20 to 30-minute headways during the PM peak hour. Yesler Way is designated as part of the City's UVTN, for which the goal is service at least every 15 minutes. Increased service on the Route 27 would alleviate the loading. Another idea that has been considered, although is not part of any future plan, is to divert the Route 3/4 from James Street to Yesler Way to avoid congestion at the I-5 interchange. That route has very frequent service which could accommodate the additional riders from Yesler Terrace.

The Seattle Housing Authority will work with King County Metro and SDOT to evaluate service needs as development at Yesler Terrace progresses. A key milestone would be 2016 when King County Metro may redeploy various service on First Hill and Capitol Hill in response to the University Link project opening. In addition, Seattle Housing Authority could be a partner with

other agencies pursuing funding opportunities, particularly new federal grants in which low-income housing and sustainable development increase a project's chance of funding.

Non-Motorized Facilities

Extensive pedestrian and bicycle improvements would be made throughout the Yesler Terrace site, including street frontage improvements as well as connecting paths throughout the site. New connections would also be made to areas beyond Yesler Terrace, including south towards S Jackson Street. This connection would improve pedestrian access to the International District and key transit routes along S Jackson Street or at the International District and King Street transit stations. Many of the reconstructed streets would provide new or enhanced facilities for bicycles.

Other pedestrian and bicycle amenities would be provided on the site including pocket parks, resting areas, bike racks, secured long-term bicycle storage (in garages), and showers and locker facilities in office buildings.

SHA will coordinate with the First Hill Streetcar project to improve the crosswalks at the Boren Avenue/Yesler Way intersection. The crosswalk across the south leg of the intersection is located along the school walk route between Yesler Terrace and Bailey-Gatzert Elementary School. The First Hill Community Plan recommended improving this crossing location (City of Seattle 1998).

Freight

Truck access would be provided for all buildings. Where possible, service drives would be created to the side or back of buildings to provide access to loading docks. Truck access and loading requirements within the site would be determined for individual building applications; however, most buildings could be designed to accommodate just small to medium-sized trucks since large trucks are not often used for deliveries near the downtown core area of Seattle. The exception would be for a potential grocery store.

On-street loading zones could also be provided. These should be limited to one per block face and located near service drives and away from pedestrian entrances. If an occasional large truck is needed for a delivery (e.g., during a business or resident move), then temporary on-street loading could be provided with a street-use permit.

Transportation and Parking Management Plans

Transportation Management Plans (TMPs) would be implemented for various elements of the Yesler Terrace Redevelopment. Parcels where office uses are to be built would likely be sold to developers. These parcels could be required to have individual TMPs that are directed at reducing employee commute trips. SHA would retain ownership and management of its low income residential units. SHA could distribute information to its tenants (in several languages, as needed) regarding transportation options.

TMP Goal

Seattle's Comprehensive Plan for the First Hill/Capitol Hill Urban Center established a trip goal that all peak period trips using non-SOV modes reach 75 percent by the year 2010 and 80 percent by 2020. This means that trips by single-occupant vehicle (SOV) should be no more

than 25 percent of the peak period trips in 2010, or 20 percent in 2020. These goals are consistent with the analysis performed for the Yesler Terrace EIS. Overall, the trip generation estimates that are the basis for the traffic impact analysis assume that about 25 percent of the office trips would be made by single-occupant-vehicles (SOVs) and about 10 percent of the residential and retail trips would be made by SOVs.

The Comprehensive Plan goals could be adopted as the short and long-range goals in TMPs for office development at Yesler Terrace. For each office building within Yesler Terrace, it is recommended that within 5 years of occupancy, no more than 25 percent of the employee commute trips should be by SOV; within 10 years of occupancy, no more than 20 percent of the employee commute trips should be by SOV.

TMP Elements – Office Building

The office-related TMPs could be required consistent with the City of Seattle's Director's Rule (DPD Director's Rule 19-2008). The Yesler Terrace redevelopment would have many site amenities and design treatments that would promote the use of alternative transportation modes. These features would be inherent in the site design, and prescribed through the Project Actions. Therefore, the TMP for each building only needs to address on-going management elements and site-specific design treatments. **Table 3.13-15** lists the elements from the Director's Rule (along with the specific element number) that should be included in each office building's TMP. Some of the elements may not be needed at all locations as noted.

Table 3.13-15
TRANSPORTATION MANAGEMENT PLAN (TMP) ELEMENTS FOR OFFICE BUILDINGS

TMP Elements from Seattle Director's Rule 19-2009		Check all that apply	Notes
Building and Frontage Features			
1	Install commuter information center in appropriate location	As needed	May not be needed at all locations if centrally located.
3	Provide on-site shower and locker facility	√	
7	Provide bicycle storage and amenities	√	
Management & Promotion			
8	Appoint Building Transportation Coordinator	√	
9	Produce and distribute a commuter information packet	√	
10	Require tenant participation in the TMP	√	
11	Submit regular reports about TMP elements as required by the City	√	
12	Conduct biennial survey of TMP effectiveness	√	
Parking Management			
15	Charge for parking at market rate for the site's vicinity	√	
17	Prohibit price reductions for all-day parking (e.g., "Early Bird" specials)	√	
18	Unbundle parking from building leases	√	
19	Provide designated parking spaces for car share programs	As needed	May not be needed at all sites if centrally located.
20	Create flex-use parking passes that provide fewer days of parking than a monthly pass	√	
Transit, Carpool & Vanpool Programs			
22	Provide free parking for vanpools registered with a public agency	√	
23	Provide information about ride-match opportunities	√	
24	Provide reserved spaces for registered vanpools in convenient area that has adequate clearance and maneuvering space	√	
Bicycle/Walking Programs			
27	Offer incentive for commuters who bicycle or walk to work	√	

Source: DPD Director's Rule 19-2008, December 31, 2008.
Note: The numbers in the right hand column match the element numbers from the Director's Rule.

TMP for Residential Uses

SHA would provide centralized management for its low income units at Yesler Terrace. This would create the opportunity to provide information about alternative modes of transportation. This could include information (in multiple languages) about transit routes, stop locations, and schedules, car-sharing programs, and walking/bicycle routes.

Other Possible Mitigation Measures

Parking

Off-street Parking Supply

Off-street parking supply within the site area would be determined for individual buildings. The parking supply rate used for each residential building may differ based on the income target, average unit size, and whether the units would be rented or owned. Neighborhood services and retail parking supplies should be determined based on specified use needs and may vary by building.

Several parking management strategies and programs could be implemented to reduce the overall parking supply on the Yesler Terrace site, including:

Share office parking on weeknights and weekends. Parking at key office garages could be made available for evening and weekend use by residential visitors or for residents who commute during the day. This would reduce the parking supply required.

Unbundle parking from office leases. Office tenants could be required to pay for parking as a separate fee from their office space lease. This promotes use of alternative transportation modes by itemizing the cost of parking.

Charge for parking. All office employees and visitors could be required to pay for parking at the market rate in the area. Discounts for all-day parking (e.g., Early Bird specials) should be discouraged.

Offer a flex-pass for parking that limits the number of days an employee can park. Most parking passes are sold on a monthly basis and allow unlimited parking during that month. A flex-pass would be a lower-cost option that would limit the number of days it can be used each month. This type of pass is a good option for employees who may take transit or ride a bike to work some days a week, but need a car on certain days for work or personal business.

Do not reserve individual spaces for office parking. Leases could be structured so that parking spaces at office buildings are not reserved for individual users. This allows all office parking to be shared by employees, and reduces the overall supply requirement.

Provide for car-sharing programs. Car-sharing programs (e.g., Zipcar) allow residents and/or site employees to share a pool of vehicles, which reduces parking demand.

On-Street Parking Supply

Most of the on-street parking within the existing Yesler Terrace site is part of the residential parking zone (RPZ) 7. With the redevelopment, most of the RPZ should be retained; however, the large increase in residents may substantially increase demand for RPZ permits. This could be particularly true if there is a cost for off-street parking associated with a new unit. The City's RPZ policies related to permit eligibility are applied evenly to all RPZ zones throughout the City. Therefore, changing the eligibility requirements may require that a subzone be created for just

Yesler Terrace, and new ordinance language adopted limiting the eligibility of RPZ permits in this subzone. Potential eligibility limits, which would have to be vetted by City legal staff, could include:

> Issuing RPZ permits based on a hardship or need, which could include an income limit or a vehicle ownership requirement for work or school.
>
> Issuing RPZ permits on a lottery basis (which is done in some other cities).
>
> Limiting or prohibiting guest permits, and requiring visitors to park off-street.

Some of the on-street parking should be converted to short-term parking for use by customers of adjacent retail businesses or neighborhood services. Because of its location near the downtown core, it is likely that short-term on-street parking would be enforced as paid parking with payment available at pay stations.

3.13.4 Significant Unavoidable Adverse Impacts

Redevelopment of Yesler Terrace would increase vehicular traffic and transit use in the site vicinity. The project would add traffic and increase delay to one intersection where future changes are proposed as part of the First Hill Streetcar project: Broadway/E James Street. Traffic generated by Alternatives 2 and 3 would degrade operations at this intersection to LOS F during the PM peak hour. Mitigation is not feasible at this intersection due to constrained rights-of-way, track requirements, and signal operations needed for the Streetcar.

3.14 UTILITIES

This section describes existing utilities (sewer, water and electrical) on and in the vicinity of the Yesler Terrace site, potential impacts to these utilities from future redevelopment under the EIS alternatives, and measures to mitigate redevelopment-related impacts to utilities. This section is based on the September 2010 *Yesler Terrace Redevelopment Surface Water Technical Report* prepared by SvR Design Company, and the September 2010 *Yesler Terrace Redevelopment Public Utilities Technical Report* prepared by SvR Design Company; the full texts of these reports are contained in **Appendices F** and **O,** respectively.

3.14.1 Affected Environment

Water

Per Seattle Public Utilities (SPU) *2007 Water System Plan*, SPU provides water to 1.3 million people and businesses in the City of Seattle and surrounding areas, including the Yesler Terrace site. The majority of the water is from the 90,000-acre Cedar River Watershed and the 13,300-acre South Fork Tolt River Watershed in eastern King County. The Plan indicates that the system yields 171 million gallons per day.

SPU currently supplies water to the Yesler Terrace site through an existing 20-inch feeder pipeline on 12th Avenue and Yesler Way from the Lincoln reservoir. Some of the first cast iron public water mains in Yesler Terrace were installed over 100 years ago and have exceeded their design life expectancy. Most of the private water service is from the original Yesler Terrace development in the 1940s. The southern portion of the site does not have adequate fire hydrant coverage. The water service lines vary in condition; the older galvanized water service lines have corroded leading to reduced pressure and the potential to leak.

Water meter readings from the existing Yesler Terrace housing development were obtained for the period from 3/17/2009 to 2/11/2010. This information was analyzed and an Average Daily Demand (ADD) of approximately 100,000 gallon per day was estimated for the existing Yesler Terrace development. With an existing population of 1,231 persons, the average daily consumption was estimated at 80 gallons per person. The meter reading record water usage is higher than the estimated existing condition water demand, because: the meter readings may reflect the fact that water conversancy features currently are not in use; additional water is currently used for gardening irrigation; and/or, leaking pipes may be present.

Sanitary Sewer

Public Sewer System

SPU currently provides sanitary sewer service to residents in the Yesler Terrace development. The SPU sewer system conveys sewer flows to the King County Metro system, and includes pump systems, trunk lines, and combined sewer mains (pipes that convey both sanitary sewer and stormwater). Sewage is ultimately treated at the West Point Sewage Treatment Plant. During intense rainfall events, some of the combined sewer mains downstream of the site are at capacity and overflow. The lack of separation between sewer and stormwater and uncontrolled stormwater flows contribute to the downstream overflows.

City of Seattle records indicate that the existing public sewer system within the site was first installed in 1892. This system is a combined sewer system and collects both sanitary sewer flows and stormwater runoff from the site and public rights-of-way. Collected sewer flows from the site are conveyed to one of two public combined sewer basins: the West Conveyance Basin and the East Conveyance Basin.

The West Conveyance Basin serves approximately 11.9 acres of the western portion of the Yesler Terrace site and drains to a 24-inch combined sewer main located at the end of 8th Avenue S, south of Yesler Way. From this location, sewer flows travel under I-5 to 7th Avenue S. From there, flows travel south to S Royal Brougham Way and then west connecting to the King County Metro Sewer trunk line in Occidental Avenue S where the flows are conveyed to the West Point Sewage Treatment Plant (see Figures 2.1-1 and 2.1-2 in **Appendix F** for illustrations of the existing West Conveyance Basin).

The East Conveyance Basin serves approximately 24.7 acres of the Yesler Terrace site and is generally located east of 9th Avenue. The area drains to the 12-inch combined sewer main that runs east along Yesler Way. The East Basin flows to the south and east where it leaves the site through one of three combined sewer mains (along E Yesler Way, S Washington Street, and Main Street). From there, it connects to the 30-inch wide by 45-inch tall SPU Rainier Avenue combined sewer pipe that flows south and connects to the King County Metro Sewer Hanford trunk line where the flows are conveyed to the West Point Sewage Treatment Plant (see Figures 2.1-1 and 2.1-2 in **Appendix F** for illustrations of the existing East Conveyance Basin).

Both the East and West Conveyance Basins eventually connect to the King County Metro system for final treatment and disposal at the West Point treatment plant prior to discharge to Puget Sound. Per the July 2010 *Combined Sewer Overflow Control Program 2009 Annual Report* by King County Wastewater Treatment Division, the Connecticut Street and Rainier Avenue combined sewer overflows (CSOs), located downstream of the Yesler Terrace site experience CSOs into Elliott Bay and Lake Washington during large storm events (see Section 3.3, **Water Resources**, for details).

A preliminary analysis was performed by SPU on July 15, 2009, to evaluate the capacity of the City of Seattle downstream combined sewer system with higher density redevelopment at the Yesler Terrace site, similar to under Alternative 2. SPU's preliminary analysis for both the East and West Conveyance Basins determined that the downstream combined sewer systems may have limited capacity to handle the proposed redevelopment at a few locations, and COSs could occur during heavy rainfall events. A hydraulic analysis of drainage and wastewater systems would be completed during the design phase of the Yesler Terrace Redevelopment to determine if improvements are necessary to the City's drainage and wastewater infrastructure. Improvements could include additional upsizing of the combined sewer pipe downstream of the Yesler Terrace Redevelopment in Main Street and 7th Avenue S, as well as GSI and stormwater flow control at the site (see Section 3.3, **Water Resources**, for details).

Private Sewer System

According to the Seattle Housing Authority (SHA) maintenance staff, the onsite combined sewer system is in poor condition. Starting in 1997, SHA began the replacement of side sewer connections from the buildings to the main side sewer lateral. Now the laterals downstream of the replaced pipes are failing. It is highly likely that the system will require extensive repairs or replacement of major sections to remain functional, with or without the Yesler Terrace Redevelopment.

Other Utilities

Electrical

The Yesler Terrace site is served by Seattle City Light electrical feeder lines, all above ground (overhead), at 9th Avenue, Terry Avenue, Broadway, and 12th Avenue. The Terry Avenue and Broadway feeder line intersect at E Fir Street and head east to 10th Avenue and continue south along 10th Avenue S.

Steam line

The original Yesler Terrace neighborhood included a central steam plant. This system is no longer operational and the boiler was decommissioned in the early '90s. The condition of the existing distribution network is not known, but reuse is unlikely due to the age of the infrastructure. SHA staff has indicated that these old steam lines are being used by rodents and contribute to pest management issues.

3.14.2 Impacts of Alternatives

Water

Construction

Construction of proposed water improvements for Alternatives 1-4 would be scheduled with other infrastructure improvements, including sewer, stormwater control, street and other utilities. Additional water main improvements are described in the following Water Demand section. Existing water mains and services would continue to service the site during construction, or temporary bypass service would be implemented until the new water distribution system is complete and operational. In general, underground pipes would be replaced using Temporary Erosion and Sediment Control (TESC) Best Management Practices (BMPs), per the City of Seattle regulations to address the potential for erosion/sedimentation with clearing and grading (see **Appendices D** and **F** for details).

Operation

Methodology

Water demand for the Yesler Terrace Redevelopment was estimated using assumptions for the numbers of residential units and beds, and amounts of commercial and neighborhood services space[1] (see **Appendix C** for these assumptions). A traditional approach was used for the water demand analysis (i.e. grey water re-use and water harvesting were not included as sources for potable water).

Assumptions for water demand for the units in the Yesler Terrace Redevelopment were based on the Washington State Department of Health's (DOH) *Water System Design Manual December, 2009*. The water demands for all uses were combined to provide the average daily demand, maximum daily demand and peak hourly demand. The average daily demand values

[1] For this analysis, neighborhood services space is defined as police, library, social services, non-profit organizations, government-funded health agencies, and SHA offices open to the public.

used in the analysis were based on available existing facility data and the assumed land and building units by sector/blocks for each alternative. To simulate peak hourly demand and maximum daily demand conditions, the Washington State Department of Ecology (Ecology) *Water System Design Manual (2009)* was referenced.

For each alternative, a simplified water system model was created using EPANET to model the water distribution piping system and the water distribution program. In addition to domestic water use demand, fire hydrant flow requirements and irrigation demand were also studied to verify water conveyance main sizes. EPANET water modeling was used to confirm fire hydrant flow and pressure. The Seattle Fire Code (2006) allows for reductions in fire flow with automatic sprinkler systems in buildings. For Alternatives 1-4, it was assumed that the proposed buildings would have sprinklers and meet the requirement for fire flow reductions. Typically, irrigation takes place during off-peak water demand hours; therefore, irrigation demands of the Yesler Terrace Redevelopment were not included in the modeling of water mains.

The City of Seattle is planning on constructing the First Hill streetcar along Broadway and Yesler Way. In order to maintain streetcar operations, it was assumed that the water main located in Yesler Way and Broadway would not be replaced during the Yesler Terrace Redevelopment in order to prevent excavation near or below the streetcar rail. Also, the 6-inch water main south of Yesler Way, located in 8th Avenue S, 10th Avenue S, and between 8th Avenue and 10th Avenue in private property was assumed to be replaced for Alternatives 1-4 to meet the City of Seattle design code and fire hydrant coverage. For the existing water mains being replaced or relocated, it was assumed that the mains would either be removed or abandoned in place.

(See **Appendix O** for additional information on the methodology and assumptions used for the water analysis.)

Water Demand

Table 3.14-1 summarizes recent water meter readings[2], estimated water demands under existing conditions/No Action, and water demands at full buildout of Alternative 1-4. As shown in **Table 3.14-1**, all of the redevelopment alternatives would increase water demand relative to existing conditions. Alternative 3 would have the greatest water demand and Alternative 4 the least water demand of the redevelopment alternatives.

[2] Meter reading records are higher than estimated demand; actual may be higher due to non-water conversancy use, additional water use for gardening water use, and/or leaking pipes.

Table 3.14-1
SUMMARY OF WATER DEMAND

	ADD	MDD	PHD
	gpd	gpd	gpm
Meter reading records (3/17/09 - 2/11/10)	100,000	-	-
Existing condition / No Action Alternative	83,000	221,000	709
Alternative 1-Low Density	1,216,000	2,433,000	4,195
Alternative 1A-Low Density	1,081,000	2,175,000	3,600
Alternative 2- Medium Density	1,362,000	2,725,000	4,208
Alternative 3- Higher Density	1,642,000	3,283,000	4,877
Alternative 4- Existing L3 Zoning	327,000	653,000	1,325

Source: SvR Design Company, 2010.
ADD = Average Daily Demand
MDD = Maximum Daily Demand
PHD = Peak Hourly Demand
Gpd = gallons per day
Gpm = gallons per minute

Alternatives 1, 1A and 4

Per the estimated water demands, all existing public water mains on and in the vicinity of the site would be adequate to meet the estimated peak hourly demand and fire hydrant flow. The NW and NE Sectors would utilize the existing water mains. In the SW and SE Sectors, the existing 6-inch water main would be upsized to a minimum 8-inch main per City of Seattle code, and fire hydrants would also be added. The existing 8-inch water main located in an easement between Yesler Way and E Fir Street is assumed to be removed and a new 8-inch water main installed in E Fir Street to allow for full redevelopment of the East of Boren Sector. The following is a description of the assumed water system under Alternatives 1, 1A and 4 by sector:

NW Sector

The west portion of the NW Sector would receive water service from the existing 8-inch water main located in 8th Avenue and 9th Avenue. The northeast section of the NW Sector would be served by the existing 8-inch water main in Alder Street, the 12-inch water main in Spruce Street and 6-inch water main in Terry Avenue. The southeast section of the NW Sector would be served by the existing 8-inch water main in 8th Avenue, and the 12-inch water main in Spruce Street and Yesler Way. It is assumed that the existing water main in Broadway would not be accessible to this sector in order to avoid interruptions to the streetcar operations.

NE Sector

The NE Sector would receive water service from the existing 8-inch water main in 10th Avenue and the 8-inch water main in E Fir Street.

SE Sector

The north portion of the SE Sector would receive water service from an existing 8-inch water main in 10th Avenue S and a new 8-inch water main in S Washington Street. The southern

portion of the SE Sector would receive water service from the 8-inch water service in S Washington Street, 10th Avenue S and S Main Street. The new 8-inch water main in S Washington Street and S Main Street is assumed to connect to the existing 12-inch water main in 12th Avenue S. The 8-inch water main in S Washington Street is also assumed to connect to the existing water main in 10th Avenue S to complete the water main loop.

SW Sector

The existing 6-inch water main located in 8th Avenue S and S Washington Street is assumed to be removed or abandoned in place, and a minimum of a new 8-inch water main is assumed to provide water service to the SW Sector. New fire hydrants would also be installed with the new water main.

East of Boren Sector

The existing 8-inch water main that currently bisects the property is assumed to be removed or abandoned in place and a new 8-inch water main would be installed in E Fir Street.

(See Figure 3.1-1 in **Appendix O** for an illustration of the assumed water system under Alternatives 1, 1A and 4.)

Alternatives 2 and 3

North of Yesler Way, in the NW and NE Sectors, it is assumed that street improvements would include water main improvements for 9th Avenue (between Alder Street and Yesler Way), E Fir Street (between Broadway and 9th Avenue), and 10th Avenue (between E Fir Street and Yesler Way). The existing water main bisecting the East of Boren Sector is assumed to be removed and a new water main installed in E Fir Street (between 11th Avenue and 12th Avenue). South of Yesler Way, in the SW and SE Sectors, the existing 6-inch water main is assumed to be removed or abandoned and a new 8-inch water main installed. A new 8-inch water main would also be installed in S Main Street between 10th Avenue S and 12th Avenue S. Following is a description of the assumed water system under Alternatives 2 and 3 by sector:

NW Sector

The west portion of the NW Sector would receive water service from an existing 12-inch water main in Yesler Way and a new 12-inch water main in 9th Avenue. The northeast section of the NW Sector would be served by the existing 8-inch water main in Alder Street and a proposed 12-inch water main in 9th Avenue and E Fir Street. The southeast section of the NW Sector would be served by the existing 12-inch water main in Yesler Way and a new 12-inch water main in Fir Street and 9th Avenue. It is assumed that the existing water main in Broadway would not to be accessible to this sector in order to avoid interruptions to the streetcar operations.

NE Sector

The NE Sector would receive water service from a new 8-inch water main in 10th Avenue and the existing water main in E Fir Street.

SE Sector

All of the existing 6-inch water mains in this sector are assumed to be replaced. The north portion of the SE Sector would receive water service from a new 8-inch water main in 10th Avenue S and a new 8-inch water main in the S Washington Street easement. The southern portion of the SE Sector would receive water service from a new 8-inch water service in the S Washington Street easement, 10th Avenue S and S Main Street. The new 8-inch water main in S Washington Street and S Main Street is assumed to be connected to the existing 12-inch water main in 12th Avenue S. The 8-inch water main located in S Washington Street is also assumed to connect to the existing water main in 10th Avenue S to complete the water main loop.

SW Sector

It is assumed that all of the existing 6-inch water mains located in 8th Avenue S and S Washington Street would be removed or abandoned in place, and a new minimum 8-inch water main would be installed with roadway improvements. New fire hydrants would also be installed with the new water main.

East of Boren Sector

The existing 8-inch water main that currently bisects the property is assumed to be removed or abandoned in place and a new 8-inch water main would be installed in E Fir Street.

(See **Figure 3.1-2** in **Appendix O** for an illustration of the assumed water system under Alternatives 2 and 3.)

No Action Alternative

Water demand under the No Action Alternative is assumed to be the same as under existing conditions (see **Table 3.14-1**). This alternative represents the lowest level of site redevelopment and infrastructure improvements, and would result in the least amount of changes to the existing water distribution system of the EIS alternatives. Under the No Action Alternative, it is assumed that some water service pipes from meters to buildings would be replaced.

Sanitary Sewer

Construction

Construction of proposed sewer improvements for Alternatives 1-4 would be scheduled with other infrastructure improvements including water, stormwater control, street and other utilities. Interruptions of sewer services to current users would be minimized. A temporary bypass and/or the existing sanitary sewer, combined sewer mains and services would continue to service the site during construction until the sanitary sewer, combined sewer and stormwater control system are complete and operational. In general, underground pipes would be replaced using Temporary Erosion and Sediment Control (TESC) Best Management Practices (BMPs), per City of Seattle regulations to address the potential for erosion/sedimentation with clearing and grading (see **Appendices D** and **F** for details).

Operation

Methodology

For the EIS sewer analysis, SPU sewer flow information was used for the pipe capacity analysis. It was assumed that the combined sewer mains that do not have capacity will be upsized or rerouted to systems having capacity. Similar to the water analysis, in order to maintain streetcar operations, it was assumed that the combined sewer main located in Yesler Way and Broadway would not be replaced during the redevelopment of Yesler Terrace.

Sewer flows generated by the Yesler Terrace Redevelopment were estimated by determining the occupancy and flow per residential, commercial and institutional land use using assumed numbers of residential units and bed counts, and amounts of commercial and institutional space (see **Appendix C** for these assumptions). A traditional approach was used for the sewer analysis (i.e. rainwater harvesting and grey water re-use were not included in the analysis). Flow per unit was based on assumptions from *Wastewater Engineering: Treatment and Reuse, Metcalf and Eddy 4th edition* (March, 2002) and *Washington State Department of Ecology Criteria for Sewage Works Design, 2008*.

Sanitary sewer flows for each alternative were estimated by determining the occupancy and flow per residential, commercial and institutional land use. Residential flows were based on the number of dwelling units and bedrooms multiplied by a standard sanitary sewer collection factor of 200 gallons per day (gpd) per bedroom. Commercial and institutional flows were based on square footage of building area. The flow per unit and a peaking factor of 3 were applied, based on assumptions from the references noted above. Peaking factor is a ratio of Peak Hourly Flow to Daily Average Flow.

To analyze the capacity of the public combined sewer system with the Yesler Terrace Redevelopment, the estimated sanitary sewer flows were combined with the off-site flows and stormwater flows. The existing on-site combined sewer conveyance system was evaluated for capacity to serve the Alternatives 1-4 at full buildout. For the pipe capacity analysis, the upstream off-site flows and the storm drainage flows were added to the on-site estimated sewer flows. In order to maintain the First Hill streetcar operations during the Yesler Terrace Redevelopment, it is assumed that the sewer main located in Yesler Way and Broadway would not be replaced to prevent excavation near or below the streetcar rail. Also, for each alternative, the existing combined sewer main located between 9th Avenue and Yesler Way/Broadway within the site would be relocated to 8th Avenue for Alternatives 1, 1A, and 4, or 9th Avenue for Alternative 2 and 3, and convey combined sewer flow to the 24-inch line located under I-5.

(See **Appendix O** for additional information on the methodology and assumptions used for the sewer analysis.)

Sanitary Sewer Flow

Table 3.14-2 summarizes the estimated sanitary sewer flows at full buildout under Alternatives 1-4 and under the No Action Alternative. As shown in **Table 3.14-2**, all of the redevelopment alternatives would increase sewer flows relative to existing conditions. Alternative 3 would have the greatest sewer flows and Alternative 4 the least sewer flows of the redevelopment alternatives.

Table 3.14-2
SUMMARY OF SANITARY SEWER FLOWS

	Average Daily Flow	Peak Hourly Flow
	gpd	cfs
Existing Condition / No Action Alternative	250,000	1.15
Alternative 1-Low Density	1,310,000	6.09
Alternative 1A-Low Density	1,020,000	4.75
Alternative 2- Medium Density	1,700,000	7.88
Alternative 3- Higher Density	2,040,000	9.45
Alternative 4- Existing L3 Zoning	490,000	2.26

Source: SvR Design Company, 2010.
gpd = gallons per day
cfs = cubic feet per second

Alternatives 1, 1A and 4

The following assumptions were made for the sewer design under Alternatives 1, 1A and 4:

- Existing combined sewer mains would be reused where existing mains have sufficient capacity to convey the flows for each of the alternatives.
- A new combined sewer main would be located in 8th Avenue that connects to the existing combined sewer main at Yesler Way.
- A new combined sewer main would be located in S Main Street to provide sewer service to the SW and SE Sectors.

Following is a description of the assumed sewer system under Alternatives 1, 1A and 4 by sector:

NW Sector

The existing 12-inch combined sewer main located between 9th Avenue and Yesler Way does not have capacity for the estimated flows. With the construction of the First Hill Streetcar and no improvements to the combined sewer in Yesler Way and Broadway, a new combined sewer main would be located in 8th Avenue that connects to the existing combined sewer at Yesler Way. It is assumed that the existing combined sewer main in 9th Avenue and Terry Avenue and the main along the west portion of the site would remain.

NE Sector

The existing combined sewer main in this sector is estimated to have capacity for Alternatives 1, 1A and 4. It is assumed that the existing side sewer connections at the right-of-way could be re-used.

SW Sector

The existing combined sewer main along I-5 would be removed or abandoned and a new sewer main would be located along the west property line and connect to the combined sewer main at

8th Avenue S and I-5. It is assumed that a new combined sewer main would be located in S Main Street to provide sewer service to the southeast portion of the SW Sector.

SE Sector

It is assumed that a new combined sewer main would be located in S Main from 10th Avenue to 12th Avenue and the combined sewer would be upsized to convey the estimated flows from the redevelopment from 12th Avenue S to east of Boren Avenue. It is also assumed that the existing combined sewer main in Yesler Way and in S Washington Street would remain and the existing side sewer main connections at the ROW could be re-used.

East of Boren Sector

The existing combined sewer main in this sector is estimated to have adequate capacity for Alternatives 1, 1A and 4. It is assumed that the existing side sewer pipe connections at the right-of-way could be re-used.

(See Figure 3.2-1 in **Appendix O** for an illustration of the assumed sewer system under Alternatives 1, 1A and 4.)

Alternatives 2 and 3

The following assumptions were made for the sewer analysis under Alternatives 2 and 3:

- Sewer mains would be replaced or new lines installed for new roadways that would be constructed.
- Stormwater would be separated from sewer flows onsite and then connected at the downstream end of the site to the existing combined sewer mains.
- Additional sewer flow would be conveyed to the West Conveyance Basin by redirecting sewer flow in the combined sewer main located in 9th Avenue from E Fir Street south to the I-5 combined sewer main connection currently located at the south end of 8th Avenue S.
- Sewer flows from the NE Sector would be conveyed south across Yesler Way to a new sewer main located in 10th Avenue S to S Main Street.

Following is a description of the assumed sewer system under Alternatives 2 and 3 by sector:

NW Sector

The existing 12-inch combined sewer main located between 9th Avenue and Yesler Way does not have capacity for the estimated flows. With the construction of the First Hill Streetcar and no improvements to the combined sewer in Yesler Way and Broadway, a new sewer main is assumed in 9th Avenue from Alder Street to the downstream point of connection at I-5. It is assumed that a new sewer main would be located in Fir Street to provide sewer service to the northeast section of the NW Sector. The existing sewer main along the west edge of the NW Sector is assumed to remain.

NE Sector

A new 8-inch sewer main is assumed to be installed in 10th Avenue. It was assumed that building side sewer connections would connect to this sewer main or to an existing side sewer connection in Yesler Way.

SW Sector

It is assumed that new sewer mains would be located in 9th Avenue S and S Washington Street. The existing combined sewer main in the northwest section of the sector would be removed or abandoned and a new combined sewer main would be installed along the west property edge.

SE Sector

A new combined sewer main located in 10th Avenue S is assumed to convey sanitary sewer flows from both the NE and SE Sector to the new sewer main located in S Main Street. It is assumed that the existing combined sewer main in S Main Street would be removed and a new 20-inch combined sewer main installed from 12th Avenue S to the connection to the 30x45 combined sewer main located east of Boren Avenue.

East of Boren Sector

No public sewer improvements are assumed in this sector, because there is existing capacity in the system and side sewer connections are available. Connections to the existing combined sewer are assumed to be made at existing and proposed side sewer connections.

(See Figure 3.2-2 in **Appendix O** for an illustration of the assumed sewer system under Alternatives 2 and 3.)

No Action Alternative

Sanitary sewer flows under the No Action Alternative are assumed to be the same as under existing conditions (see **Table 3.14-2**). This alternative represents the lowest level of site redevelopment and infrastructure improvements, and would result in the least amount of changes to the sanitary system of the EIS alternatives. Under the No Action Alternative it is assumed that the majority of the existing side sewers and private trunk lines would require extensive repairs or replacement to remain functional, given their age and existing condition. Repairs could be completed by excavation and removal of lines, or possibly by a trenchless method, such as "pipe-bursting"[3] or pipe relining. SHA maintenance staff have identified areas consider "high priority" for repairs/replacement. The public sewer system would be maintained by Seattle Public Utilities.

[3] Pipe busting is a method of replacing a pipe where a contractor pulls a new pipe through an existing pipe. The new pipe typically breaks the existing pipe as it is pulled through.

Other Utilities

Electrical

Baseline electrical demand was estimated for Alternative 2 as follows[4]:

- Residential and commercial baseline energy systems were assumed to be electric space heating, electric water heating and rooftop air conditioning units.
- The buildings were assumed to be "2010 Washington energy code compliant."
- Only the building loads were included in the estimates (no peripheral energy use, such as parking lots and street lighting, were included).

It is estimated that Alternative 2 would generate a baseline peak electric load of 5.1 megawatts (MW), with annual electricity consumption of 38,000 MWh. The higher density alternatives (Alternatives 2 and 3) would likely replace the on-site distribution system with an underground system and connect to the existing feeder lines. Under Alternative 1, all overhead electrical lines would be replaced with new overhead lines; under Alternative 4, approximately 30 percent of the overhead electrical lines would be replaced. Seattle City Light has indicated that the electrical feeder lines have sufficient capacity to support redevelopment under all of the alternatives.

Cumulative Impacts

Added demands on the sewer and water systems in the Yesler Terrace site vicinity would be generated by planned adjacent redevelopment (i.e. the Seattle University Major Institution Master Plan (MIMP), King County Youth Detention Facility and First Hill Streetcar projects). It is assumed that necessary improvements, extensions or connections to existing utilities associated with these projects would be designed and constructed in compliance with the applicable City of Seattle regulations, similar to Yesler Terrace. As a result, no significant cumulative utility impacts would be anticipated from these projects, in combination with the Yesler Terrace Redevelopment

Planning for the First Hill Streetcar is underway by the Seattle Department of Transportation. The current preferred alternative routes the streetcar south along Broadway and east along E Yesler Way through the Yesler Terrace site. This alignment would affect the horizontal layout of utilities and future connection to existing utilities with Yesler Terrace Redevelopment.

3.14.3 Mitigation Measures

The following required/proposed and other possible mitigation measures would address potential impacts to public utilities resulting from the Yesler Terrace Redevelopment:

[4] Provided by WSP Environment & Energy, 2010.

Required/Proposed Mitigation Measures

Water

- The design and construction of all water distribution facilities would comply with the City of Seattle regulations for extensions and improvements to the City's water system.

- Water mains would be located within the site's existing dedicated roadway network for Alternatives 1, 1A and 4, and in the new public roadway network or easements for Alternatives 2 and 3, consistent with the City of Seattle public utilities regulations and design standards.

Sanitary Sewer

- A hydraulic analysis of stormwater drainage and wastewater systems would be completed during the design phase of the Yesler Terrace Redevelopment to determine necessary improvements to the City's and site's drainage and wastewater infrastructure. Improvements could include additional upsizing of the combined sewer pipe downstream of the Yesler Terrace Redevelopment in Main Street and 7th Avenue S, as well as GSI and stormwater flow control at the site (see Section 3.3, **Water Resources**, for details).

- The design and construction of public sanitary sewer systems would comply with the City of Seattle standard plans and specifications for extensions and improvements to the City's sewer system.

- Sewer mains would be located within the site's existing dedicated roadway network for Alternatives 1, 1A and 4, and in the new public roadway network or easements for Alternatives 2 and 3, consistent with the City of Seattle public utilities regulations and design standards.

Other Possible Mitigation Measures

- The Yesler Terrace Redevelopment could include provisions to encourage water conservation and/or during building construction and long-term operation of the redevelopment.

3.14.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.15 PUBLIC SERVICES

The following section describes the existing status of public services provided to the Yesler Terrace site by City of Seattle entities and evaluates the impacts of added demand on such service providers from redevelopment of the site under the EIS Alternatives. Municipal services considered in this section include: parks and recreation, schools, fire and emergency medical services (EMS), police services, and solid waste. Community services provided by private and/or non-profit entities are also discussed.

3.15.1 PARKS AND RECREATION

3.15.1.1 Affected Environment

As described in **Chapter 2** of this Draft EIS, there are currently a total of 22.3 acres of public, semi-private and private open space on the Yesler Terrace site including 20.9 acres in the West of Boren Sectors, and an additional approximately 1.4 acres of semi-private open space in the East of Boren Sector (see the following section for definitions of these three open space categories). Certain open space areas on the site are considered unusable, because of steep slopes and lack of access. **Table 3.15.1-1** provides a summary of the existing on-site open space, parks and recreational facilities at the Yesler Terrace site (see the following section for further descriptions of these resources).

Table 3.15.1-1
EXISTING ONSITE PARKS, OPEN SPACE & RECREATIONAL FACILITIES (ACRES)

Parks and Open Space Resources	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal West of Boren Sectors	East of Boren Sector	TOTAL
City of Seattle Parks Dept Facilities							
Yesler Community Center and Playground				1.4	1.4		1.4
TOTAL SEATTLE PARKS DEPT PARKS AND OPEN SPACE				**1.4**	**1.4**		**1.4**
SHA Parks and Open Space							
SHA Public Open Space							
Yesler Playfield				1.2	1.2		1.2
Sector Parks	0.3	0.0	0.1	0.7	1.1		1.1
SHA Semi-Private Open Space	3.1	1.2	1.4	1.4	7.1	1.4	8.5
TOTAL SHA PARKS & OPEN SPACE	**3.4**	**1.2**	**1.5**	**3.3**	**9.4**	**1.4**	**10.8**
TOTAL CITY & SHA USABLE PUBLIC AND SEMI-PRIVATE OPEN SPACE	**3.4**	**1.2**	**1.5**	**4.7**	**10.8**	**1.4**	**12.2**
SHA Unusable Open Space[1]				1.4	1.4		1.4
SHA Private Open Space[2]	2.9	1.3	2.9	1.6	8.7		8.7
TOTAL CITY AND SHA OPEN SPACE	**6.3**	**2.5**	**4.4**	**7.7**	**20.9**	**1.4**	**22.3**

Source: CollinsWoerman, 2010.

[1] Includes approximately 0.6 acres of open space located at the base of a 0.8 acre steep slope which makes the area inaccessible.

[2] Private open space is currently provided in the form of private yards.

Public parks and recreational facilities on and in proximity to the site (i.e. within 0.5 mile of the site) are owned and maintained by either the City of Seattle (City) or Seattle Housing Authority (SHA); semi-private and private open space on the Yesler Terrace site is owned by SHA. **Figure 3.15-1** and **Table 3.15.1-2** identify the parks and recreational resources on and in proximity to the site. Further descriptions of these facilities follow later in this section.

Table 3.15.1-2
EXISTING PARKS/RECREATIONAL RESOURCES
ON & WITHIN 0.5 MILE OF THE YESLER TERRACE SITE

Parks and Recreational Facilities	Ownership	Public/ Private	Acreage	Type/Facilities/Use	Approximate Distance from Site
Yesler Community Center	City	Public	1.4	Gym, playground, classrooms, and spaces that can be rented for special events or meetings. The Center also houses after-school programs, tutoring, a computer lab, teen activities, senior computer training, ESL classes and other programs.	Onsite in SW Sector
Yesler Terrace Playfield	SHA	Public	1.2	Baseball/Softball/Soccer Field	Onsite in SW Sector
Yesler Terrace P-Patches Community Gardens (4 sites)	SHA	Semi-Private	0.3	Community Gardens	Onsite in SW Sector
Yesler Terrace Sector Parks (7 sites)	SHA	Public	1.1	Small plays areas with playground equipment or basketball courts	Onsite in the four West of Boren Sectors
Harborview Park	City/UW	Public	3.6	Viewpoint, paved open space, benches	Adjacent to the north border of the NW Sector across Alder Street
Horiuchi Park 156 Boren Avenue	City	Public	0.3	Viewpoint, open space and park benches	Adjacent to the north border of the East of Boren Sector across E. Fir Street
Bailey-Gatzert Elementary	City	Public	6.7	Playground and Baseball/Softball/Soccer Field	Adjacent to the southeast border of the SE Sector across 12th Avenue
Kobe Terrace	City	Public	1.0	Scenic viewpoint, walking trails, community gardens	0.10 mile southwest of the site across I-5
Boren Place	City	Public	0.3	Open space and park bench	0.27 mile north of the site.
Pratt Park	City	Public	5.6	Basketball courts, picnic areas, playground equipment, trails, wading pool	0.5 mile east of the site

Source: CollinsWoerman and City of Seattle Parks and Recreation Department, 2010.

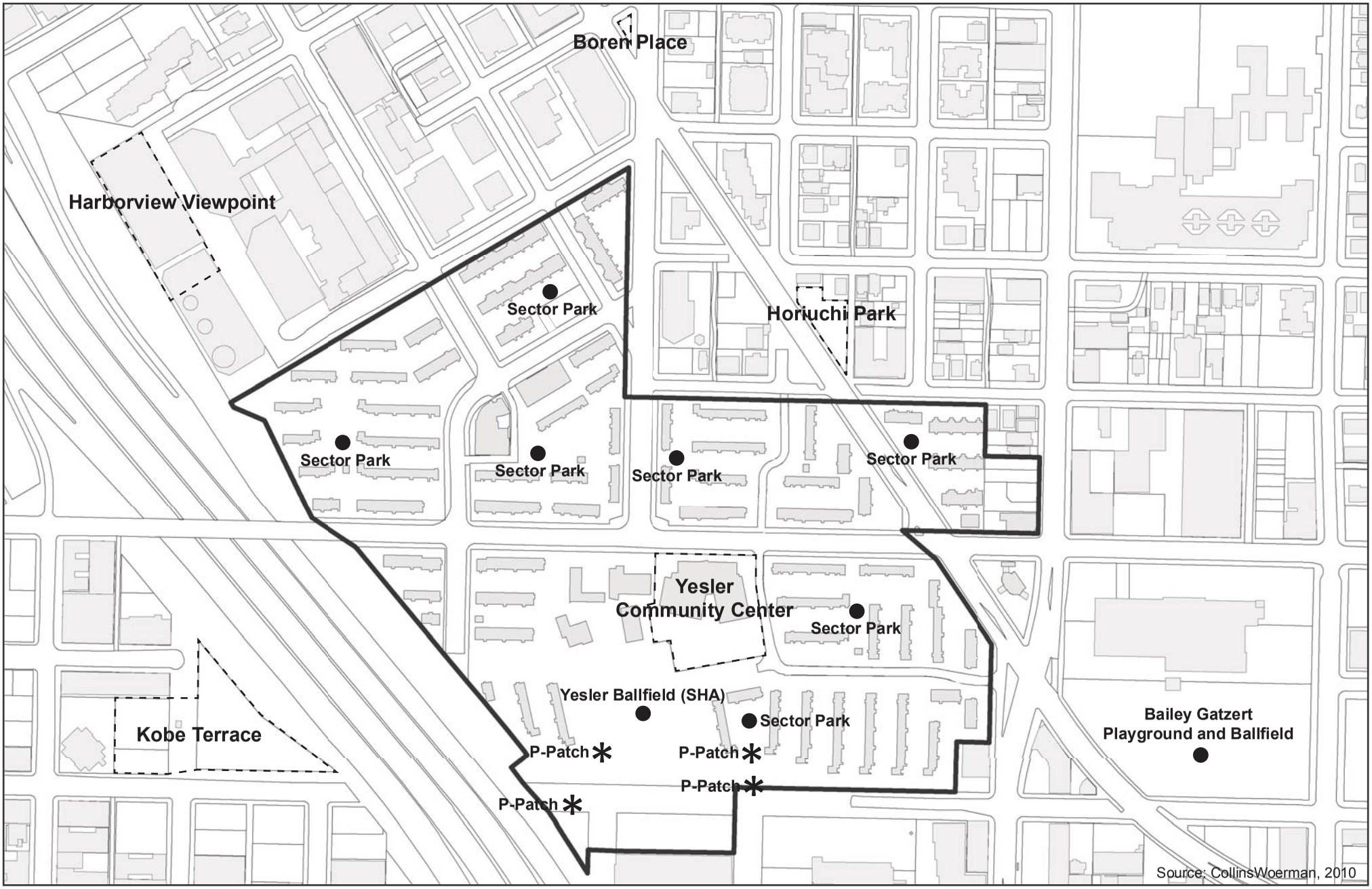


Figure 3.15.1-1
Parks & Open Space Resources

Yesler Terrace
Redevelopment EIS

Seattle Housing Authority Parks, Open Space and Recreational Facilities

The majority of existing parks, open space, and recreational facilities on the Yesler Terrace site are owned and maintained by SHA, and include public, semi-private and private open space, as described below.

Existing Facilities

Public Open Space

Approximately 2.3 acres of public open space are located on the Yesler Terrace site that are owned and maintained by SHA and are accessible to the general public. This area includes the approximately 1.2-acre Yesler Playfield, located adjacent to the Yesler Community Center. The playfield is available for informal use by the general public as well as for rental by organized sports leagues. Currently, the field is leased out to the Seattle Central Little League (SCLL) during the spring baseball season (mid-March through mid-July) (see **Figure 3.15-1** and **Table 3.15.1-2)**. During baseball season, the field is used daily during after school hours and on the weekends for SCLL games and practice as well as drop-in use by the general public.[1] During other times of the year, the field is used by the general public for impromptu baseball, softball or soccer games.

Other limited open spaces are located on the Yesler Terrace site that are accessible to the general public, including some lawns adjacent to the residential buildings at the northern tip of the site and small hardscaped areas at the intersection of Yesler Way and Broadway near the existing Community Center. Seven small sector parks are located within the residential blocks, some of which include play areas with swings, slides and other playground equipment, most of which are in poor condition and do not meet current safety standards.

Semi-Private Open Space

Approximately 8.5 acres of semi-private open space, are located on the Yesler Terrace site and are accessible primarily to the residents of the site. These areas include shared fenced yards accessible only to building residents, shared common space and four P-Patch community gardens. Approximately 22 licensed in-home daycares are currently operated out of ground-floor residential units with private yards. Daycare licensing requirements mandate minimum amounts of indoor and outdoor play area space per child. The Yesler Terrace P-Patches are located in the SW Sector. These P-Patches are managed by the City Department of Neighborhoods and are part of the Seattle Market Gardens program, which provides income to gardeners who sell their produce (see **Figure 3.15-1** and **Table 3.15.1-2)**.

Private Open Space

Approximately 8.7 acres of private open space is currently provided on the site in the form of small fenced yards adjacent to the existing housing units that are accessible only to the residents of the respective units.

[1] Personal communication with SHA field coordinator, June 17, 2010.

Also, SHA permits residents to garden in their yards, after paying a deposit. Many of the yards in the neighborhood are used for agricultural production, including food, herbs and flowers.

Steep Slopes Unusable Open Space

In the southern portion of the SW Sector, a 0.8-acre steep slope area is located just south of S Main Street. An approximately 0.6-acre area is located south of the steep slope and is currently unusable for use or development due to the lack of access (see **Figure 3.15-1)**.

Distribution Guidelines and Capital Facilities Planning

SHA does not currently have distribution guidelines, goals or capital facilities plans specific to the provision of parks and open space within its residential developments as this is not a typical function of public housing authorities. SHA has incorporated significant open space amenities at their HOPE VI redevelopments (New Holly Park, New Rainier Vista, and Highpoint) that are managed and maintained through various legal mechanisms, such as open space associations and cost-sharing entities that are provided via covenants, It is likely that one of these approaches will be utilized to provide for the maintenance of public open space amenities at the redeveloped Yesler Terrace. Private open space will be maintained by the relevant property owner.

City of Seattle Parks Department Parks and Open Space

Existing Facilities

Existing parks and recreational facilities on the Yesler Terrace site that are owned and maintained by the City include the approximately 0.7-acre Yesler Community Center building and the 0.7-acre associated outdoor playground area. The outdoor play area includes playground equipment with a slide, swings, and climbing wall. Other facilities and services provided at the Yesler Community Center include a gym, classrooms, and spaces that can be rented for special events or meetings. The Center also houses after-school programs, tutoring, a computer lab, teen activities, senior computer training, ESL classes and other programs.

A number of parks and recreational facilities that are owned and operated by the City are located in proximity to the site (within 0.5 mile) and provide both active and passive recreational opportunities for residents, employees and visitors to the area. These resources are shown relative to the Yesler Terrace site on **Figure 3.15-1** and are listed on **Table 3.15.1-2**.

Baseball fields in closest proximity to the site are the fields at Bailey-Gatzert Elementary School (adjacent to the site), Garfield Park (approximately 0.8 miles northeast of the site) and Judkins Park (approximately 0.6 miles southeast of the site). These fields currently experience heavy use during baseball season (mid-March through mid-July) from both youth and adult sports leagues and the general public. During baseball season, these fields are continuously used during weekday after school hours and all day on weekends (Garfield from 9 AM -10:30 PM and Judkins from 10 AM - 8:30 PM).[2]

[2] Per personal communication with Seattle Parks and Recreation Department Staff on June 11, 2010.

Distribution Guidelines

The *City of Seattle Parks and Recreation Plan 2000* addresses open space, parks and recreational services for a 10- to 20-year time frame, and presents distribution guidelines for park and recreational facilities in the City. The 2000 Plan includes a vision statement, policy statements, and a six-year action plan for 2000 to 2006. In 2006, the City issued a report entitled, *An Assessment of Gaps in Seattle's Open Space Network: The 2006 Gap Report Update*, which provides an update on the progress the City has made toward achieving the goals identified in the 2000 Parks and Recreation Plan.

The City of Seattle has not adopted level of service standards relative to park and recreation opportunities. However, the 2000 and 2006 plans mentioned above identify distribution goals for the location of parks and recreation facilities and progress on meeting those goals (see **Table 3.15.1-3** for these distribution guidelines).

The 2006 Gap Report identifies the First Hill Urban Center Village (in which the Yesler Terrace site is located) as one of the City's urban villages facing the greatest open space gaps. The First Hill Urban Center Village does not meet the current usable open space goal for the area based on distribution, and it does not meet usable open space goals based on distribution, population and employment projections for 2024 (see **Table 3.15.1-3** for details**)**. The report does indicate that the First Hill area is meeting current goals for breathing room open space and village commons open space.

Table 3.15.1-3
SEATTLE PARKS AND RECREATION PLAN (2000/2006)
OPEN SPACE DEFINITIONS, GOALS AND CRITERIA

Resource	Definition	Goal for Urban Center Villages Areas (such as Yesler Terrace)	First Hill Urban Center Goal Progress
Breathing Room Open Space	Combined acreage of all dedicated open spaces (parks, greenspaces, trails and boulevards), but not including tidelands and shorelands. *Offsets*[1]: School grounds, green streets, boulevards, trails, etc.	*Desirable:* 1 acre per 100 residents *Acceptable:* 0.33 acres per 100 residents	*Desirable*: Goal Met *Acceptable:* Goal Met
Usable Open Space	Relatively level and open, easily accessible, primarily green open space available for drop-in use (can be part of larger citywide park space). Urban Village Open Space can be considered a type of Usable Open Space, and is defined in the City's Comprehensive Plan as "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." *Offsets*[1]: School grounds, green streets, boulevards, trails, etc.	*Distribution-based Goal:* At least 10,000 sqft of usable open space within 0.125 miles of all village locations *Population-based Goal:* One acre of village open space per 1,000 households *Village Commons Goal:* At least one usable open space of at least one acre in size where existing and target households total 2,500 or more.	Goal Not Met *2004:* Goal of 6.02 acres met *2024:* Goal of 7.22 acres not met (only 6.6 acres presently provided). Goal met in First Hill Urban Center Village by Freeway Park.

Source: Seattle Parks and Recreation Plan, 2000.

[1] *Offsets*: *Seattle's Parks and Recreation Plan 2000* refers to offsets, such as school grounds, recreation facilities, green streets, boulevards and trails, in conjunction with the definitions of Breathing Room and Usable Open Space. Offsets, in this context, are meant as open spaces that may not be owned by Seattle Parks and Recreation that are still used or experienced similarly to City-operated parks and greenspaces. While offsets are not considered as Breathing Room or Usable Open Space, they can provide open space for passive or active recreation or enjoyment and sometimes fill gaps in Breathing Room and Usable Open Space for residents who use the playground at their local school, stroll along a tree-lined boulevard or exercise indoors at a community center.

Parks and Recreation Capital Facilities Planning

The Seattle Parks and Recreation Department uses a three-step process to identify specific maintenance and development projects for funding. Project identification, project selection and project budget/scheduling are based on the latest department assessment of its parks and recreational facilities, coupled with an assessment of the demand for new, renovation or replacement projects. Projects generated in the identification stage are prioritized using information on projected facility use and budget capacity. Park and recreational facility needs for the City are reviewed annually and are reflected in the City's Capital Improvement Program. No new parks or open space facilities are currently planned by the Seattle Parks and Recreation Department for the Yesler Terrace site or the immediate vicinity. The closest new park facility currently in the design phase is the 12th Avenue Gathering Place (0.6 miles northeast of the site near Seattle University) at the intersection of James Court and 12th Avenue. The need for another new park in the First Hill Urban Village has been identified, but a site has not yet been selected.

3.15.1.2 Impacts

This section focuses on the probable significant impacts on parks and recreational facilities on and in the vicinity of the site with redevelopment under Alternatives 1-4 and the No Action Alternative. Impacts which would be common to Alternatives 1-4, such as construction impacts and impacts to City parks and recreational facilities, are discussed at the beginning of this section; impacts that would be unique to specific alternatives follow later in the section. **Table 3.15.1-4** compares the parks and open space resources provided under each Alternative.

Table 3.15.1-4
PARKS AND OPEN SPACE RESOURCES PROVIDED UNDER EACH YESLER TERRACE REDEVELOPMENT ALTERNATIVE

Parks and Open Space Resources	Alternative 1	Alternative 1A	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
City of Seattle Parks Dept Facilities						
Yesler Community Center	1.4	1.4	1.4	1.4	1.4	1.4
TOTAL SEATTLE PARKS DEPT PARKS AND OPEN SPACE	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**	**1.4**
SHA Parks and Open Space						
SHA Public Open Space	4.6	4.6	5.1	5.5	3.8	2.3
SHA Semi-Private Open Space	7.3	7.8	9.4	9.2	7.9	8.5
TOTAL SHA PARKS AND OPEN SPACE	11.9	12.4	14.5	14.7	11.7	10.8
TOTAL CITY AND SHA USABLE PUBLIC AND SEMI-PRIVATE OPEN SPACE	**13.3**	**13.8**	**15.9**	**16.1**	**13.1**	**12.2**
SHA Unusable Open Space[1]	1.4	1.4			1.4	1.4
TOTAL CITY AND SHA OPEN SPACE[2]	**14.7**	**15.2**	**15.9**	**16.1**	**14.5**	**13.6**

Source: CollinsWoerman, 2010.

[1] Includes approximately 0.6 acres of open space located at the base of a 0.8 acre steep slope which makes the area inaccessible.

[2] Private open space is not included in this comparison of alternatives. New private open space is assumed to be provided under the EIS Alternatives 1-4 in the form of balconies and rooftop areas. The amount of private open space provided would depend on the design of specific buildings and, therefore, cannot be quantified at this time. Existing private open space, in the form of fenced yards, is assumed to remain but is not included in the No Action Alternative calculations in order to provide a more accurate comparison of alternatives.

Redevelopment of the Yesler Terrace site would create new capacity for a range of residential, office, commercial and neighborhood service uses, along with associated employment and population. Increases in employment and population on the site over the 20-year build-out period would create related increases in demand for parks and recreational facilities (refer to Section 3.16, **Socioeconomics**, for more detail on population and employment). Redevelopment on the site would occur over a 20-year period and demands on parks and recreational facilities would increase incrementally through 2030.

Further, as described in **Section 3.15.1.1**, the First Hill area in which the site is located is identified as one of the urban villages with the greatest open space gaps in the City. The proposed parks and open space areas associated with Alternatives 1-4 would serve to support

the City's existing village commons, distribution-based and population-based goals for the area identified in **Table 3.15.1-1**.

Parks and open space areas not owned by the City but that are used or experienced similarly to City operated parks and greenspaces are not included in the City's calculations of existing parks and open space, but are considered to contribute cumulatively to "offset[3]" City open space goals (see also **Table 3.15.1-3** for more information regarding offsets). For purposes of this environmental review, all new parks and open space areas provided under Alternatives 1-4 are assumed to be owned and maintained by SHA, not the City[4], and would be considered open space "offsets" by the City.

As part of the definition of the EIS Alternatives, the general size and location of the various proposed parks and recreational facilities have been identified. However, the specific features that would be provided, and the design, layout and configuration of the on-site parks and recreational facilities have not been determined at this stage but would be described in permit applications.

Impacts Common to Alternatives 1-4

Seattle Housing Authority

Construction Impacts

Clearing and grading and other construction activities associated with redevelopment of the Yesler Terrace site would result in periodic increases in dust and noise levels, which could affect users of the Yesler Playfield, residential playgrounds, and other open space areas within the site. These impacts would be temporary and periodic in nature, be mitigated in accordance with City of Seattle requirements for construction mitigation, and would not, therefore, be anticipated to be significant.

Over the 20-year buildout period, new parks and recreational facilities that would be constructed onsite could experience temporary increases in dust, emissions and noise when construction activities are occurring in the immediate area. All construction-related impacts on these parks and recreational facilities would be temporary and periodic in nature, given the phased construction at the site, would only occur when construction is in close proximity to these resources, and would cease once full build-out occurs in 2030.

Operational Impacts

See below under each alternative for a discussion of impacts on existing SHA parks and recreational facilities onsite and a description of proposed SHA parks and recreational facilities with redevelopment of Yesler Terrace.

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[3] *Seattle's Parks and Recreation Plan 2000.*

[4] Maintenance of public parks and open space areas provided under the EIS Alternatives could be managed and maintained through various legal mechanisms, such as open space associations and cost-sharing entities that are provided via covenants. Private open space would be maintained by the property owner.

City of Seattle Parks Department

Construction Impacts

Clearing and grading and other construction activities associated with redevelopment of the Yesler Terrace site would result in temporary and periodic increases in dust and noise levels, which could affect users of the existing Yesler Community Center and other City parks and recreation resources in proximity to the site, such as the Horiuchi Park and Harborview Viewpoint (see **Table 3.15.1-2** for a description of these facilities). These impacts would be temporary and periodic in nature over the 20-year buildout period and would not, therefore, be anticipated to be significant.

Under Alternatives 1-4, the City-owned Yesler Community Center and the associated playground area would remain. No City-owned parks or recreational resources would be displaced to accommodate redevelopment under these Alternatives.

Operational Impacts

Increases in on-site population due to permanent residents, on-site employees and visitors to the Yesler Terrace mixed-use redevelopment would increase demands on local and regional parks and recreational facilities on an incremental basis through buildout in 2030. Increases in the resident, employee and visitor population on the site could result in additional demand for both passive and active City parks and recreational facilities.

City passive recreational facilities most likely to receive increased demand would include existing facilities on or near the site, such as the: Yesler Community Center building onsite, and Harborview Viewpoint, Horiuchi Park and Kobe Terrace in the site vicinity. Given the variety of passive recreational areas located within proximity to the site, increases in use would likely be distributed proportionally among numerous nearby parks and open space areas, and would not be expected to be significant. The proposed on-site SHA parks and recreational facilities that would be constructed by 2030 (described below under each alternative) would also help to meet the demand for passive recreational areas from proposed redevelopment.

Demand for active recreational facilities, such as: baseball and soccer fields, tennis and basketball courts, wading pools, boat launches, and trails, would also increase under Alternatives 1-4 through 2030. The most likely City facilities to experience added use would include facilities in the vicinity of the site, such as: Pratt Park, Leschi Park and Garfield Playfield. Given the limited number of active City-owned recreational facilities in the vicinity of the site and the displacement of the existing Yesler Playfield onsite with proposed redevelopment under Alternatives 1-4, impacts on nearby active recreational facilities could result. The increases in demand would occur incrementally over the 20-year buildout period. The increase in public open space and recreational facilities proposed onsite by 2030 would help to meet the increased demand for active recreational facilities from on-site residents and employees and visitors to the site.

Existing informal drop-in uses of the Yesler Playfield could be accommodated at the new Commons Park that would be constructed adjacent to the existing Yesler Community Center (description provided under each alternative below). The existing formal use of the playfield by the SCLL would need to be relocated to other nearby offsite City sports field facilities, such as Judkins Park located approximately 0.6 miles southeast of the site and Madrona Playground located approximately 1.5 miles northeast of the site, if capacity is available. Staff at the Seattle

Parks and Recreation Department[5] indicates that baseball and softball leagues are growing throughout the City and there is increasing competition for field time during evening and weekend hours. The SCLL is already utilizing other fields in the area, such as the fields at the Bailey-Gatzert Elementary School located adjacent to the southeast boundary of the site and Garfield playing field located approximately 0.8 miles east of the site. Per anecdotal information, it is unlikely that other City-owned fields near the site would be able to accommodate the displaced uses at the Yesler Playfield but fields further away from the site could potentially accommodate the displaced uses. Seattle Parks and Recreation Department staff indicates there is insufficient space to construct a new ballfield at any of the existing parks and open space facilities in the vicinity of the site.

Provision of New City Parks and Recreational Facilities

No new City parks or recreational facilities are assumed to be provided under Alternatives 1-4.

Alternative 1

Under Alternative 1, approximately 13.3 acres of usable parks, open space and recreational facilities would be provided onsite (excluding the 1.4 acres of unusable open space in the SW Sector), as shown in **Table 3.15.1-5**. Approximately 12.6 acres of these resources would be located in the four West of Boren Sectors and 0.7 acres in the East of Boren Sector. Alternative 1 would provide an increase in usable public and semi-private open space onsite relative to existing conditions (13.3 acres versus the existing 12.1 acres). These parks and recreational resources are described in more detail in this section. In addition to the 13.3 acres of public and semi-private parks and open space areas, additional private open space in the form of balconies, building roofs and upper level courtyards would be provided at each building for building residents' exclusive use. The location and amount of private open space would be determined during the site-specific design and permit review stage.

[5] Personal communication with Seattle Parks Department Staff, June 11, 2010.

Table 3.15.1-5
ALTERNATIVE 1 - ONSITE PARKS, OPEN SPACE & RECREATIONAL FACILITIES (ACRES)

Parks and Open Space Resources	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal West of Boren Sectors	East of Boren Sector	TOTAL
City of Seattle Parks Department Facilities							
Yesler Community Center				1.4	1.4		1.4
TOTAL SEATTLE PARKS DEPT USABLE PARKS AND OPEN SPACE				**1.4**	**1.4**		**1.4**
SHA Parks and Open Space							
SHA Public Open Space							
Commons Park				1.7	1.7		1.7
Sector Parks	1.2	0.3	0.3	0.8	2.6	0.1	2.7
Other Open Space[1]	0.2				0.2		0.2
SHA Semi-Private Open Space	2.8	0.8	1.8	1.3	6.7	0.6	7.3
TOTAL SHA PARKS AND OPEN SPACE	**4.2**	**1.1**	**2.1**	**3.8**	**11.2**	**0.7**	**11.9**
TOTAL CITY AND SHA USABLE OPEN SPACE	**4.2**	**1.1**	**2.1**	**5.2**	**12.6**	**0.7**	**13.3**
SHA Unusable Open Space[2]				1.4	1.4		1.4
TOTAL CITY AND SHA OPEN SPACE	**4.2**	**1.1**	**2.1**	**6.6**	**14.0**	**0.7**	**14.7**

Source: CollinsWoerman, 2010.
[1] Other open space includes natural open space with trees and plants.
[2] Includes approximately 0.6 acres of open space located at the base of a 0.8 acre steep slope which makes the area inaccessible.

Seattle Housing Authority

Impacts on Existing SHA Parks, Open Space and Recreational Facilities

Under Alternative 1, the SHA-owned Yesler Playfield, the four Yesler Terrace P-Patches, and seven sector parks (small play areas) within the residential areas of the site would be displaced over the 20-year buildout period. As phased redevelopment occurs and existing parks and recreational resources are displaced, temporary increases in demand could be experienced at existing on-site SHA facilities until development of new sector parks occurs.

The Yesler Playfield, located in the SW Sector, would be displaced to accommodate the proposed redevelopment and would not be relocated onsite. Existing users of the playfield, including baseball and softball leagues, would need to relocate to other offsite City-owned facilities (see discussion provided in City of Seattle Parks and Recreation Department Operational Facilities above).

The four existing Yesler Terrace P-Patches which are currently located in the SW Sector would be displaced. Under all redevelopment Alternatives, very few private yards are assumed; therefore, the opportunity for residents to plant gardens in private yards would also be displaced. New P-Patch Community Gardens could be provided at the Commons Park, within each of the Sector Parks and in rooftop gardens to offset the loss of the existing P-Patches

onsite (see the descriptions below for details). Residents could also apply for space at the existing P-Patch located in the vicinity of the site near the intersection of 14th Avenue and E Fir Street.

The seven existing small play areas within the residential areas onsite would be displaced as phased redevelopment occurs. It is assumed that with redevelopment, new play areas would be provided in Sector Parks within the four West of Boren Sectors and the East of Boren Sector that would provide comparable or improved facilities relative to existing conditions (see the Proposed Parks and Open Space Facilities section below for details). It is anticipated that new facilities would be developed as existing facilities are displaced.

The Yesler Terrace households that currently have in-home daycare businesses could be temporarily displaced as redevelopment occurs. Under all alternatives it is assumed that a portion of the extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses.

Proposed Parks, Open Space and Recreational Facilities

Alternative 1 would provide approximately 11.9 acres of usable SHA parks, open space and recreational facilities at the site (excluding the 1.4-acre unusable open space assumed to remain). It is not possible to identify the specific designs, features or configurations of these resources at this time; however, it is assumed that a mix of landscaped open space, play areas, plazas and courtyards would be provided as elements of on-site redevelopment. Recreational opportunities provided with redevelopment of the site would help meet the demands of on-site residents, and employees and visitors to the site.

The open space concept for Alternative 1 would be based upon providing a variety of public, semi-private and private open space areas of various types and sizes in order to accommodate different uses and user populations. The provision of hillclimbs or meandering paths in areas of the site with steep topography would also facilitate connections within the site and to adjacent neighborhoods, especially the Little Saigon area to the south of the site. The open space concept would also be intended to provide access to the site's views of downtown Seattle and Puget Sound.

Public Open Space. A total of approximately 4.6 acres of SHA public open space would be provided under Alternative 1. These open space areas would include a number of new recreational opportunities that would be available for use by the general public, including a large open area intended to serve the community, as well as smaller sector and other open spaces.

> **Commons Park:** Under Alternative 1, an approximately 1.7-acre park would be developed in the SW Sector, adjacent to the existing Yesler Community Center. The Commons Park would be intended to serve as the community's central gathering place. It would contain both active and passive recreational opportunities to serve the community. Active areas could include the relocated P-Patch community gardens, an amphitheater, farmers market plaza, community center terrace, and a children's play area. Passive recreational areas, such as an open lawn and a native tree grove, would provide residents with access to light, views, and a connection to nature in the City.
>
> **Sector Open Space:** The approximately 2.7 acres of open space distributed across all sectors would be intended to serve the daily needs of surrounding neighbors and on-site

building residents and employees and to highlight the unique qualities of the neighborhood for visitors from outside the district. Where possible, the open spaces would be arranged to create an accessible pedestrian route through each sector and would be located adjacent to streets to increase connectivity and maximize the pedestrian use of streets. Sector open space would also be configured to allow maximum access to light and air. Landscape features, such as community gardens and natural drainage features, would be provided in these areas. Sector open space would be comprised of the following types of parks:

- Each sector would contain one Sector Park which would serve as the sector's hub. This park would focus on passive recreational activities, such as open lawn and picnic areas, as well as children's play areas and community gardens.
- Pocket Parks would be very small parks located adjacent to housing that would have limited outdoor space. These parks would serve as shared front yards.
- Other public parks may consist of plazas with comfortable seating and open sightlines for people watching and hanging out, cascading water features that are part of the site's stormwater system, and community gardens. Meandering paths within these parks would allow community members to navigate the site's steep hills at gentler, more accessible grades.
- Viewpoint Parks would be located along the site's steep edges to provide users with views of the surrounding city and landscape.

Other Open Space: An approximately 0.2-acre natural, undeveloped area with trees would be developed near the northwest corner of the NW Sector.

Semi-Private Open Space. Under Alternative 1, a total of approximately 7.3 acres of semi-private open space would be provided. Semi-private open space in the proposed redevelopment is defined as all ground-level open space that is not public open space. Some of these spaces may not be physically open to the public, but would visually extend the perceived open space.

Semi-Private Yards of ground-floor units would serve residents, but also create a more green and active streetscape. Where these yards front onto public open space areas onsite, buffering would be provided. Small paths and gates would allow residents direct, but controlled access to larger public open spaces. Under all alternatives it is assumed that a portion of the extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses. Licensed daycares must provide each child with a minimum amount of space for indoor and outdoor play areas. The provision of adequate indoor and fenced outdoor space in these units would allow Yesler Terrace residents to continue operating daycares within their homes on the redeveloped site.

Semi-Private Courts and Entries associated with each building would provide passive open space for building residents. Between buildings, additional semi-private open space with amenities, such as playgrounds and community gardens, would be shared by several buildings. These semi-private open spaces could allow public access during designated hours.

Private Open Space. Under Alternative 1, additional open space in the form of balconies, building roofs and upper level courtyards would be provided at each building for building residents' exclusive use.

Steep Slopes and Unusable Area. Under Alternative 1, the 1.4-acre steep slope and unusable area in the SW Sector would remain.

Alternative 1A

As shown on **Table 3.15.1-6**, Alternative 1A would be developed as described under Alternative 1, except that 3.3 acres of semi-private open space would be developed in the NW sector, instead of 2.8 acres assumed under Alternative 1, due to less development occurring under this alternative.

Table 3.15.1-6
ALTERNATIVE 1A - ONSITE PARKS, OPEN SPACE & RECREATIONAL FACILITIES (ACRES)

Parks and Open Space Resources	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal West of Boren Sectors	East of Boren Sector	TOTAL
City of Seattle Parks Department Facilities							
Yesler Community Center				1.4	1.4		1.4
TOTAL CITY OF SEATTLE USABLE PARKS AND OPEN SPACE				**1.4**	**1.4**		**1.4**
SHA Parks and Open Space							
SHA Public Open Space							
Commons Park				1.7	1.7		1.7
Sector Parks	1.2	0.3	0.3	0.8	2.6	0.1	2.7
Other Open Space[1]	0.2				0.2		0.2
SHA Semi-Private Open Space	3.3	0.8	1.8	1.3	7.2	0.6	7.8
TOTAL SHA PARKS AND OPEN SPACE	**4.7**	**1.1**	**2.1**	**3.8**	**11.7**	**0.7**	**12.4**
TOTAL CITY AND SHA USABLE OPEN SPACE	**4.7**	**1.1**	**2.1**	**5.2**	**13.1**	**0.7**	**13.8**
SHA Unusable Open Space[2]				1.4	1.4		1.4
TOTAL CITY AND SHA OPEN SPACE	4.7	1.1	2.1	6.6	14.5	0.7	15.2

Source: CollinsWoerman, 2010.
[1] Other open space includes natural open space with trees and plants.
[2] Includes approximately 0.6 acres of open space located at the base of a 0.8 acre steep slope which makes the area inaccessible.

Alternative 2

Under Alternative 2, approximately 15.9 acres of usable parks, open space and recreational facilities would be provided onsite as shown in **Table 3.15.1-7**. Approximately 15.2 acres of these resources would be located in the four West of Boren Sectors and 0.7 acres in the East of Boren Sector. Alternative 2 would provide a substantial increase in usable public and semi-private open space areas onsite relative to existing conditions (15.9 acres versus the existing 12.1 acres), and approximately 2.6 acres more than under Alternative 1. These parks and recreational resources are described in more detail in this section.

Table 3.15.1-7
ALTERNATIVE 2 - ONSITE PARKS, OPEN SPACE & RECREATIONAL FACILITIES (ACRES)

Parks and Open Space Resources	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal West of Boren Sectors	East of Boren Sector	TOTAL
City of Seattle Parks Department Facilities							
Yesler Community Center				1.4	1.4		1.4
TOTAL CITY OF SEATTLE USABLE PARKS AND OPEN SPACE				**1.4**	**1.4**		**1.4**
SHA Parks and Open Space							
SHA Public Open Space							
Commons Park				1.9	1.9		1.9
Sector Parks	1.4	0.4	0.4	0.6	2.8	0.1	2.9
Other Open Space[1]	0.3				0.3		0.3
SHA Semi-Private Open Space	3.1	1.1	2.2	2.4	8.8	0.6	9.4
TOTAL SHA PARKS AND OPEN SPACE	**4.8**	**1.5**	**2.6**	**4.9**	**13.8**	**0.7**	**14.5**
TOTAL CITY AND SHA USABLE OPEN SPACE	**4.8**	**1.5**	**2.6**	**6.3**	**15.2**	**0.7**	**15.9**
SHA Unusable Open Space[2]							
TOTAL CITY AND SHA OPEN SPACE	4.8	1.5	2.6	6.3	15.2	0.7	15.9

Source: CollinsWoerman, 2010.
[1] Other open space includes natural open space with trees and plants.
[2] Under Alternatives 2 and 3, the steep slope and unusable area in the SW Sector would be graded and redeveloped with new uses.

Seattle Housing Authority

Impacts on Existing SHA Parks, Open Space and Recreational Facilities

Retention, displacement and other impacts on SHA parks, open space and recreational facilities would be similar to those described under Alternative 1.

Proposed Parks, Open Space and Recreational Facilities

Alternative 2 would provide parks, open space and recreational facilities at the site. As described under Alternative 1, it is not possible to identify the specific designs, features or configurations of these resources at this time; however, it is assumed that a mix of landscaped open space, plazas and courtyards would be provided as elements of on-site redevelopment. Recreational opportunities provided with redevelopment of the site would help meet the demands of on-site residents, and employees and visitors to the site.

Similar to Alternative 1, the open space concept for Alternative 2 would be based upon providing a variety of public, semi-private and private open space areas of various types and sizes in order to accommodate different uses and user populations. Areas of the sites with steep topography would also be addressed in the concept in order to facilitate connections within the site and to the adjacent neighborhood. The open space concept is intended to provide access to the site's views of downtown Seattle and Puget Sound.

Public Open Space. A total of approximately 5.1 acres of SHA public open space would be provided under Alternative 2, greater than the 4.6 acres proposed under Alternative 1. Public open space would include a number of new recreational opportunities that would be available for use by the general public, such as a large open area intended to serve the community, as well as smaller sector open spaces.

> **Commons Park:** Under Alternative 2, the Commons Park would be comprised of approximately 1.9 acres (as compared to 1.7 acres assumed under Alternative 1) and would have features similar to those described under Alternative 1.
>
> **Sector Open Space:** Under Alternative 2, approximately 2.9 acres of open space would be provided in sector parks (as compared to 2.7 acres under Alternative 1) and would have features similar to those described under Alternative 1.
>
> **Other Open Space:** An approximately 0.3-acre natural, undeveloped area with trees would be developed near the northwest corner of the NW Sector (as compared to the 0.2 acres under Alternative 1).

Semi-Private Open Space. Under Alternative 2, a total of approximately 9.4 acres of semi-private open space would be provided (as compared to the 7.3 acres under Alternative 1) and would include features similar to those described under Alternative 1.

Private Open Space. Under Alternative 2, additional open space in the form of balconies, building roofs and upper level courtyards would be provided at each building for building residents' exclusive use, similar to under Alternative 1.

Steep Slopes and Unusable Area. Under Alternative 2, the 1.4-acre steep slope and unusable area in the SW Sector would be graded and redeveloped with residential and open space uses.

Alternative 3

Under Alternative 3, approximately 16.1 acres of usable parks, open space and recreational facilities would be provided onsite, as shown in **Table 3.15.1-8**. Approximately 15.4 acres

would be located in the four West of Boren Sectors and 0.7 acres in the East of Boren Sector. Alternative 3 would provide a substantial increase in usable public and semi-private open space relative to under existing conditions (16.1 acres versus the existing 12.1 acres), and approximately 2.8 acres more than under Alternative 1. These parks and recreational resources are described in more detail in this section.

Table 3.15.1-8
ALTERNATIVE 3 - ONSITE PARKS, OPEN SPACE & RECREATIONAL AREAS (ACRES)

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal West of Boren Sectors	East of Boren Sector	TOTAL
City of Seattle Parks Department Facilities							
Yesler Community Center				1.4	1.4		1.4
TOTAL CITY OF SEATTLE USABLE PARKS AND OPEN SPACE				**1.4**	**1.4**		**1.4**
SHA Parks and Open Space							
SHA Public Open Space							
Commons Park				1.9	1.9		1.9
Sector Parks	1.6	0.4	0.5	0.6	3.1	0.1	3.2
Other Open Space[1]	0.4				0.4		0.4
SHA Semi-Private Open Space	3.1	1.3	1.9	2.3	8.6	0.6	9.2
TOTAL SHA PARKS AND OPEN SPACE	**5.1**	**1.7**	**2.4**	**4.8**	**14.0**	**0.7**	**14.7**
TOTAL CITY AND SHA USABLE OPEN SPACE	**5.1**	**1.7**	**2.4**	**6.2**	**15.4**	**0.7**	**16.1**
SHA Unusable Open Space[2]							
TOTAL CITY AND SHA OPEN SPACE	**5.1**	**1.7**	**2.4**	**6.2**	**15.4**	**0.7**	**16.1**

Source: CollinsWoerman, 2010.
[1] Other open space includes natural open space with trees and plants.
[2] Under Alternatives 2 and 3, the steep slope and unusable area in the SW Sector would be graded and redeveloped with new uses.

Seattle Housing Authority

Impacts on Existing SHA Parks, Open Space and Recreational Facilities

Retention, displacement and other impacts on SHA parks, open space and recreational facilities would be similar to those described under Alternative 1.

Proposed Parks, Open Space and Recreational Facilities

Alternative 3 would provide parks, open space and recreational facilities at the site. As described under Alternative 1, it is not possible to identify the specific designs, features or configurations of these resources at this time; however, it is assumed that a mix of landscaped open space, plazas and courtyards would be provided as elements of on-site redevelopment.

Recreational opportunities provided with redevelopment of the site would help meet the demands of on-site residents and employees and visitors to the site.

Similar to Alternative 1, the open space concept for Alternative 3 would be based upon providing a variety of public, semi-private and private open space areas of various types and sizes in order to accommodate different uses and user populations. Areas of the site with steep topography would also be addressed in the concept in order to facilitate connections within the site and to the adjacent neighborhood. The open space concept would be intended to provide access to the site's views of downtown Seattle and Puget Sound.

Public Open Space. A total of approximately 5.5 acres of public open space would be provided under Alternative 3 greater than the 4.6 acres proposed under Alternative 1. Public open space would include a number of new recreational opportunities that would be available for use by the general public, such as a large open area intended to serve the community, as well as smaller sector open spaces.

> **Commons Park:** Under Alternative 3, the Commons Park would be comprised of approximately 1.9 acres (as compared to 1.7 acres under Alternative 1) and would have features similar to those described under Alternative 1.
>
> **Sector Open Space:** Under Alternative 3, approximately 3.2 acres of open space would be provided in sector parks (as compared to 2.7 acres under Alternative 1) and would have features similar to those described under Alternative 1.
>
> **Other Open Space:** An approximately 0.4-acre natural, undeveloped area with trees would be developed near the northwest corner of the NW Sector (as compared to 0.2 acres under Alternative 1).

Semi-Private Open Space. Under Alternative 3, a total of approximately 9.2 acres of semi-private open space would be provided (as compared to 7.3 acres under Alternative 1) and would include features similar to those described under Alternative 1.

Private Open Space. Under Alternative 3, additional open space in the form of balconies, building roofs, upper level courtyards would be provided at each building for building residents' exclusive use.

Steep Slopes and Unusable Area. Under Alternative 3, the 1.4-acre steep slope and unusable area in the SW sector would be graded and redeveloped with residential and open space uses.

Alternative 4

Under Alternative 4, approximately 13.1 acres of parks, open space and recreational facilities would be provided as shown in **Table 3.15.1-9**. Approximately 12.4 acres would be provided in the West of Boren Sectors and 0.7 acres in the East of Boren Sector. Alternative 4 would provide a slight increase in usable public and semi-private open onsite (13.1 acres versus the existing 12.1 acres), similar to Alternative 1. These features are described in more detail in this section.

Table 3.15.1-9
ALTERNATIVE 4 - ONSITE PARKS AND OPEN SPACE RESOURCES (ACRES)

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal West of Boren Sectors	East of Boren Sector	TOTAL
City of Seattle Parks Department Facilities							
Yesler Community Center				1.4	1.4		1.4
TOTAL CITY OF SEATTLE USABLE PARKS AND OPEN SPACE				**1.4**	**1.4**		**1.4**
SHA Parks and Open Space							
SHA Public Open Space							
Commons Park				1.7	1.7		1.7
Sector Parks	0.9	0.3	0.4	0.2	1.8	0.1	1.9
Other Open Space[1]	0.2			0.0	0.2		0.2
SHA Semi-Private Open Space	2.9	1.1	1.8	1.5	7.3	0.6	7.9
TOTAL SHA PARKS AND OPEN SPACE	**4.0**	**1.4**	**2.2**	**3.4**	**11.0**	**0.7**	**11.7**
TOTAL CITY AND SHA USABLE OPEN SPACE	**4.0**	**1.4**	**2.2**	**4.8**	**12.4**	**0.7**	**13.1**
SHA Unusable Open Space[2]				1.4	1.4		1.4
TOTAL CITY AND SHA OPEN SPACE	4.0	1.4	2.2	6.2	13.8	0.7	14.5

Source: CollinsWoerman, 2010.
[1] Other open space includes natural open space with trees and plants.
[2] Includes approximately 0.6 acres of open space located at the base of a 0.8 acre steep slope which makes the area inaccessible.

Seattle Housing Authority

Impacts on Existing Parks or Open Space Facilities

Retention, displacement and other impact on SHA parks, open space and recreational facilities would be similar to those described under Alternative 1.

Proposed Parks, Open Space and Recreational Facilities

Alternative 4 would provide parks, open space recreational facilities at the site. As described under Alternative 1, it is not possible to identify the specific designs, features or configurations of these recreational resources at this time; however, it is assumed that a mix of landscaped open space, plazas and courtyards would be provided as elements of on-site redevelopment. Recreational opportunities provided with redevelopment of the site would help meet the demands of on-site residents and employees and visitors to the site.

The open space concept for Alternative 4 is based upon providing a variety of public, semi-private and private open space areas of various types and sizes in order to accommodate different uses and user populations. Areas of the site with steep topography would also be addressed in the concept in order to facilitate connections within the site and to the adjacent neighborhood. The open space concept would be intended to provide access to the site's views of downtown Seattle and Puget Sound.

Public Open Space. A total of approximately 3.8 acres of public open space would be provided under Alternative 4 and would include a number of new recreational opportunities that would be available for use by the general public, such as a large open area intended to serve the community, as well as smaller sector open spaces. The amount of open space proposed under Alternative 4 is less than is proposed under Alternatives 1-3.

> **Commons Park:** Under Alternative 4, the Commons Park would be comprised of approximately 1.7 acres (the same as Alternative 1) and would have features similar to those described under Alternative 1.
>
> **Sector Open Space:** Under Alternative 4, approximately 1.9 acres of open space would be provided in sector parks (less than the 2.7 acres assumed under Alternative 1) and would have features similar to those described under Alternative 1.
>
> **Other Open Space:** An approximately 0.2-acre natural, undeveloped area with trees (the same as Alternative 1) would be developed near the northwest corner of the NW Sector.

Semi-Private Open Space. Under Alternative 4, a total of approximately 7.9 acres of semi-private open space would be provided (greater than the 7.3 acres assumed under Alternative 1) and would include features similar to those described under Alternative 1.

Private Open Space. Under Alternative 4, additional open space in the form of balconies, building roofs, upper level courtyards would be provided at each building for building residents' exclusive use.

Steep Slopes and Unusable Area. Under Alternative 4, the 1.4-acre steep slope and unusable area in the SW sector would remain.

No Action Alternative

No new parks, open space or recreational facilities would be assumed to be provided under the No Action Alternative. Existing City and SHA parks and recreational resources would remain onsite.

Cumulative Impacts

This section describes the cumulative impacts of the proposed Yesler Terrace redevelopment in combination with other foreseeable offsite actions in the site vicinity, including the First Hill Streetcar, King County Youth Detention Facility and the Seattle University Major Institution Master Plan (MIMP) projects.

Due to the relative distance from the Yesler Terrace site, the King County Youth Detention Facility improvements and the Seattle University MIMP projects would be unlikely to significantly impact onsite or nearby offsite parks and open space resources.

Development of the First Hill Streetcar would be adjacent to onsite uses and could cause air quality and noise impacts to adjacent onsite parks and open space resources; these impacts would be temporary and periodic in nature and would not be anticipated to be significant.

Once the First Hill Streetcar project is operational in 2012, the alignment would run through the Yesler Terrace Redevelopment site bringing new visitors to the area from other parts of the City. An increase in the use of onsite and nearby offsite parks and open space areas could be experienced.

The displacement of the existing Yesler Ballfield would also reduce the number of sports fields in the area available for league rental and informal use contributing to the City-wide existing high demand for field time during evening and weekend hours. As only one league is currently renting the field for use, the impact of the displacement of the field to the existing sportsfield shortage would not be significant.

3.15.1.3 Mitigation Measures

Future increases in employment and population at the site over the assumed 20-year buildout period under Alternatives 1-4 would be incremental and would be accompanied by increases in demands on park and recreational resources onsite and in the site vicinity. These impacts would be addressed by the following required/proposed and other possible mitigation measures:

Required/Proposed Mitigation Measures

Onsite parks, open space and recreational facilities would be provided with redevelopment. These resources would include a substantial amount of new usable public and semi-private open space to accommodate the increased population and serve the surrounding community. If these facilities are not owned or maintained by the City, they would not be included in the City's official calculations of parks and open space gaps but would, in practice, serve to offset existing open space deficiencies in the area.

A portion of the tax revenues generated from development of the site – potentially including construction sales tax, retail sales tax, business and occupation tax, property tax, utilities tax, leasehold excise tax, and other fees from City licenses and permits during site redevelopment – would accrue to the City of Seattle and could help offset demands for public services, including parks and recreation. The City's CIP has identified a need for another new park in the First Hill Urban Village, where Yesler Terrace is located, but a site has not yet been selected. SHA, as a First Hill community stakeholder, would continue to advocate for additional parks and open space resources in the neighborhood.

It is anticipated that increases in employees and resident population onsite over the buildout period, along with general growth in this area of the City, would be planned for through the City's ongoing capital facilities planning process.

Under all alternatives it is assumed that a portion of the extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses to accommodate existing relocated daycare uses.

New P-Patch community gardens could be provided onsite in the Commons Park area, each sector park and on rooftop gardens, provided at some buildings. Provision of these new P-Patch facilities could offset displacement of the existing P-Patch gardens located in the SW Sector.

Other Possible Mitigation Measures

SHA could enter into an agreement with the Seattle Public School District to develop an active ballfield or improve the existing ballfield on the Bailey-Gatzert Elementary School grounds to offset the elimination of the existing onsite playfield due to redevelopment.

3.15.1.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.15.2 SCHOOLS

3.15.2.1 Affected Environment

The Yesler Terrace site is located within the Seattle Public School (SPS) District. The SPS District currently operates 90 schools/programs, including 52 elementary schools (kindergarten through 5th grade), 10 kindergarten through eighth grade schools, 9 middle schools (6th through 8th grade), 12 high schools (9th through 12th grade) and 7 alternative schools/programs.

Student Enrollment Policy

In November 2009, the SPS District adopted a new method of assigning students to schools based on attendance area boundaries. Each SPS District school has a defined geographic boundary (attendance area), and students who live within the boundary are assigned to that school. Students who reside within an attendance area boundary for a particular school are assumed to attend the school unless they are participating in special programs that are offered only at certain schools, such as the Accelerated Progress Program (APP) or bilingual programs. Elementary school attendance areas are combined to create middle school attendance areas, resulting in geographically-based feeder patterns as students move from elementary school to middle school. There are not feeder patterns from middle school to high school. Each high school has its own geographic attendance area.[6]

The SPS District student enrollment program is currently in transition as the existing students are "grandfathered" under the previous open enrollment school assignment policies. Existing students can remain enrolled at their current school until the highest grade offered at that school. Newly enrolled students, as well as students progressing from one school level to the next (i.e., elementary school to middle school), are assigned to schools based on the new attendance area assignment policy. Implementation of the new student assignment program is assumed to be phased in beginning with the 2010-2011 school year and completed by 2015.[7]

The Yesler Terrace site is located within the attendance area boundaries for Bailey-Gatzert Elementary School (kindergarten through 5th grade), Washington Middle School (6th through 8th grade) and Garfield High School (9th through 12th grade). **Figure 3.15-2** shows the location of the Yesler Terrace attendance area schools relative to the site.

For purposes of this EIS analysis, a comparison of data for the entire SPS District, the three Yesler Terrace attendance area schools and the schools in the Central District area are provided. Schools in the Central District area are assumed to include Garfield High School, Washington Middle School and the elementary schools that "feed" into Washington Middle School: John Muir, Leschi, Lowell, Madrona K-8, McGilvra, Montlake, Stevens and Thurgood Marshall Elementary Schools.

[6] Seattle Public Schools. *Data Book for Adopted Attendance Area Boundaries,* November 16, 2009.
[7] Seattle Public Schools. *Data Book for Adopted Attendance Area Boundaries,* November 16, 2009.

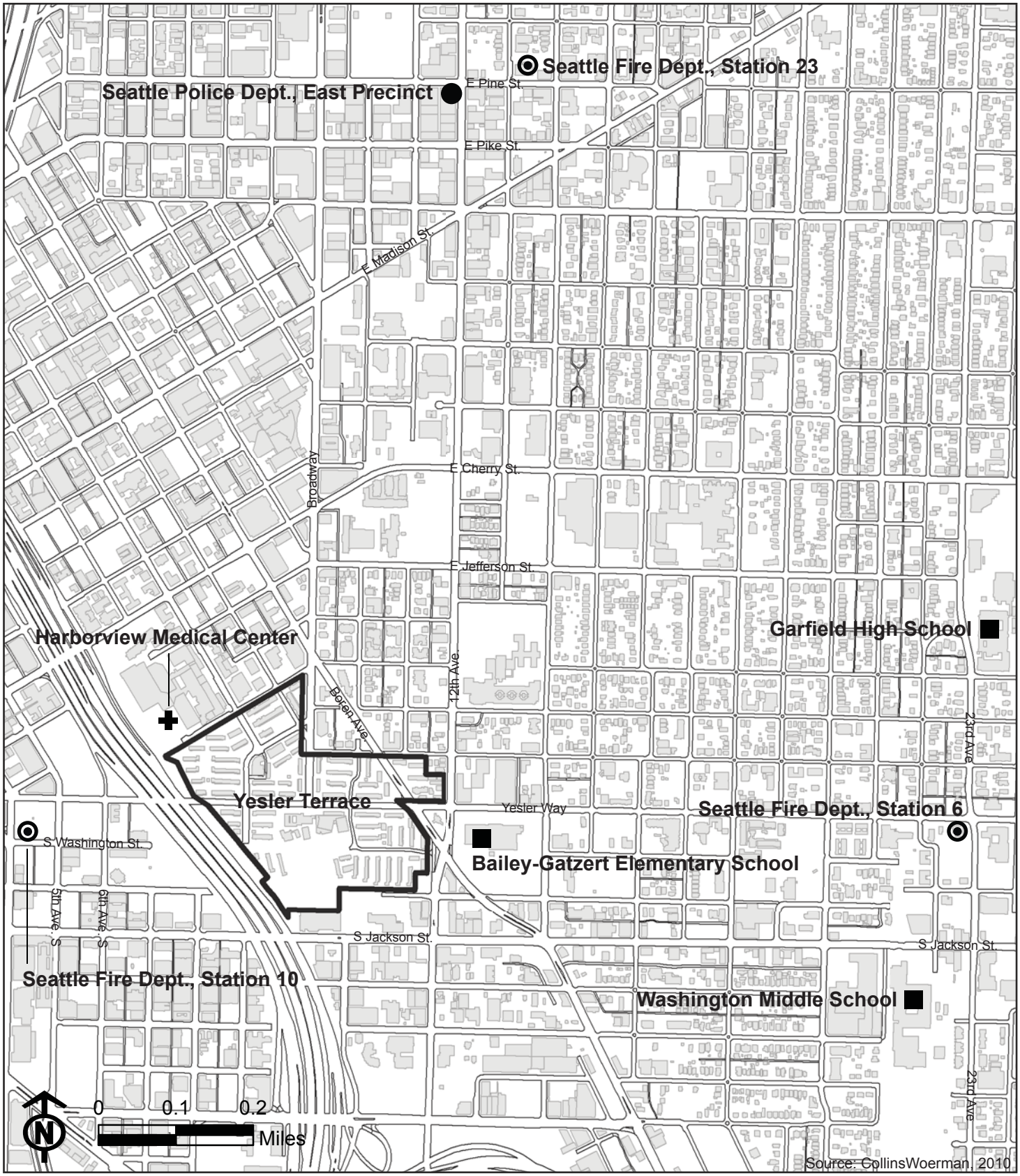

Figure 3.15.2-1
Location of School, Police and Fire Facilities

Yesler Terrace
Redevelopment EIS

Existing Enrollment

In 2009, the SPS District had an enrollment of 45,944 students in grades K-12. This included 23,313 elementary students, 9,401 middle school students and 13,230 high school students.[8]

Table 3.15.2-1 shows district-wide historic enrollment from 2004 - 2009. Enrollment has held relatively steady over the last six years, with fluctuations typically less than one percent each year. Enrollment data show an increase in enrollment of approximately 0.8 percent between 2008 and 2009.

Table 3.15.2-1
SEATTLE SCHOOL DISTRICT TOTAL ENROLLMENT, 2004-2009

Year	Enrollment	Change in Enrollment from Previous Year	Percent Change From Previous Year
2004	46,416		
2005	46,200	-216	-0.5%
2006	45,933	-267	-0.6%
2007	45,276	-657	-1.4%
2008	45,572	296	0.7%
2009	45,944	372	0.8%

Source: **Seattle Public School District, Research, Evaluation and Assessment/Student Information Services Office (REA/SISO),** *Data Profile: District Summary,* December 2009 and Seattle Public Schools. *Seattle Public Schools Enrollment,* September 14, 2009.

Table 3.15.2-2 shows the historic enrollment from 2004 - 2009 for the Central District area in which the Yesler Terrace site is located. Enrollment has fluctuated in this area over the last six years with a 5 percent increase in 2006, to a 3 percent decrease in 2007. Enrollment data show an approximately 4 percent enrollment increase from 2008 to 2009.

Table 3.15.2-2
SEATTLE SCHOOL DISTRICT CENTRAL DISTRICT AREA ENROLLMENT, 2004-2009

Year	Enrollment	Change in Enrollment from Previous Year	Percent Change from Previous Year
2004	5,506		
2005	5,374	-132	-2%
2006	5,657	283	5%
2007	5,512	-145	-3%
2008	5,609	97	2%
2009	5,847	238	4%

Source: **Seattle Public School District**, *Seattle Public Schools Enrollment,* September 2009, 2008, 2007, 2006, 2005 and 2004.

Enrollment in 2009 for the Yesler Terrace attendance area schools were as follows: Bailey-Gatzert Elementary School - 306 students, Washington Middle School - 1,006 students and Garfield High School - 1,613 students.[9]

[8] Seattle Public School District Research, Evaluation and Assessment/Student Information Services Office (REA/SISO), *Data Profile: District Summary*, December 2009.

The existing number of school age children (5 -18) at Yesler Terrace in the West of Boren sectors is approximately 346 students. This number is comprised of approximately 173 elementary students, 73 middle school students and 100 high school students.[10]

The housing units located in the East of Boren sector are currently being leased by the YWCA and utilized as short-term, temporary housing for families in crisis. Although a small number of students may be housed in these units at any given time, school enrollment status and duration is difficult to calculate due to: the transient nature of the population; frequent safety concerns for the families; and, the varying age ranges of children at any given time. Therefore, existing student enrollment for these units has not been calculated for this Draft EIS.

Projected Enrollment

In 2009, the SPS District developed enrollment projections for school year 2015 based on the assumed functional capacity of schools under the new attendance area boundaries.[11] It is assumed that the implementation of the transition from the open enrollment school policy to attendance area schools assignments would be completed by this time.

Functional capacity, as defined by the Seattle School District, is the number of students a building can accommodate based on several factors: consistent accounting of classrooms, offices and other spaces in the building; consistent assumptions about space usage for various program needs; information on a school's student population; and, programmatic needs of those students; and, location of space for specialized programs. **Table 3.15.2-3** shows projected enrollment for school year 2015 (2015 is the only year projected by the District at this time) for the District, the Central District area and the three Yesler Terrace attendance area schools.

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[9] Seattle Public Schools. *Seattle Public Schools Enrollment,* September 14, 2009.
[10] Current number of students at the Yesler Terrace development is based on demographic information provided by the Seattle Housing Authority (2010).
[11] Seattle Public Schools. *Data Book for Adopted Attendance Area Boundaries,* November 16, 2009.

Table 3.15.2-3
PROJECTED SEATTLE PUBLIC SCHOOLS FUNCTIONAL CAPACITY AND STUDENT ENROLLMENT (2015)

	2015 Forecasted Functional Capacity	2015 Forecasted Enrollment	2015 Forecasted Available Functional Capacity[1]
Seattle Public School District			
Elementary	23,317	22,482	835
Middle School	8,983	8,258	725
High School	12,676	11,169	1,507
TOTAL	**44,976**	**41,909**	**3,067**
Central District Area			
Elementary	3,545	3,215	330
Middle School	1,119	1,044	75
High School	1,598	1,624	(26)
TOTAL	**6,262**	**5,883**	**379**
Yesler Terrace Attendance Area Schools			
Bailey-Gatzert Elementary	470	423	47
Washington Middle School	1,119	1,044	75
Garfield High School	1,598	1,624	(26)
TOTAL	**3,187**	**3,091**	**96**

Source: **Seattle Public School District.** *Data Book for Adopted Attendance Area Boundaries,* November 16, 2009.
[1] Numbers in parenthesis are negative and represent a deficiency in capacity.

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Enrollment projections indicate District-wide enrollment would decline from 45,944 in 2009 to 41,909 in 2015. Enrollment in the Central District area schools is estimated to remain relatively stable from 5,847 in 2009 to 5,883 in 2015. Enrollment at Bailey-Gatzert is assumed to significantly increase from 306 in 2009 to 423 in 2015, while enrollment at Washington Middle and Garfield High School are anticipated to remain relatively steady.

Building Capacity

The SPS District's total functional capacity to house students is estimated to be 44,976 students in 2015, which is sufficient to accommodate the forecasted enrollment of 41,909 students in 2015. Schools in the Central District area are forecasted to have a functional capacity of 6,262 students which is sufficient to support the forecasted enrollment of 5,883 in 2015. The three Yesler Terrace attendance area schools are forecasted to have a functional capacity of 3,187 students and an enrollment of 3,091 students. Bailey-Gatzert and Washington Middle School would have sufficient capacity to meet forecasted enrollment, whereas Garfield High School would be 26 students over functional capacity in 2015.

School Impact Mitigation Fees

Under the Growth Management Act (GMA), cities, towns, and counties are authorized to impose impact fees on new development to help finance certain public facilities, including schools, within their jurisdiction. The City of Seattle has not adopted an impact fee ordinance related to schools, and therefore, does not collect school impact fees at this time.

Building Excellence Program

In 2007, voters approved a major tax levy for the improvement of school facilities, now labeled the Building Excellence III Project. This six-year $490 million bond will replace or renovate seven schools, and continue the District's long-range plan for renewing aging school buildings throughout the City, and replacing or modernizing the District's building, infrastructure and technology. No projects are scheduled for Bailey-Gatzert Elementary and Washington Middle School, under the Building Excellence III project. Garfield High School was extensively renovated between 2006 and 2008 under the Building Excellence II Project, which was a different tax levy approved by voters in 2001.

Career and Technical Education

Seattle Housing Authority (SHA) and the SPS District have had ongoing discussions about the feasibility of developing a Career and Technical Education (CTE) program on the Yesler Terrace site. This program would be intended to provide career skills training for junior and senior high school students. The training provided at CTE could lead to industry certification and employment and would be developed in coordination with health care providers in the vicinity of the site. The CTE program would be anticipated to enroll about 130 students per semester and would require approximately 5,000 SF of space. The provision of this program space as part of the Yesler Terrace redevelopment could serve to reduce the existing and forecasted high school capacity shortage for Garfield High, the site's attendance area high school. To date, SHA and the District have not agreed to the specifics of this program.

Capital Facilities Planning

According to the SPS District's *Capacity Management Policy* (H13.00[12]), the District will annually evaluate enrollment and capacity management issues. According to policy H13.00, the District could take any of the following actions to match capacity and enrollment, depending on the needs in a particular geographic area:

Adding, relocating or removing programs;
Adjusting school boundaries;
Adjusting geographic zones for option schools;
Adding or removing portables;
Adding to or renovating buildings; or
Opening, reconstituting or closing buildings.

[12] Seattle Public School District. *Capacity Management Policy - H13.00*, Adopted November 18, 2009.

Seattle School District Transportation Policies

Per the SPS District's current *Transportation Service Standards* (2009-2010), students are generally eligible for transportation services under the following conditions:[13]

> Elementary and K-8 school students who live more than 1.0 mile from their attendance area school;
> Middle school students who live more than 2.0 miles from their middle school; and,
> High school students who live more than 2.5 miles from their high school.

Students from Yesler Terrace currently who attend the three attendance area schools (Bailey-Gatzert Elementary School, Washington Middle School and Garfield High School) do not receive transportation service from the District, as all three are located closer than the distances listed above. Students from Yesler Terrace who are assigned to other District schools through special programs may qualify for District transportation services as detailed in the Transportation Service Standards.

3.15.2.2 Impacts

Methodology

The SPS District does not have standard student generation rates for use in land use planning analyses; therefore, a methodology has been formulated for this Draft EIS analysis. Projected student generation from the Yesler Terrace redevelopment has been calculated based on the assumed number of multi-family residential units and housing types under each alternative (i.e. extremely low income, very low income, low income and market rate housing) and an assumed ratio of students per housing unit. Detailed calculations of student generation rates for the Yesler Terrace Redevelopment are provided in **Appendix P**.

Two student generation rates have been developed for this Draft EIS analysis: one for the extremely low income and very low income housing units and one for the low income and market-rate housing units. The two rates were developed in order to accurately represent the actual projected student generation rates at the Yesler Terrace redevelopment, by utilizing SHA demographic information and the most recent US Census data (2000) for the three census tracts that encompass the site and the immediately adjacent area. The methodology used to derive the student generation rates for each type of housing is described below.

Extremely Low Income and Very Low Income Units

Student generation rates for the extremely low income households (household income at or below 30 percent of the Average Median Income (AMI) for the Seattle-Bellevue Metropolitan Statistical Area (SMA) and very low income households (household income at or below 50 percent of the City's AMI) were calculated based on demographics information from SHA for the existing 561 extremely low income units located at the Yesler Terrace site. SHA data indicates that 480 minors (children less than 18 years of age) currently reside on the site in 509 SHA-occupied housing units. According to Year 2000 US Census data, within the census tracts

[13] Seattle Public School District. *Transportation Service Standards, 2009-2010,* 2009. Specific guidelines and exceptions (such as medical, special education or safety exceptions) are listed in the Transportation Service Standards.

including the site and immediately surrounding area, approximately 28 percent of the total population of minors is likely to be under the age of 5 and not attending school. Assuming a similar age distribution for the Yesler Terrace population, approximately 133 children of the total number of minors are likely to be under 5 years old. Therefore, there are an estimated 346 school-age children residing in the 509 existing extremely low income units at Yesler Terrace, which results in a **student generation rate of 0.68 students per housing unit** (see **Appendix P** for details).

Since the SPS District is currently accommodating the 346 students living at the existing Yesler Terrace development, this analysis only describes the impacts associated with the assumed increase in the number of students over existing conditions.

Low Income and Market Rate Housing

Student generation rates for low income housing (household income at or below 80 percent of the City's AMI) and market rate housing units were derived by using a combination of both City-wide 2000 Census data and 2000 Census data for the three census tracts around the site. Census data indicates that approximately 17 percent of the population of the City and 17 percent of the population of the census tracts around the site are minors, of which approximately 28 percent are assumed to be less than 5 years old and not attending school. A similar age distribution has been assumed for the population of the low income and market rate housing units which results in a student generation rate of approximately **0.18 students per unit** (see **Appendix P** for details).

Comparison of Alternatives

Table 3.15.2-4 below provides a summary comparison of the new students assumed to be generated under each Alternative using the methodology described above. The number of students generated under Alternatives 1-4 excludes the approximately 346 students which currently reside at the Yesler Terrace site who are already being served by the SPS District. Detailed information about each alternative is provided later in this section.

Table 3.15.2-4
FORECASTED STUDENT GENERATION FOR YESLER TERRACE REDEVELOPMENT

School Level	Alternative 1 & Alternative 1A	Alternative 2	Alternative 3	Alternative 4
Elementary	300	415	507	105
Middle School	125	174	213	44
High School	174	241	294	61
TOTAL	**599**	**830**	**1014**	**210**

Source: Blumen Consulting Group, 2010.

It is not possible to accurately predict what total student enrollment in the SPS District would be at buildout in 2030, since enrollment forecasts have only been calculated by the District to 2015. However, it is estimated that students generated by Yesler Terrace onsite housing would represent a minor increase over typical historical and projected annual enrollment fluctuations for the SPS District as a whole, but would represent a relatively substantial increase in students in the Central District area and the three attendance area schools. Redevelopment of the

Yesler Terrace site and the addition of new students and their associated impacts on the District would occur incrementally over the 20-year buildout period.

As would be the case with all alternatives, employment associated with the redevelopment could encourage new people to move to the area, resulting in additional new students in the District. However, such in-migration or relocation would likely be distributed over a broad area and would not likely represent a significant impact on the District.

Alternative 1 and 1A

All Sectors

Residential development under Alternative 1 and 1A would generate additional student enrollment at the Yesler Terrace attendance area schools (beyond the approximately 346 students currently generated from the site). Under Alternative 1 and 1A, approximately 945 students would be generated by the proposed Yesler Terrace redevelopment enrollment at full buildout in 2030 (approximately 599 of which would be new students), based on the student generation rates described above. It is estimated that the 599 new students would be comprised of approximately 300 elementary students, 125 middle school students and 174 high school students. Approximately 86 of these students would be assumed to be generated from the 250 housing units located in the East of Boren sector, including 43 elementary, 18 middle school and 25 high school students.

Table 3.15.2-5 shows projected student generation from the Yesler Terrace redevelopment at buildout under Alternatives 1 and 1A.

Table 3.15.2-5
PROJECTED K-12 SCHOOL STUDENT GENERATION AT BUILDOUT - ALTERNATIVE 1 and 1A

Type of Housing Unit	Student Generation Rate (per unit)	Housing Units West of Boren	Students West of Boren	Housing Units East of Boren	Students East of Boren	Total Students Under Alternative 1 and 1A[1]
Extremely Low-Income	0.68	508	347	53	36	**383**
Very Low-Income	0.68	211	145	28	19	**164**
Low-Income	0.18	660	120	0	0	**120**
Market Rate	0.18	1,368	247	172	31	**278**
TOTALS		**2,747**	**859**	**253**	**86**	**945**
Existing Students at Yesler Terrace			346		0	**346**
TOTAL INCREASE IN STUDENTS UNDER ALTERNATIVE 1 and 1A			**513**		**86**	**599**

Source: Blumen Consulting Group, 2010.
[1] Difference due to rounding. Detailed calculations are provided in **Appendix P.**

Under Alternatives 1 and 1A, the increase in 599 students from the existing Yesler Terrace redevelopment would represent an approximately 1.4 percent increase over 2015 SPS District total forecasted enrollment, a 10.1 percent increase over 2015 Central District area enrollment,

and a 19.4 percent increase over 2015 enrollment for the Yesler Terrace attendance area schools.

As shown in **Table 3.15.2-6**, excess functional capacity is anticipated to exist within the SPS District as a whole (surplus capacity for 3,067 students in 2015) to serve the students generated by the Yesler Terrace redevelopment under Alternatives 1 and 1A.

Within the elementary schools in the Central District area, there would be sufficient functional capacity to serve the Yesler Terrace redevelopment under Alternatives 1 and 1A. However, the Yesler Terrace attendance area elementary school (Bailey-Gatzert) would not have sufficient capacity to accommodate all of the students from the redevelopment. It is anticipated that a portion of these students would need to be accommodated at other schools within the Central District area. This could result in the need for the District to adjust the attendance area boundaries, provide transportation service for these students and/or take other measures to accommodate the number of students in excess of the forecasted functional capacity.

The additional middle and high school students generated by Yesler Terrace would exceed the capacity at Washington Middle and Garfield High School, which are the Yesler Terrace attendance area schools and the only middle and high schools in the Central District area. It is anticipated that a portion of these students would need to be accommodated at other schools outside the existing attendance area boundary. This could result in the need for the District to adjust the attendance area boundaries, provide transportation service for these students and/or take other measures to accommodate the number of students in excess of the forecasted functional capacity.

Table 3.15.2-6
PROJECTED K-12 SCHOOL ENROLLMENT AND EXISTING CAPACITY, ALTERNATIVE 1 and 1A

School Level	Increase in Students at Yesler Terrace Under Alternative 1 and 1A	Available Functional Capacity in SPS District (2015)	Functional Capacity in District After Redevelopment of Alternative 1 and 1A	Available Functional Capacity in Central District Area (2015)	Functional Capacity in Central District After Redevelopment of Alternative 1 and 1A	Available Functional Capacity in Attendance Area Schools (2015)	Functional Capacity in Attendance Area Schools after Redevelopment of Alternative 1 and 1A[1]
Elementary School	300	835	535	330	30	47	(253)
Middle School	125	725	600	75	(50)	75	(50)
High School	174	1,507	1,333	(26)	(200)	(26)	(200)
TOTAL	**599**	**3,067**	**2,468**	**379**	**(220)**	**96**	**(503)**

Source: Seattle Public Schools; Blumen Consulting Group, 2010.
[1] Numbers in parenthesis are negative and represent a deficiency in capacity.

Alternative 2

Residential development under Alternative 2 would generate additional student enrollment at the Yesler Terrace attendance area schools (beyond the approximately 346 students currently

generated from the site). Under Alternative 2, approximately 1,176 students would be generated by the proposed Yesler Terrace redevelopment enrollment at full buildout in 2030 (approximately 830 of which would be new students), based on the student generation rates described above. It is estimated that the 830 new students would be comprised of approximately 415 elementary students, 174 middle school students and 241 high school students. Approximately 86 of these students would be assumed to be generated from the 253 housing units located in the East of Boren sector, including 43 elementary, 18 middle school and 25 high school students.

Table 3.15.2-7 shows projected student generation from the Yesler Terrace redevelopment at buildout under Alternative 2.

Table 3.15.2-7
PROJECTED K-12 SCHOOL STUDENT GENERATION AT BUILDOUT - ALTERNATIVE 2

Type of Housing Unit	Student Generation Rate (per unit)	Housing Units West of Boren	Students West of Boren	Housing Units East of Boren	Students East of Boren	Total Students Under Alternative 2[1]
Extremely Low-Income	0.68	508	349	53	36	**385**
Very Low-Income	0.68	307	212	28	19	**231**
Low-Income	0.18	950	172	0	0	**172**
Market Rate	0.18	1,982	357	172	31	**203**
TOTALS		**3,747**	**1,090**	**253**	**86**	**1,176**
Existing Students at Yesler Terrace			346		0	**346**
TOTAL INCREASE IN STUDENTS UNDER ALTERNATIVE 2			**744**		**86**	**830**

Source: Blumen Consulting Group, 2010.
[1] Difference due to rounding. Detailed calculations are provided in **Appendix P.**

Under Alternative 2, the increase in 830 students from the existing Yesler Terrace redevelopment would represent an approximately 1.9 percent increase over 2015 SPS District total forecasted enrollment; 14.1 percent increase over 2015 Central District area enrollment; and 27.9 percent increase over 2015 enrollment for the Yesler Terrace attendance area schools.

As shown in **Table 3.15.2-8**, excess functional capacity is anticipated to exist within the SPS District as a whole (surplus capacity for 3,067 students in 2015) to serve the students generated by the Yesler Terrace redevelopment under Alternative 2.

Within the elementary schools in the Central District area, including the attendance area elementary school, Bailey-Gatzert, there would be insufficient functional capacity to serve the Yesler Terrace redevelopment. It is anticipated that a portion of these students would need to be accommodated at other schools outside of the Central District area. This could result in the need for the District to adjust the attendance area boundaries, provide transportation service for these students and/or take other measures to accommodate the number of students in excess of the forecasted functional capacity.

The additional middle and high school students generated by Yesler Terrace would exceed the capacity at Washington Middle and Garfield High School, creating similar impacts as Alternative 1, but based on a larger number of students.

Table 3.15.2-8
PROJECTED K-12 SCHOOL ENROLLMENT AND EXISTING CAPACITY, ALTERNATIVE 2

School Level	Increase in Students at Yesler Terrace Under Alternative 2	Available Functional Capacity in SPS District (2015)	Functional Capacity in District After Redevelopment of Alternative 2	Available Functional Capacity in Central District Area (2015)	Functional Capacity in Central District After Redevelopment of Alternative 2	Available Functional Capacity in Attendance Area Schools (2015)	Functional Capacity in Attendance Area Schools after Redevelopment of Alternative 2[1]
Elementary School	415	835	420	330	(85)	47	(368)
Middle School	174	725	551	75	(99)	75	(99)
High School	241	1,507	1,266	(26)	(267)	(26)	(267)
TOTAL	**830**	**3,067**	**2,237**	**379**	**(451)**	**96**	**(734)**

Source: Seattle Public Schools; Blumen Consulting Group, 2010.
[1] Numbers in parenthesis are negative and represent a deficiency in capacity.

Alternative 3

Residential development under Alternative 3 would generate additional student enrollment at the Yesler Terrace attendance area schools (beyond the approximately 346 students currently generated from the site). Under Alternative 3, approximately 1,360 students would be generated by the proposed Yesler Terrace redevelopment enrollment at full buildout in 2030 (approximately 1,014 of which would be new students), based on the student generation rates described above. It is estimated that the 1,014 new students would be comprised of approximately 507 elementary students, 213 middle school students and 294 high school students. Approximately 105 of these students would be assumed to be generated from the 300 housing units located in the East of Boren sector, including 52 elementary, 22 middle school and 30 high school students.

Table 3.15.2-9 shows projected student generation from the Yesler Terrace redevelopment at buildout under Alternative 3.

Table 3.15.2-9
PROJECTED K-12 STUDENT GENERATION AT BUILDOUT - ALTERNATIVE 3

Type of Housing Unit	Student Generation Rate (per unit)	Housing Units West of Boren	Students West of Boren	Housing Units East of Boren	Students East of Boren	Total Students Under Alternative 3[1]
Extremely Low-Income	0.68	495	341	66	45	**386**
Very Low-Income	0.68	300	207	35	24	**231**
Low-Income	0.18	1,231	224	0	0	**224**
Market Rate	0.18	2,674	483	199	36	**235**
TOTALS		**4,700**	**1,255**	**300**	**105**	**1,360**
Existing Students at Yesler Terrace			346		0	**346**
TOTAL INCREASE IN STUDENTS UNDER ALTERNATIVE 3			**909**		**105**	**1,014**

Source: Blumen Consulting Group, 2010.
[1] Difference due to rounding. Detailed calculations are provided in **Appendix P.**

Under Alternative 3, the increase in 1,014 students from the existing Yesler Terrace redevelopment would represent an approximately 2.4 percent increase over 2015 SPS District total forecasted enrollment; 17.2 percent increase over 2015 Central District area enrollment; and 32.8 percent increase over 2015 enrollment for the Yesler Terrace attendance area schools.

As shown in **Table 3.15.2-10**, excess functional capacity is anticipated to exist within the SPS District as a whole (surplus capacity for 3,067 students in 2015) to serve the students generated by the Yesler Terrace redevelopment under Alternative 3.

Within the elementary schools in the Central District area, including the attendance area school Bailey-Gatzert, there would be insufficient functional capacity to serve the Yesler Terrace redevelopment, creating similar impacts as Alternative 2, but based on a larger number of students.

The additional middle and high school students generated by Yesler Terrace would exceed the capacity at Washington Middle and Garfield High School, creating similar impacts as Alternatives 1 and 2, but based on a larger number of students.

Table 3.15.2-10
PROJECTED K-12 SCHOOL ENROLLMENT AND EXISTING CAPACITY, ALTERNATIVE 3

School Level	Increase in Students at Yesler Terrace Under Alternative 3	Available Functional Capacity in SPS District (2015)	Functional Capacity in District After Redevelopment of Alternative 3	Available Functional Capacity in Central District Area (2015)	Functional Capacity in Central District After Redevelopment of Alternative 3	Available Functional Capacity in Attendance Area Schools (2015)	Functional Capacity in Attendance Area Schools after Redevelopment of Alternative 3[1]
Elementary	680	835	155	330	(350)	47	(633)
Middle School	286	725	439	75	(211)	75	(211)
High School	394	1,507	1,113	(26)	(420)	(26)	(420)
TOTAL	**1,360**	**3,067**	**1,707**	**379**	**(981)**	**96**	**(1,264)**

Source: Seattle Public Schools; Blumen Consulting Group, 2010.
[1] Numbers in parenthesis are negative and represent a deficiency in capacity.

Alternative 4

Residential development under Alternative 4 would generate additional student enrollment at the Yesler Terrace attendance area schools (beyond the approximately 346 students currently generated from the site). Under Alternative 4, approximately 556 students would be generated by the proposed Yesler Terrace redevelopment enrollment at full buildout in 2030 (approximately 210 of which would be new students), based on the student generation rates described above. It is estimated that the 210 students would be comprised of approximately 105 elementary students, 44 middle school students and 61 high school students. Approximately 105 of these students would be assumed to be generated from the 300 housing units located in the East of Boren sector, including 52 elementary, 22 middle school and 30 high school students.

Table 3.15.2-11 shows projected student generation from the Yesler Terrace redevelopment at buildout under Alternative 4.

Table 3.15.2-11
PROJECTED K-12 SCHOOL STUDENT GENERATION AT BUILDOUT - ALTERNATIVE 4

Type of Housing Unit	Student Generation Rate (per unit)	Housing Units West of Boren	Students West of Boren	Housing Units East of Boren	Students East of Boren	Total Students Under Alternative 4[1]
Extremely Low-Income	0.68	460	313	101	69	**382**
Very Low-Income	0.68	0	0	0	0	**0**
Low-Income	0.18	0	0	0	0	**0**
Market Rate	0.18	763	138	199	36	**235**
TOTALS		**1,223**	**451**	**300**	**105**	**556**
Existing Students at Yesler Terrace			346		0	**346**
TOTAL INCREASE IN STUDENTS UNDER ALTERNATIVE 4						**210**

Source: Blumen Consulting Group, 2010.
[1] Difference due to rounding. Detailed calculations are provided in **Appendix P.**

Under Alternative 4, the increase in 210 students from the existing Yesler Terrace redevelopment would represent an approximately 0.5 percent increase over 2015 SPS District total forecasted enrollment; 3.6 percent increase over 2015 Central District area enrollment; and, 6.7 percent increase over 2015 enrollment for the Yesler Terrace attendance area schools.

As shown in **Table 3.15.2-12**, excess functional capacity is anticipated to exist within the SPS District as a whole (surplus capacity for 3,067 students in 2015) to serve the students generated by the Yesler Terrace redevelopment under Alternative 4.

Similar to Alternative 1, within the elementary schools in the Central District area, there would be sufficient functional capacity to serve the Yesler Terrace redevelopment, although the Yesler Terrace attendance area elementary school (Bailey-Gatzert) would not have sufficient capacity.

Unlike Alternatives 1-3, the additional middle school students generated by Yesler Terrace under Alternative 4 would be able to be accommodated within the forecasted 2015 capacity at the attendance area school, Washington Middle School. Similar to Alternatives 1-3, enrollment of high school students from Yesler Terrace would exceed the 2015 functional capacity at Garfield High School, the attendance area school and the only high school facility in the Central District area, creating similar impacts as Alternative 1, but based on a lesser number of students.

Table 3.15.2-12
PROJECTED K-12 SCHOOL ENROLLMENT AND EXISTING CAPACITY, ALTERNATIVE 4

School Level	Increase in Students at Yesler Terrace Under Alternative 4	Available Functional Capacity in SPS District (2015)	Functional Capacity in District After Redevelopment of Alternative 4	Available Functional Capacity in Central District Area (2015)	Functional Capacity in Central District After Redevelopment of Alternative 4	Available Functional Capacity in Attendance Area Schools (2015)	Functional Capacity in Attendance Area Schools after Redevelopment of Alternative 4[1]
Elementary	105	835	730	330	225	47	(58)
Middle School	44	725	681	75	31	75	31
High School	61	1,507	1,446	(26)	(87)	(26)	(87)
TOTAL	**210**	**3,067**	**2,857**	**379**	**169**	**96**	**(114)**

Source: Seattle Public Schools; Blumen Consulting Group, 2010.
[1] Numbers in parenthesis are negative and represent a deficiency in capacity.

No Action Alternative

No new impacts to the SPS District would likely occur as a result of the No Action Alternative as this alternative does not include new residential land uses and would not, therefore, generate new students.

Cumulative Impacts

This section describes the cumulative impacts of the proposed Yesler Terrace redevelopment in combination with other foreseeable offsite actions in the site vicinity, including the First Hill Streetcar, King County Youth Detention Facility and the Seattle University Major Institution Master Plan projects. These three projects would not be anticipated to generate new students for the Seattle Public Schools District; therefore, no cumulative impacts to schools would be anticipated.

3.15.2.3 Mitigation Measures

Future increases in housing units and students associated with these units over the assumed 20-year buildout period under Alternatives 1 through 4 would be incremental and would be accompanied by increases in demands on the Seattle Public Schools District. As noted above, the three existing attendance area schools and the Central District may not have the capacity to accommodate the additional students from the Yesler Terrace Redevelopment (Garfield High School is already over capacity). These impacts would be addressed by the following required/proposed and other possible mitigation measures:

Required/Proposed Mitigation Measures

A portion of the tax revenues generated from development of the site – potentially including construction sales tax, retail sales tax, business and occupation tax, property tax, utilities tax, leasehold excise tax, and other fees licenses and permits – would

accrue to the City of Seattle and the School District and could help offset demand for services from the District.

Other Possible Mitigation Measures

It is anticipated that increases in student population over the buildout period would be addressed through the Seattle School District capital facilities capacity planning process (policy H13.00) to insure that no significant impacts would occur as a result of redevelopment at Yesler Terrace. As stated in **Section 3.15.2.1,** the Seattle School District could take any or a combination of the following actions to match capacity and enrollment as buildout occurs on the Yesler Terrace site:

- Adding, relocating or removing programs;
- Adjusting school boundaries;
- Adjusting geographic zones for option schools;
- Adding or removing portables;
- Adding to or renovating buildings; and/or,
- Opening, reconstituting or closing buildings.

3.15.2.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.15.3 FIRE AND EMERGENCY MEDICAL SERVICES

3.15.3.1 Affected Environment

The Seattle Fire Department provides fire protection, Basic Life Support (BLS) and Advanced Life Support (ALS)/Emergency Medical Services (EMS) throughout the City, including to the Yesler Terrace site, from 33 fire stations. Each fire station provides a full range of fire protection services, including fire suppression, emergency medical and rescue.[14] In 2009, the Department had 1,044 uniformed personnel, with an on-duty strength of 208 officers. Apparatus at all stations includes: 33 fire engines, 11 ladder trucks, 4 aid units (basic life support), 7 medic units (advanced life support), 2 air trucks and 1 hazardous materials response unit.[15] Fire fighters must use compressed air to survive, and air trucks provide air compressors that can refill spent cylinders.

Fire Station 10 (400 S Washington Street), located approximately 0.25 mile from the site, is the closest station to the site and provides first response for fire and EMS. As needed, other stations which also provide service to the site include: Station 6 (101 23rd Avenue S), Station 25 (1300 E Pine Street), and Harborview Medical Center (325 9th Avenue). The Harborview station is the Medic One Headquarters and only provides EMS services. See Figure **3.15.2** for the location of these stations relative to the Yesler Terrace site.

Equipment and staff resources at Fire Stations serving project area

Fire Station 10 currently has nine firefighters and two supervisors on duty at all times. Equipment at the station includes: one engine, one ladder truck, one BLS vehicle and one Hazardous Materials vehicle.

Response Times

The Seattle Fire Department has established a response time goal of four minutes (to be achievable 90 percent of the time) for the first engine company to arrive at the scene of a reported structure fire and/or basic life support medical emergency. Between 2006 and 2009, the Department met this goal, 83 to 87 percent of the time.[16]

Fire/Emergency Service Incident History

Table 3.15.3-1 shows historical incident response data for the Seattle Fire Department in 2008 and 2009 at the four stations which serve the site. Included are responses to calls for fire protection, false alarms, EMS, mutual aid and other services (i.e. rescue, car fire, etc.). The majority of responses at all stations were for EMS.

[14] City of Seattle Comprehensive Plan. 2005. Capital Facilities Appendix.
[15] Seattle Fire Department. Department Profile. http://www.seattle.gov/fire/deptInfo/deptProfile.htm.
[16] City of Seattle. Seattle Fire Department Emergency Response Report. 2009.

Table 3.15.3-1
FIRE/EMS INCIDENTS
RESPONDED TO BY FIRE STATIONS SERVING THE SITE, 2008 & 2009

	Station 10 (First Responder to Yesler Terrace)	**Station 6**	**Station 25**	**Harborview**
2008				
Structure Fire	17	15	23	0
Non-Structure Fire	170	148	280	2
False Alarm	610	303	821	0
EMS	4,629	1,611	5,115	6,004
Mutual Aid	0	4	0	0
Other (i.e. rescue, car fire)	207	119	269	5
2008 Total	**5,633**	**2,200**	**6,508**	**6,011**
2009				
Structure Fire	13	21	17	--
Non-Structure Fire	186	181	297	--
False Alarm	571	321	753	--
EMS	5,329	1,525	4,688	17,039
Mutual Aid	1	1	0	2
Other (i.e. rescue, car fire)	226	133	211	572
2009 Total	**6,326**	**2,182**	**5,946**	**19,973**

Source: Seattle Fire Department, 2010.

Fire/EMS Incident Responses to Site

Seattle Fire Department records indicate that in 2008 and 2009, approximately 130 to 140 calls were made to the Yesler Terrace site annually. Approximately 87 to 90 percent of these calls were for EMS (see **Table 3.15.3-2**).

Table 3.15.3-2
FIRE/EMS INCIDENTS - RESPONSES AT YESLER TERRACE, 2008 & 2009

Emergency Types	**2008**	**2009**
Structure Fires	1	3
Non-Structure Fires	7	15
False Alarm	1	0
EMS	118	122
Mutual Aid	0	0
Other (rescue, car fire)	3	1
Total	**130**	**141**

Source: Seattle Fire Department, 2010.

Fire Facilities and Emergency Response Levy

A Fire Facilities and Emergency Response Levy was approved by Seattle voters in 2003 to improve and upgrade Seattle's fire facilities and emergency response system, which were determined to be outdated and inadequate to maintain the desired response times throughout the City. All of the City's fire stations, which were built between 1918 and 1974, were evaluated as needing major upgrades, renovation or replacement in order to continue to provide service.[17] The Levy provided approximately $167 million for multiple projects, including upgrades, renovations or replacement of 32 neighborhood fire stations.

Funds from this levy facilitated the construction of a new Fire Station 10, which was completed in 2008 and relocated from 301 Second Avenue S to its current location at 400 S Washington Street. A new Fire Station 6 will be built at 2615 S Jackson Street, and is scheduled to be completed by 2012. Station 25 is undergoing seismic and safety upgrades, which are also scheduled to be completed in 2012.[18]

3.15.3.2 Impacts

This section summarizes the potential impacts to fire and EMS services associated with the proposed redevelopment of Yesler Terrace. Approval of the EIS alternatives would create new capacity for a range of office, hotel, neighborhood commercial and residential uses, along with associated employment and population. Increases in employment and population on the site over the 20-year build-out period would create related increases in demand for fire and EMS services. Redevelopment on the site would occur gradually over time and demands on the Fire Department would increase incrementally through 2030.

Impacts Common to Alternatives 1-4

Construction

During construction, there could be an increase in demand for fire services. Fire Department service calls related to inspection of specific construction projects onsite and to respond to potential construction-related accidents and injuries could increase as a result of construction. Site preparation and construction of new infrastructure and buildings could also increase the risk of a medical emergency or accidental fire, requiring response by the Fire Department. Existing Fire Department staffing and equipment are expected to be sufficient to handle increased service needed for onsite construction activities.

Operation

Increases in the on-site population and employment with the Yesler Terrace redevelopment would be incremental and would be accompanied by increases in demands for all types of services provided by the Fire Department, including fire protection, BLS and EMS. The Fire Department indicates that they have sufficient capacity and resources to absorb potential

[17] City of Seattle, Fleets and Facilities Department. Fire Facilities and Emergency Response Levy Program. http://www.seattle.gov/fleetsfacilities/firelevy/.
[18] Ibid.

increased calls related to fire suppression, rescue and salvage services at the Yesler Terrace site.[19] EMS, however, is the service that generates that highest demand.

Potential impacts on EMS services from the Yesler Terrace redevelopment project were assessed based on the use of the Seattle Fire Department's EMS model for the First Hill/Broadway community. This model predicted future EMS calls for the Yesler Terrace redevelopment based on residential population increases which could occur with the site. **Table 3.15.3-3** shows the net increase in calls that is projected for each of the EIS alternatives, based on the Fire Department's modeling.

It is important to note that the model assumes that people who move into the redeveloped Yesler Terrace community would come from outside the First Hill Broadway neighborhood. That is, the total additional population would represent a net increase to the neighborhood, which likely represents a conservative assumption. In reality, however, some people who move into the redeveloped community could potentially come from within the First Hill/Broadway neighborhood.

Table 3.15.3-3
PROJECTED INCREASE IN EMS CALLS UNDER EIS ALTERNATIVES

	Projected Site Population	Projected EMS Calls
Alternative 1 and Alternative 1A	5,228	382
Alternative 2	6,815	445
Alternative 3	8,315	514
Alternative 4	2,795	302

Source: Seattle Fire Department, 2010.

The Seattle Fire Department indicates that they would have the capacity to meet the added demand for EMS services identified in **Table 3.15.3-3**, which would be incrementally generated over the long-term buildout of the site. Therefore, the added EMS demand from site redevelopment under any of the alternatives would not be expected to increase staff and equipment needs.[20]

All new buildings in the Yesler Terrace redevelopment would be constructed in compliance with the 2006 Seattle Fire Code, which is comprised of the 2006 International Fire Code with Seattle Amendments as adopted by the City of Seattle in Ordinance 122491. Adequate fire flow to serve the proposed redevelopment would be provided as required by this Fire Code (see Section 3.14, **Public Utilities** for further details on fire flow). Specific code requirements would be adhered to regarding emergency access to structures.

[19] Personal Communication with William Hepburn, Assistant Chief of Operations. Seattle Fire Department. June 2010.
[20] Personal Communication with William Hepburn, Assistant Chief of Operations. Seattle Fire Department. June 2010.

Under Alternatives 2 and 3, response times could potentially improve due to an improved street grid. New private access roads within Alternatives 1 and 1A would also provide additional connections potentially improving response times.

Cumulative Impacts

Planned development in the area (i.e. the First Hill Streetcar, the King County Youth Detention Center and projects associated with the Seattle University Major Institutions Master Plan) would add new population and employment to the site vicinity. These projects, together with the Yesler Terrace redevelopment, would increase demand for certain fire/EMS services over the long-term. No significant impacts on fire/EMS services would be expected as a result of this cumulative development.

No Action Alternative

The No Action Alternative would be anticipated to result in the continuation of existing rates of calls for fire/EMS services. The current site layout, which contributes to policing difficulties due to dead-end streets and sidewalks and steep slopes, would not be improved.

Under the No Action Alternative fire/EMS service to the Yesler Terrace site would continue as described under affected environment.

3.15.3.3 Mitigation Measures

The following required/proposed mitigation measures would address potential impacts to Fire and EMS Services from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

Increases in population and employment over the 20-year buildout of the Yesler Terrace project would be incremental and would be accompanied by increases in demand for fire/EMS services under all of the EIS redevelopment alternatives. A portion of the tax revenues generated from redevelopment of the site – including construction sales tax, retail sales tax, business and operation tax, property tax, utility tax and other fees, licenses and permits - would accrue to the City of Seattle and could help offset demand for public services.

All new buildings would be constructed in compliance with the 2006 Fire Code, which is comprised of the 2006 International Fire Code with Seattle amendments, as adopted by City of Seattle Ordinance 122491.

3.15.3.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.15.4 POLICE SERVICES

3.15.4.1 Affected Environment

Police protection service to the Yesler Terrace site is currently provided by the Seattle Police Department's East Precinct. The East Precinct headquarters is located at 1519 12th Avenue, approximately one mile to the north of the site. This precinct is divided into three sectors and nine beats, and Yesler Terrace is located in the Edward sector, beat E3. Staffing at the East Precinct currently includes: 114 patrol officers, 13 patrol sergeants, four police lieutenants, eight detectives, one detective sergeant, and one police captain.[21] See **Figure 3.15-2** for the location of the East Precinct Headquarters relative to the site. SHA also provides funding for a Community Police Team officer to work with Yesler Terrace management and residents on crime and crime-related concerns.

The Seattle Police Department does not have adopted level of service standards for police service, but has an emergency response time guideline of seven minutes. On average, SPD currently meets or exceeds this goal Citywide; however, performance is geographically uneven and may be slower at certain times of the day and during certain days of the week.[22]

In 2007, the Seattle Police Department published the *Neighborhood Staffing Plan (NPP) 2008-2012* that called for a net increase of 105 patrol officers (or an approximate 20 percent increase) to the force between 2008 and 2012. By 2012, the Department expected to have a total police force of approximately 600 patrol officers for emergency call response and proactive work. The Department proceeded with its recruitment efforts beginning in 2008, and 65 fully trained 9-1-1 patrol responders have been added to the force thus far, for a total current staff of 555 patrol officers. However, the City's present budget difficulties have caused a delay in the hiring plan for 2010 and 2011, and the 2012 staffing targets may be delayed as well.

Table 3.15.4-1 shows total dispatched calls for police service and on-views police incidents for the City as a whole, and for the East Precinct, between 2005 and 2009. On-views are events that officers log during routine patrols, based on field observation and follow-up, as opposed to responses to 9-1-1 calls from dispatch. As shown in **Table 3.15.4-1**, total dispatched calls for service to the Seattle Police Department have steadily decreased both Citywide and within the East Precinct over the past five years (2005-2009).

[21] Personal Communication with Michael Quinn, Strategic Advisor, Office of the Deputy Chief of Staff. City of Seattle, Police Department.
[22] Seattle Police Department. 2007. *Neighborhood Policing Staffing Plan 2008-2012*.

Table 3.15.4-1
CITYWIDE AND EAST PRECINCT CALLS FOR POLICE SERVICE, 2005-2009

	CITYWIDE			EAST PRECINCT		
Year	Dispatched Calls for Service	On-Views	Totals	Dispatched Calls for Service	On-Views	Totals
2005	251,582	173,487	425,069	60,863	41,831	102,694
2006	249,033	175,470	424,503	57,874	41,791	99,665
2007	233,948	167,944	401,892	53,755	38,170	91,925
2008	223,976	154,907	378,883	45,541	30,744	76,285
2009	201,704	137,307	339,011	41,868	25,313	67,181

Source: SPD, 2010.

From 2008 through 2009, total major crimes, including both violent and property crimes, decreased 8 percent in the E3 sector, compared to a 7 percent increase precinct-wide.[23]

Table 3.15.4-2 shows total calls for police service and on-views police incidents at the Yesler Terrace site from 2005 to 2009. These calls have generally declined over the last five years. However, it is important to note that data for 2005-2008 is not strictly comparable to 2009, due to changes that occurred to the Department's coding system. Prior to June 2009, data were coded along street center lines and, therefore, some events that occurred along the site boundaries may have been for addresses offsite, overstating the on-site calls for police service. With the new data coding system, events are coded to addresses, and more accurately represent the actual calls for police service onsite.

Table 3.15.4-2
YESLER TERRACE
TOTAL POLICE CALLS AND ON-VIEWS POLICE INCIDENTS, 2005-2009

Year	Total Dispatched Calls for Service and On-Views
2005	1,643
2006	1,334
2007	1,332
2008	1,395
2009	900

Source: SPD, 2010.

Overall crime levels and violence at the Yesler Terrace site vary. For major crimes, the site is considered a low to medium density area in terms of the incidence of these crimes. Analysis of the total calls for police service and on-views crime incidents at the Yesler Terrace site in 2009 indicates that most events involved premise checks (for crime prevention) or stops to investigate "suspicious persons." Other events were mainly related to parking or traffic offenses and

[23] Personal Communication with Michael Quinn, Strategic Advisor, Office of the Deputy Chief of Staff. City of Seattle, Police Department. June 2010.

disturbance calls related to fighting, juvenile disturbance and/or noise. Major crimes requiring arrest, such as for assault or domestic violence, were infrequent (Quinn 2010).

SHA currently pays the Seattle Police Department for one dedicated staff. A Community Police Team officer works with Yesler Terrace management and residents on crime and crime-related concerns.

3.15.4.2 Impacts

This section summarizes the potential impacts to police services associated with the proposed redevelopment of Yesler Terrace. Approval of the EIS alternatives would create new capacity for a range of office, hotel, neighborhood commercial and residential uses, along with associated employment and population. Increases in employment and population on the site over the 20-year build-out period would create related increases in demand for police services. Redevelopment on the site would occur gradually over time and demands on police services would increase incrementally through 2030.

Impacts Common to Alternatives 1-4

Construction

During construction, there could be an increase in demand for police services. Police Department service calls could increase during construction due to construction site theft and vandalism. Existing Police Department staffing and equipment are expected to be sufficient to handle increased service needed for onsite construction activities.

Operation

Increases in the on-site population and employment over the 20-year buildout of the Yesler Terrace mixed-use redevelopment would be incremental and would be accompanied by increases in demand for police service. The Seattle Police Department expects that call volumes could increase under all of the proposed redevelopment alternatives; however, the exact number of incremental new calls cannot be quantified.[24]

For several reasons, the Police Department indicates that significant additional safety problems and need for police service are not expected to result from the increases in numbers of calls from the new residential population and employment at the site. First, SHA plans to continue funding for one dedicated police staff at the site, who serves as a Community Police Team officer to work with Yesler Terrace management and residents on crime and crime-related concerns. This program is an important and effective tool for managing crime and safety issues. Second, SPD's capability to deliver proactive police-community problem solving services to the site and vicinity is anticipated to significantly increase with the implementation of the Neighborhood Policing Plan. Although the hiring of new officers has been delayed in 2010 due to City budget cuts, approximately 62 percent of the total new staff (65 officers) has already been added to the force. The remaining staff could be expected to be hired well before the site buildout in 2030.[25]

[24] Personal Communication with Michael Quinn, Strategic Advisor, Office of the Deputy Chief of Staff, Seattle Police Department. June 2010.
[25] Ibid.

The design and physical layout of the site under the redevelopment alternatives is also intended to improve safety. As an example, under existing conditions, steep slopes and dead-end streets and sidewalks contribute to policing difficulties. Alternatives 2 and 3 would comprehensively reconfigure the circulation infrastructure across the site, and would remove dead-end streets and sidewalks, and create better connections to the surrounding neighborhoods. Under Alternatives 1, 1A and 4 the existing roadway network would remain, but several roads would be expanded, and private access roads and drives would be developed to augment existing and expanded roads. Pedestrian circulation would be accommodated along all streets and private access roads, and would include a system of linkages to connect public open spaces and streets.

The increased residential density provided under all of the redevelopment alternatives and the introduction of neighborhood commercial and office uses (under Alternatives 1-3) would increase lighting levels and establish a more constant level of activity on the site. Such changes would contribute to safety improvements.

Cumulative Impacts

Planned development in the area (i.e. the First Hill Streetcar, the King County Youth Detention Center and projects associated with the Seattle University Major Institutions Master Plan) would add new population and employment to the site vicinity. These projects, together with the Yesler Terrace redevelopment, would increase demand for police services. These demand increase impacts could be managed by adjustments in service provision.[26]

No Action Alternative

The No Action Alternative would be anticipated to result in the continuation of existing rates of calls for police services. The current site layout, which contributes to policing difficulties due to dead-end streets and sidewalks and steep slopes, would not be improved.

Under the No Action Alternative police service to the Yesler Terrace site would continue as described under affected environment.

3.15.4.3 Mitigation Measures

The following required/proposed and other possible mitigation measures would address potential impacts to police services resulting from the Yesler Terrace Redevelopment:

Required/Proposed Mitigation Measures

Increases in population and employment over the 20-year buildout of the Yesler Terrace project would be incremental and would be accompanied by increases in demand for police services under all of the EIS redevelopment alternatives. A portion of the tax revenues generated from redevelopment of the site – including construction sales tax, retail sales tax, business and operation tax, property tax, utility tax and other fees,

[26] Personal Communication with Michael Quinn, Strategic Advisor, Office of the Deputy Chief of Staff, Seattle Police Department. July 2010.

licenses and permits - would accrue to the City of Seattle and could help offset demand for police services.

The portions of the site that are under construction during phased redevelopment of the site could be fenced and lit, and monitored by surveillance cameras to help prevent construction site theft and vandalism.

Permanent site design features could be included to help reduce criminal activity and calls for service, including: orienting buildings towards sidewalks, streets and/or public open spaces; providing convenient public connections between buildings onsite and to the surrounding area; and, providing adequate lighting and visibility onsite.

SHA would continue funding for one dedicated police staff at the site, who serves as a Community Police Team officer to work with Yesler Terrace management and residents on crime and crime-related concerns.

3.15.4.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.15.5 SOLID WASTE

This section describes the solid waste (including garbage, recycling and yard waste/compost) that is currently generated, collected and disposed of from the Yesler Terrace site. Impacts from the EIS Alternatives, mitigation measures to reduce solid waste generation and a description of any significant unavoidable adverse impacts are also presented.

3.15.5.1 Affected Environment

It is estimated that Yesler Terrace currently generates approximately 428 tons of residential waste and approximately 35 tons of non-residential waste per year.

Solid waste collection services, including garbage, recycling and yard waste/composting materials, are currently provided to the residents and non-residential tenants[27] of Yesler Terrace, and other SHA housing developments by the SHA Solid Waste Division. SHA Solid Waste Division presently has eight employees and maintains a fleet of seven vehicles (six standard and one compartmentalized) that provide waste collection services to over 5,000 customers. SHA does not charge public housing residents for collection services. Funding for SHA's Solid Waste Division is provided through its operating budget. SHA has the ability, through City Charter, to provide waste and recycling collection at any of its current or previously owned sites that have been redeveloped. This allows SHA's Solid Waste division to offer collection services to market-rate property owners at its HOPE VI sites; New Holly Park, New Rainier Vista, and High Point.

Solid waste collection for the existing 1,231 residents and 142 employees/tenants at the Yesler Terrace site is generally collected from dumpsters and containers located in parking lots or near buildings. Trash is collected at Yesler Terrace on a weekly basis by the SHA Solid Waste Division and recycling is collected on a bi-weekly basis by a private waste management company. Garbage and recycling materials are delivered to the South Recycling and Disposal Station (SRDS) at 8100 2nd Avenue S in Seattle, which is managed and operated by Seattle Public Utilities (SPU).

The SRDS is a transfer station that primarily serves the Seattle area south of the Lake Washington Ship Canal, although service is not limited to that area. Solid waste, organics (yard and food waste) and recyclables (clean wood waste, appliances and other scrap metal, plastics, paper and other recyclables) are collected at the SRDS. The solid waste is compacted, and the waste materials are trucked to: an intermodal yard for transfer to trains (solid waste), the Cedar Groves Composing Facility in King County (organics) and other recycling facilities (recyclables).

SPU began rebuilding the SRDS on a property adjacent to the existing station in April 2010. The SRDS is being rebuilt because the existing facility is over 40 years old, is subject to frequent breakdowns and is becoming less reliable as it ages. In addition, the outdated design lacks the capacity to meet Seattle's future recycling and waste handling needs. Once the new SRDS is complete in 2012, a new recycling facility will be built on the old SRDS site by 2015. Waste from the SRDS is transported to the Columbia Ridge Landfill and Recycling Center in Gilliam County, Oregon.

[27] Non-residential tenants include neighborhood commercial, neighborhood services and office uses that lease onsite space from SHA.

Yard waste/composting is collected weekly. Some yard waste/composting material generated at Yesler Terrace is also delivered to the SRDS, and some is diverted to an onsite composting pilot project entitled Ground Up, which SHA has partnered with Seattle Tilth to develop since 2007. This program has two strategies: 1) to provide "green workforce" training to residents and youth at Yesler Terrace; and, 2) to develop a model composting program. Participants in the program work toward Master Gardener and Master Composter and Soil Building Certifications from Seattle Tilth through volunteering hours to develop and maintain a composting area in the SW Sector of the Yesler Terrace site (near the P-Patches by S Main Street). The composting material is provided by SHA's Solid Waste and Maintenance departments who utilize material both on-site and from other SHA properties throughout the city. SHA and Ground Up participants are currently in the process of developing an Organics Waste Management Plan, based on lessons learned from the pilot program, that is intended to: expand the program to incorporate home waste from onsite residents; establish a system to provide compost to onsite agricultural production areas; and, guide future composting and recycling efforts at the redeveloped Yesler Terrace site.[28] This program will likely continue to operate on site regardless of the redevelopment alternative selected, assuming funding is available for the project.

3.15.5.2 Impacts

Construction

During redevelopment of Yesler Terrace, solid waste would be generated by both demolition and construction activities. Solid waste from these activities could be collected by private waste haulers or SHA's Solid Waste Division, and would be determined at the time of construction.

To the extent feasible, construction-generated solid waste would be diverted from landfills and sent to recycling or composting facilities via the SRDS. Other means of reducing the solid waste generated by redevelopment of Yesler Terrace include: on-site source separated recycling; potential reuse of demolition materials on-site, and, salvage and reuse of building components.

Due to the presence of asbestos and lead-based paint in the majority of the existing onsite buildings, it is unlikely that solid waste resulting from most building demolition would be recyclable. Building materials would be tested as part of demolition activities in order to determine the levels of contamination present. The test results would be used to determine whether building materials would be sent to a landfill or to a specialized facility that handles hazardous waste (see Section 3.6, **Environmental Health**, for details).

Operation

Under the EIS Alternatives (1-4), the amount of solid waste generated from uses on the Yesler Terrace site would substantially increase, as compared to existing conditions. The amount of waste generated under the No Action Alternative would remain as under existing conditions.

Environmental stewardship and sustainability is one of four overall principles for redevelopment at Yesler Terrace. One of the six specific guiding principles that support this overall principle is

[28] Seattle Neighborhood Group – GroundUp Organics Program. Creatives4Community. June, 2010.

"Foster education and awareness programs that promote earth-friendly practices such as waste reduction, recycling, composting and the use of drought-resistant landscaping."

For purposes of this Draft EIS analysis, it is assumed that each resident of the site would generate approximately 0.348 tons of solid waste per year;[29] non-residential office and neighborhood commercial uses would generate approximately 0.23 tons of solid waste per employee per year;[30] and, retail uses would generate approximately 0.93 tons[31] per employee per year. **Table 3.15.5-1** shows the estimated amount of waste generated under each alternative without implementation of measures to reduce solid waste generation.

Table 3.15.5-1
YESLER TERRACE EIS ALTERNATIVES
ESTIMATED SOLID WASTE GENERATED PER YEAR (TONS)

	ALTERNATIVE					
Source	**1**	**1A**	**2**	**3**	**4**	**No Action[4]**
West of Boren Sectors						
Residential Waste[1]	1,663	1,663	2,214	2,705	784	428
Office & Neighborhood Services Waste[2]	637	331	791	945	33	33
Neighborhood Commercial Waste[3]	47	47	77	109	0	0
TOTAL WEST OF BOREN	**2,347**	**2,041**	**3,082**	**3,759**	**817**	**461**
East of Boren Sectors						
Residential Waste[1]	156	156	158	189	189	0
Neighborhood Commercial Waste[3]	16	16	16	28	16	0
Office & Neighborhood Services Waste[2]	0	0	0	0	0	2
TOTAL EAST OF BOREN	**172**	**172**	**174**	**217**	**205**	**2**
Site						
Residential Waste[1]	1,819	1,819	2,372	2,894	973	428
Non-Residential Waste[2 & 3]	700	394	884	1,082	49	35
TOTAL SITE	**2,519**	**2,213**	**3,256**	**3,976**	**1,022**	**461[4]**

Source: Blumen Consulting Group

[1] Residential waste was calculated by multiplying the assumed residential population under each alternative by 0.348 tons. For more details on population assumptions, see **Section 3.16.2**, including **Table 3.16-8**.

[2] Office and neighborhood services waste was calculated by multiplying the assumed number of employees under each alternative by 0.23 tons. For more details on employment assumptions, see **Section 3.16.2**, including **Table 3.16-8**.

[3] Neighborhood commercial waste was calculated by multiplying the assumed number of employees under each alternative by 0.93 tons. For more details on employment assumptions, see **Section 3.16.2**, including **Table 3.16-8**.

[4] Assumptions regarding the amount of waste generated under the No Action Alternative are based on data provided by SHA Solid Waste Services regarding the amount of waste generated by the existing Yesler Terrace development.

If solid waste management services continue to be provided to the Yesler Terrace site by the SHA Solid Waste Division over the 20 year buildout period, the amount of solid waste handled by SHA would increase substantially from the 580 tons collected at Yesler Terrace each year under existing conditions. The existing workforce and equipment capacity at SHA Solid Waste

[29] The 0.348 tons of solid waste generated per year per person was derived by dividing the estimated 2006 multi-family residential population of Seattle (160,100) by the amount of waste generated by multi-family uses in 2006 (55,664 tons), per the City of Seattle report *Residential Waste Stream Composition Study (published in 2007).*

[30] Per the City of Seattle's *Recycling Potential Assessment*. 1998.

[31] Per the City of Seattle's *Recycling Potential Assessment*. 1998.

Division may not be sufficient to meet future waste collection needs. As a result, SHA may need to hire additional drivers, add vehicles to their fleet, extend workdays and/or add additional workdays in order to handle the additional solid waste tonnage from the Yesler Terrace Redevelopment. However, SHA may not choose to provide waste and recycling collection for the entire redeveloped site depending upon logistical and economic conditions.

Staff at Seattle Public Utilities have indicated that the SRDS would have capacity to handle the increased solid waste that could be generated by all the redevelopment alternatives when the new facility is opened in 2012.[32]

Cumulative Impacts

Solid waste generated from nearby offsite uses is collected by Waste Management Services or other solid waste collection services, not by the SHA Solid Waste Division. Cumulative impacts from the Yesler Terrace Redevelopment, together with other anticipated development projects in the vicinity of the site (i.e. King County Youth Services Center redevelopment, Seattle University expansion) on these waste collection services would not be anticipated. The SRDS also expects to continue to have capacity to handle solid waste generated by the City as it grows over time.[33]

3.15.5.3 Mitigation Measures

Possible Mitigation Measures

In conjunction with the overall stewardship and sustainability principle of the redevelopment, the following mitigation measures could be employed by SHA in order to reduce the amount of solid waste generated by the Yesler Terrace redevelopment, thereby reducing impacts on collection by SHA Solid Waste Division and on disposal at the SRDS and ultimately the Columbia Ridge Landfill and Recycling Center in Gilliam County, Oregon.

- Accommodate onsite composting using various types of equipment, including earth bins and anaerobic digestion;
- Provide or encourage household composting units;
- Provide offsite composting after site collection; and/or,
- Expand urban agriculture on the site to utilize organic waste.

SHA could hire additional drivers, add vehicles to their fleet, extend workdays and/or add additional workdays in order to handle the additional solid waste from the Yesler Terrace Redevelopment, even with implementation of some or all of the above mitigation measures.

3.15.5.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

[32] Personal communication with Hans Van Dusen, Seattle Public Utilities, Sold Waste Contracts Manager. July 2010.
[33] Ibid.

3.15.6 COMMUNITY SERVICES

This section describes the community services that are currently located on the Yesler Terrace site, which serve both residents of the site, and the larger community. Impacts from the EIS Alternatives, mitigation measures and a description of any significant unavoidable adverse impacts are also presented.

3.15.6.1 Affected Environment

Community Services Available Onsite

Currently, the following programs, community organizations and service agencies located onsite provide support to Yesler Terrace residents and to the greater community:

Neighborhood House. This is a non-profit group with the mission of helping diverse communities of people with limited resources attain their goals for self-sufficiency, health, financial independence and community-building. Neighborhood House provides numerous services to SHA residents city-wide. Neighborhood House employees provide on-site services to Yesler Terrace residents at the Yesler Administration building. Neighborhood House's administrative offices for their regional programs are located in the Jesse Epstein building in the NW Sector (see **Figure 2-3** in **Chapter 2**). The core programs and services provided onsite include the following:

Family and Social Services Center – The Center, located in the Yesler Avenue Administration building, provides eviction prevention and case management services to residents.

Head Start – A pre-school program for children aged 3 to 5 is based in the Head Start building.

Project Handle – Peer education program to spread messages about the dangers of substance abuse, HIV-AIDS and other health issues facing immigrant communities. This program is located in the 825 Yesler Avenue Administration building.

Transportation – Neighborhood House provides transportation services to people who need help getting to medical appointments, community events and job search and job training activities. These services, as well as other program staff, such as those who administer the Head Start activities, deliver these services from the 825 Yesler Ave building.

East African Outreach, Translation and Interpretation Services – Through a partnership with the Seattle Housing Authority, the program is offered to residents of East African descent. The purpose of this program is to assist limited-English-speaking low-income residents of East African heritage to fully integrate themselves into their communities. Services include, interpretation and translation services between SHA staff and residents regarding SHA's tenant rules, regulations, and other related issues; helping residents become active in the resident community associations (like the Yesler Terrace Community Council), in other resident structures and in on-site human-services activities; and helping residents understand how to access government benefits and to

understand the requirements made by government entities and other institutions. These services are provided through a contract with SHA for minimal interpretation and translation related to property management issues and various Yesler Terrace events that occur throughout the year.

Express Credit Union Services – A credit union that serves low-income communities and provides financial literacy education.

Seattle Parks and Recreation Department, Yesler Community Center. The Community Center is for the general public, but due to its location on the Yesler Terrace site, it is assumed that the facility is heavily used by residents. Facilities include a gym, playground, classrooms, and spaces that can be rented for special events or meetings. The Center also provides child care, after-school programs, tutoring, a computer lab, teen activities, senior computer training, ESL classes and other programs.[34] Core services available to Yesler Terrace residents within the Community Center include the following programs:

Yesler Terrace Learning Center – Provides technology access (computers) and training to SHA residents. Classes are also offered for employment preparation and workshops assist residents with tax preparation, citizenship preparation, financial literacy, etc.

Yesler Terrace Cultural Arts – Through a partnership with the Seattle Housing Authority, Nature Consortium operates a year-round arts program for youth in Yesler Terrace through a grant program funded by SHA. The purpose of the program is to help youth learn about and practice a variety of art forms from cultures around the world to develop artistic skills, respect and appreciation for other cultures, and to help build self-esteem.

Food Bank -- Food Not Bombs. The organization Food Not Bombs operates a food bank outside the Yesler Administration building on Saturdays.

Youth Tutoring - Catholic Community Services of Western Washington. The Youth Tutoring Program is offered to residents through a partnership with the Seattle Housing Authority. This program is an after-school educational enrichment program for at-risk youth (first through twelfth grade) living in Yesler Terrace. A college preparatory program is also available to students in the program. This program is housed in the Yesler Administration building.

International District Housing Alliance (IDHA). IDHA provides programming through a partnership with the Seattle Housing Authority. The purpose of the program is to assist limited-English-proficiency low income residents of Southeast Asian heritage (Vietnamese, Cantonese, and Kmer) to fully integrate themselves into their communities. Services include, interpretation and translation services between SHA staff and residents regarding SHA's tenant rules, regulations, and other related issues; interpretation and translation services, combined with outreach services that help limited-English-speaking residents become active in the resident community associations (like the Yesler Terrace Resident Council), in other resident structures and in on-site human-services activities; interpretation, translation and outreach services that help residents understand how to access government benefits and to understand the requirements made by government entities and other institutions. This program is based in the SHA Management Offices.

[34] CollinsWoerman. Yesler Terrace Background Report. 2008.

SHA Programs. In addition to operating and maintaining Yesler Terrace facilities and housing, SHA also provides the following services onsite:

Jobs Connection – The Job Connection office, located in the Yesler Avenue building, helps residents achieve their employment goals. Staff work with residents to create plans to meet work and work supports needs and improve access to helpful community services.

Community Builder – A community builder representative is based onsite to support and encourage community organizing efforts (such as the Yesler Terrace Community Council). The Community builder works in various locations from the Job Connection office in the 825 Yesler Ave building.

Family Self Sufficiency Program – A staff presence at the site to help residents set goals, receive assistance and save money for education, job training, starting a business, or buying a home.

Community Policing. SHA currently has a contract with the Seattle Police Department, whereby SHA funds a full-time Community Police Team officer to be assigned to Yesler Terrace.

Yesler Terrace Community Council. This is a resident council, recognized by both SHA and HUD, which represents the interests of Yesler Terrace residents. The Council has space in the SHA Management Offices.

GroundUp. This is a teen-based waste, water, soil management training project to create living-wage urban agriculture-based employment and educational opportunities for low income youth of color in urban centers that is based on the Yesler Terrace site through a partnership with Seattle Public Utilities.

YWCA. YWCA operates the Fir Street Shelter, an after-school program and the Central Area Food Bank in the East of Boren Sector. YWCA's emergency shelters are for extremely low income women and families (at or below 30 percent of median income). The Central Area Foodbank serves Fir Street Shelter clients, YWCA clients from other programs, and the general public; up to 1,000 people per month use this food bank.[35]

3.15.6.2 Impacts

The following section evaluates the potential impacts to the onsite community service providers and the users of these services, including both residents of Yesler Terrace and the greater community.

[35] YWCA. Fir Street Shelter. https://www.ywcaworks.org/NetCommunity/Page.aspx?pid=436. Accessed May 2010.

Impacts Common to Alternatives 1-4

Construction

Community Service Providers.

SHA anticipates that the community service providers/organizations currently located onsite would be offered the opportunity to return to the redeveloped community, if space becomes available, and assuming that SHA and service providers who are currently contracted for services enter into a new contract after current agreements expire. During construction, it is possible that some social service organizations and programs located on the site could move directly into redeveloped space without having to move offsite. It is also possible that some organizations and programs would need to relocate offsite during construction. Some organizations could choose to permanently relocate offsite due to the inconveniences associated with a temporary move. It is assumed that other similar rental properties are available in Seattle which could accommodate the onsite community service providers.

Access to Social Services

Yesler Terrace Residents

Redevelopment under Alternatives 1-4 could temporarily disrupt residents' access to social services which are based on the site, due to the need for some residents to temporarily relocate offsite during construction. SHA's proposed relocation plan (see Section 3.16, **Socioeconomics**, for details) specifically addresses the need to maintain service connections for residents as part of relocation assistance. Relocation staff would identify the service needs of each household and link residents with comparable services in areas to which they relocate or residents would also be provided with transportation fare vouchers in order to continue making their service appointments during the term of the relocation process.

Residents' access to social services could also be disrupted due to the potential displacement of these organizations themselves during construction activity. While it is possible that some social service organizations and programs located on the site could move directly into redeveloped space without having to move offsite, it is also possible that some organizations and programs would need to relocate offsite during construction. As mentioned above, SHA would assist in maintaining service connections for residents during construction.

Community

As detailed above under the Affected Environment section above, certain programs and services based onsite (such as Head Start, the Yesler Community Center and Neighborhood House) are available to the wider community, in addition to Yesler Terrace residents. Some of these, including programs based on the Yesler Terrace Community Center, would continue to be available and accessible throughout the redevelopment construction process. Other programs/services could be either temporarily or permanently relocated from the site. Depending on where in the community these programs/services relocated, they could be more or less accessible to the community members who access these services.

Operation

Community Service Providers

Under the redevelopment alternatives, approximately 28,000 SF of neighborhood services space would be provided. The Yesler Community Center would also be retained under all the alternatives. Neighborhood services uses could include (but are not limited to) police, education, library, social services, non-profit organizations, government funded health agencies, and SHA offices open to the public.

It is possible that additional and/or different social service providers or organizations to those described in the Affected Environment section, would locate on the site. This could occur because current facilities are somewhat under-utilized (i.e., the old Yesler Gym is currently vacant) and out-dated, or because SHA's rental polices and rates could change, or because some service providers could choose to permanently relocate from the site. SHA anticipates that organizations currently located onsite would be offered the opportunity to return to the redeveloped community, if space becomes available, and assuming that SHA and service providers who are currently contracted for services enter into a new contract after current agreements expire.

Access to Social Services

Yesler Terrace Residents

As described above, residents of Yesler Terrace are currently served by a number of on-site social services (e.g., International District Housing Alliance, Head Start, Neighborhood House etc.). The redeveloped Yesler Terrace site would provide equivalent space for neighborhood service uses (i.e., community services) as under existing conditions (approximately 28,000 SF). Also, the Yesler Community Center would be retained, and all services and programs based in this facility would be expected to continue. It is possible that some of the other existing service providers would return to the redeveloped site following completion of construction, and it is also possible that some existing service providers would not return to the redeveloped site. In general, SHA expects that on-site service providers could include police, library, social services, non-profit organizations, government-funded health agencies, and SHA offices open to the public.

All current SHA programs which are provided at Yesler Terrace, including the Job Connection community builder, and the family self-sufficiency program, would be continued within the redeveloped site. Assuming the residents continue to be organized in a Community Council structure to represent the interests of Yesler Terrace residents, the Housing Authority will continue to recognize the Community Council. If the Community Council does not continue in its present form, Community Associations (or Homeowners Associations) may be formed to take its place.

Community

As noted above, the redeveloped Yesler Terrace site would provide 28,000 SF for neighborhood service uses. It is not known at this time specifically which community service providers would return to the site and which would permanently relocate. Depending on where in the community permanently relocated organizations moved, services could more or less accessible to the

community/clients. It is assumed that community service providers would take steps to inform clients of their changed location and to assure maximum public accessibility.

No Action Alternative

Under the No Action Alternative, it is assumed that the existing community service providers which lease space from SHA would remain onsite, provided that SHA and service providers who are currently contracted for services enter into a new contract after current agreements expire. Existing SHA programs/services which serve Yesler Terrace residents could be expected to continue.

3.15.6.3 Mitigation Measures

Required/Proposed Mitigation Measures

The displacement of existing community service providers onsite would require SHA to comply with the the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA). The URA applies to projects with federal funding, such as Yesler Terrace, that involve the displacement of organizations/businesses. Specifically, requirements of the URA include:

Relocation advisory services;
A minimum 90 days written notice to vacate prior to requiring possession; and,
Reimbursement for moving and reestablishment expenses.

During the construction process, in accordance with the tenant relocation plan, Yesler Terrace residents would be linked with service providers in areas to which they relocate in order to ensure continuity of services during the redevelopment of the site (see Section 3.16, **Socioeconomics**, for additional information on the tenant relocation plan).

3.15.6.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated.

3.16 SOCIOECONOMICS

This section of the Draft EIS describes the existing socioeconomic conditions including community cohesion and public well being, population, housing and employment on and in the vicinity of the Yesler Terrace site and evaluates how the alternatives could affect conditions on the site and in the site vicinity.

3.16.1 Affected Environment

In order to characterize existing socioeconomic conditions, population characteristics, housing and employment data are provided for the Yesler Terrace site and site vicinity, and are compared to the City of Seattle as a baseline. The site vicinity is defined as the three Census Tracts in which the site is located: Tracts 85, 86 and 91 (see **Figure 3.16-1**). These three Census Tracts are generally bound by Madison Street to the north, 15th Avenue and 12th Avenue to the east, Dearborn Street to the south, and 5th Avenue and I-5 to the west.

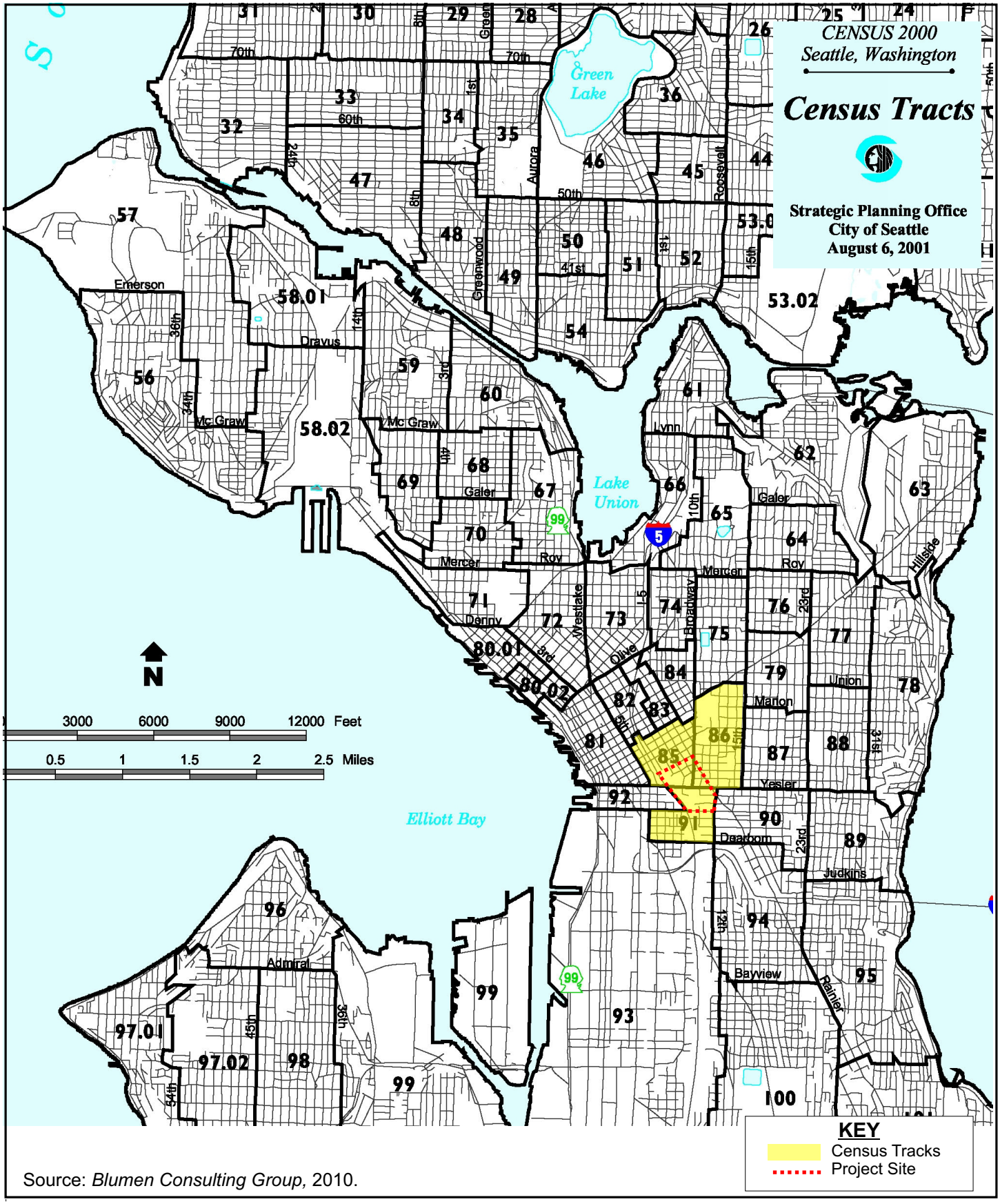
Current demographic information is available for the Yesler Terrace site; however, the 2000 Census data are generally the most recent, detailed data that are available for the site vicinity (census tracts) and the City of Seattle. Therefore, the analysis in this section presents both current (2009) and 2000 data for the Yesler Terrace site to characterize existing conditions, together with 2000 Census data for comparison to the City and site vicinity.

Housing

The Yesler Terrace site, including the West of Boren Sectors (NW, NE, SE, and SW Sectors) and the East of Boren Sector, contains 561 housing units; however, not all of these units are used or managed by SHA for low income housing. Currently, SHA leases the 40 housing units within the East of Boren Sector to the Young Women's Christian Association (YWCA), a social services agency which operates the Fir Street Shelter from this location, utilizing 32 units for emergency shelter and the remaining 8 units for other associated uses. Within the West of Boren Sectors there are 521 housing units; of these, six are used by SHA for their management office, and three units are vacant due to maintenance issues. **Table 3.16-1**, below, details the number of housing units onsite, within the site vicinity and within the City. In the year 2000, there were more housing units on the Yesler Terrace site than in 2009. This is because the Yesler Community Center was constructed in 2005 and removed 21 units from the site's housing inventory.

SHA Eligibility

SHA's housing eligibility policies mirror federal income eligibility requirements, which allow households with incomes between 0 and 80 percent of the area median income (AMI) to enter public housing. SHA uses the AMI for the Seattle-Bellevue Metropolitan Statistical Area (MSA) as determined by HUD as the basis for income eligibility. The 2010 AMI for the Seattle-Bellevue MSA is $80,500.



Source: *Blumen Consulting Group*, 2010.

Figure 3.16-1
Census Tracts

Yesler Terrace
Redevelopment EIS

SHA maintains local waiting list preferences for public housing. People meeting SHA's definition of homeless, as well as households with incomes at or below 30 percent AMI are given first priority to receive assistance. Even for those households that fall within these high priority categories, however, waits exceeding a year are common.[1] Approximately 94 percent of current households applying for housing at Yesler Terrace have incomes at or below 30 percent of the AMI.

Composition of Housing Stock

The housing units on the Yesler Terrace site are entirely renter-occupied. As shown by **Table 3.16-1**, there are significantly more renter-occupied housing units (93.7 percent) than owner-occupied units (6.3 percent) in the site vicinity. In comparison, the overall City's housing is relatively balanced, with 48 percent owner-occupied housing units, and 52 percent renter-occupied housing units in the year 2000. Comparatively, the City's homeownership rate was 52 percent in 2006.[2]

Table 3.16-1
HOUSING INFORMATION

	Yesler Terrace 2009	Yesler Terrace 2000	Site Vicinity 2000	City of Seattle 2000
Total Housing Units	561 *521 units (West of Boren)* *40 units (East of Boren)*	582 *542 units (West of Boren)* *40 units (East of Boren)*	4,120	270,536
Occupied Housing Units	540 *512 units (West of Boren)* *32 units (East of Boren)*	561 *530 units (West of Boren)* *32 units (East of Boren)*	3,816 (93%)	258,510 (95.5%)
Owner-Occupied Units	0	0	239 (6.3%)	125,165 (48%)
Renter-Occupied Units	540 (100%)	561 (100%)	3,577 (93.7%)	133,334 (52%)

Source: 2000 US Census, and SHA, 2010.

As would be anticipated in an urban setting close to downtown, the housing stock in the site vicinity is dominated by multi-family housing consisting of 20 or more units per structure (see **Table 3.16-2**). Comparatively, the City of Seattle has a higher percentage of single family housing (50 percent) than multi-family housing consisting of 20 units or more (25 percent) of the housing stock. The number of housing units per structure at Yesler Terrace is significantly lower than the site vicinity; only two buildings on the site have 20 or more housing units. The on-site housing stock is dominated by buildings containing 5 to 9-units each, which indicates that the site is underutilized when compared to the site vicinity.

[1] SHA. http://www.seattlehousing.org/housing/public/questions/. Accessed June 2010.
[2] 2009-2010 Seattle HSD Consolidated Plan, 2006 American Community Survey.

Table 3.16-2
HOUSING UNITS PER STRUCTURE

Units Per Structure	Yesler Terrace 2009*	Site Vicinity 2000	City of Seattle 2000
Total Housing Units	561	4,120	270,536
Units per structure			
1, detached	0	194 (4.7%)	132,908 (49.1%)
1, attached	0	104 (2.5%)	5,919 (2.2%)
2 units	2 (2.9%)	134 (3.3%)	9,684 (3.6%)
3 – 4 units	8 (11.6%)	327 (8.0%)	12,178 (4.5%)
5 – 9 units	45 (65.2%)	391 (9.6%)	18,935 (7.0%)
10-19 units	12 (17.4%)	441 (10.8%)	23,852 (8.8%)
20 or more	2 (2.9%)	2,463 (60%)	65,699 (24.3%)
Boat, RV, van, etc.	0	6 (0.1%)	1,362 (0.5%)

Source: 2000 US Census and SHA, 2010.
*The unit breakdown was not available for the year 2000. Similar ratios of housing units per structure should be assumed for the 582 units present onsite in 2000.

Assisted Housing in Seattle

The City of Seattle 2005 Comprehensive Plan defines assisted housing as "owner-occupied or rental housing that is subject to restrictions on rent or sales prices as a result of one or more project-based governmental subsidies." In total, Seattle has an estimated 22,000 subsidized rental housing units throughout the City, which are funded by a variety of organizations, agencies and non-profits. The highest concentration of subsidized units are located in downtown Seattle. The majority of subsidized rental units are affordable to those earning less than half the AMI. SHA is the largest single assisted housing provider in the City.[3]

Currently, SHA's inventory of affordable housing includes approximately 7,600 housing units in more than 650 buildings throughout the City of Seattle (including both SHA-owned and SHA-managed units). An additional approximately 7,365 households receive assistance and subsidies through SHA's Housing Choice Voucher and Section 8 Moderate Rehabilitation programs.[4] Vouchers may be attached to a specific unit (project-based), or be provided to a low income tenant (tenant-based) for use in a tenant-selected unit in the private rental market.

Within two blocks of the Yesler Terrace site, there are approximately 428 other SHA assisted housing units including 299 housing units at Jefferson Terrace to the north of the site, 99 units at International Terrace to the west of I-5, and 30 units in the Ritz apartment building to the east of the site. Assisted housing by other providers within two blocks of the site includes 126 units at Hilltop House to the north, 24 units at Cal Anderson House to the north, 136 units at Washington Terrace to the west, and 50 units at Nihonmachi Terrace apartments, also to the west.

[3] City of Seattle. *2009-2010 City of Seattle Consolidated Plan – Housing Element*, October 2008.
[4] Seattle Housing Authority. 2010.

City Housing Targets

The City of Seattle Comprehensive Plan (2005) establishes a goal of adding 47,000 new households within the City by 2024. Urban Centers are targeted to handle the bulk of this growth. The Yesler Terrace site is located within the First Hill/Capitol Hill Urban Center, which is comprised of four urban villages including 12th Avenue, Capitol Hill, First Hill and Pike/Pine. The West of Boren Sectors are located within the First Hill Urban Village, while the East of Boren Sector is located within the 12th Avenue Urban Village. In 2004, according to the Comprehensive Plan, there were 6,020 households within First Hill Urban Village, and the 2024 growth target for the area is 1,200 new households. Within the 160-acre 12th Avenue Urban Center Village, there were 1,450 households in 2004. The 2024 growth target for this area is 700 new households.

In order to meet the City's low income housing needs, the City Comprehensive Plan targets 20 percent of the total expected household growth (47,000 units) to be affordable to households earning up to 50 percent of the area median income (estimated at 9,400 units). An additional 17 percent of expected household growth is intended to be affordable to households earning between 51 to 80 percent of the area median income (estimated at 7,990 units).

Population Characteristics

West of Boren

The detailed population information below is for the West of Boren Sectors, which is the SHA-managed area of the site. The East of Boren Sector is leased to the YWCA to temporarily house families in crisis, thus detailed characteristics about this population were not available for this Draft EIS.

Race and Ethnicity

As demonstrated by **Table 3.16-3**, both the West of Boren Sectors and site vicinity are diverse communities that contain significantly higher percentages of minorities as compared to the overall percentages in the City of Seattle. The City's population is roughly 30 percent minority, while approximately 83 percent of Yesler Terrace residents and 51 percent of the residents in the site vicinity are minorities. Africans/African Americans and Asians/Asian Americans represent the largest segments of the Yesler Terrace population. In the site vicinity and within Yesler Terrace, Africans/African Americans are the largest minority group, while in the city, Asians/Asian Americans represent the largest minority population.

Approximately 245 Yesler Terrace households (42.8 percent) spoke English as a second language in 2000, which indicates that a significant portion of the residents were not born in the United States.[5] In 2009, 30.1 percent of tenants were immigrants. In comparison, the population in the site vicinity was approximately 24.6 percent foreign born in the year 2000, compared to approximately 16.9 percent of foreign born residents within the City of Seattle in the year 2000 and 19 percent in 2006[6].

[5] SHA records did not track the number of residents who were immigrants or foreign born in 2000.
[6] 2006 American Community Survey estimate.

Table 3.16-3
RACE AND ETHNICITY INFORMATION

	Race								Hispanic or Latino
	One Race							Two or More Races	
	Total Pop.	White	Black or African American	American Indian & Alaska Native	Asian	Native Hawaiian & Pacific Islander	Other Race		
Yesler Terrace 2009	1,231	130	645	43	410	3	0	--	60
		10.6%	52.4%	3.5%	33.3%	0.2%	0%	--	4.9%
Yesler Terrace 2000	1,167	126	30	413	197	0	0	--	45
		16.9%	45.1%	2.6%	35.4%	0%	0%	--	3.9%
Site Vicinity 2000	12,203	5,977	2,502	263	2,427	106	398	561	908
		49%	21%	2.2%	20%	0.9%	3.3%	4.6%	7.4%
City of Seattle 2000	563,374	394,889	47,541	5,659	73,910	2,804	13,423	25,148	29,719
		70.1%	8.4%	1.0%	13.1%	0.5%	2.4%	4.5%	5.3%

Source: 2000 US Census and SHA, 2010.

Age and Gender

In terms of gender, the City of Seattle is relatively balanced with similar numbers of male and female residents. By contrast, Yesler Terrace contains more female residents (57 percent), while the site vicinity has a higher proportion of male residents (63 percent). Yesler Terrace also contains a significantly higher percentage of children (39 percent) than the City of Seattle (15.6 percent). The site vicinity, however, contains a lower percentage of children relative to the City, as indicated in **Table 3.16-4**. Yesler Terrace, the site vicinity and the City of Seattle all contain relatively similar ratios of persons aged 65 or older, ranging from approximately 10 to 12 percent.

Table 3.16-4
AGE AND GENDER INFORMATION

	Yesler Terrace 2009	Yesler Terrace 2000	Site Vicinity 2000	City of Seattle 2000
Total Population ■ Male ■ Female	1,231 ■ 526 (43%) ■ 705 (57%)	1,167 ■ 503 (43%) ■ 664 (57%)	12,206 ■ 7,654 (63%) ■ 4,552 (37%)	563,374 ■ 280,973 (49.9%) ■ 282,401 (50.1%)
% Population Under Age 18	39%	39.5%	9.6%	15.6%
Population Age 65 and Older	11.9%	11.9%	10%	12%

Source: 2000 US Census and SHA, 2010.

Income and Poverty

The Department of Housing and Urban Development (HUD) defines low income categories as follows[7]:

Extremely low income ..... at or below 30 percent of AMI
Very low income ..... at or below 50 percent of AMI
Low income ..... at or below 80 percent of AMI

SHA uses the median income for the Seattle-Bellevue MSA as defined by HUD to establish the AMI. These income categories established by HUD have also been adopted by the City of Seattle.[8]

As indicated by **Table 3.16-5**, below, both the site and site vicinity have substantially lower household incomes as compared to the Seattle median household income of $45,736 (2000 Census) and the 2000 Seattle-Bellevue MSA Area Median Income (AMI) of $65,800. In comparison for the year 2000, the median household income for Yesler Terrace was $8,378, which is approximately 18 percent of Seattle's median household income, and approximately 12.7 percent of the Seattle-Bellevue AMI, qualifying as extremely low income. The median household income in the site vicinity was approximately $17,158, roughly 38 percent of Seattle's in 2000, qualifying as very low income, and 26 percent of the Seattle-Bellevue AMI, which falls under the extremely low income category. In 2009, Yesler Terrace's median household income was $10,504, which is 12.5 percent of the 2009 Seattle-Bellevue AMI ($84,300), qualifying as extremely low income.

Table 3.16-5
INCOME AND POVERTY INFORMATION

	Yesler Terrace 2009	Yesler Terrace 2000	Site Vicinity 2000	City of Seattle 2000
Total Population	1,231	1,167	11,232	563,374
Total Number of Households	509	511	4,120	258,499
Median Household Income	$10,504	$8,378	$17,158*	$45,736

Source: 2000 US Census and SHA, 2010.
* Average, based on median household income of $16,760 (Census Tract 85), $21,659 (Census Tract 86), and $13,057 (Census Tract 91).

East of Boren

As mentioned previously, beginning in 1993/1994, SHA entered into a lease with YWCA to provide transitional housing for one of the YWCA's programs. YWCA is a social service agency providing support to women and families facing poverty, violence and discrimination.[9] The YWCA has rented approximately 40 Yesler Terrace housing units since the agreement was established in the early 1990s, and operates the Fir Street Shelter in the East of Boren Sector. Services provided at the facility include an emergency shelter, a food bank and an after-school

[7] 42 U.S.C. 1437a(b)(2)
[8] City of Seattle, City *of Seattle Comprehensive Plan - Housing Element*, January 2005.
[9] YWCA, ywcaworks.org.

program for children. The food bank serves shelter clients, as well as the general public and other YWCA programs.

The housing provided at the shelter is mostly for short term occupancy of up to six weeks, though occupancy of up to 4 months also occurs. Of the 40 housing units present on this portion of the site, 32 units are used to provide emergency shelter for large families. The remaining units are used for a food bank, laundry room, computer lab, office space and youth services.

The housing in the East of Boren Sector is not for a permanent residential population, therefore detailed characteristics for this population are not available for this Draft EIS.

Employment

The West of Boren Sectors contain far lower ratios of individuals in the labor force than the City; approximately 71 percent of the adult population (over 16 years of age) is not currently participating in the labor force. In 2000, approximately 75 percent of the adult population was not in the labor force; comparatively, only 29.9 percent of the City's adult population was not in the labor force. The site vicinity also has much lower ratios of individuals in the labor force than the City, as illustrated by **Table 3.16-6**, below; however, at 41 percent, the site vicinity still contains far higher ratios of employed people than the site. The U.S. Census defines employed people as all civilians 16 years old and over who worked as paid employees, worked in their own business or profession, worked on their own farm, or worked 15 hours or more as unpaid workers on a family farm or in a family business. Individuals whose activity consisted of work around the house or unpaid volunteer work for religious, charitable and similar organizations are excluded from the 'employed' category.

Table 3.16-6
EMPLOYMENT STATUS

	Yesler Terrace 2009	Yesler Terrace 2000	Site Vicinity 2000	City of Seattle 2000
People in Labor Force	218 (29%)	180 (25.5%)	4,607 (41%)	339,956 (70.1%)

Source: 2000 US Census and SHA, 2010.

Current (2010) Employment On-Site

The majority of the employment opportunities and jobs that are located on the Yesler Terrace site are social service positions which support and/or serve Yesler Terrace residents or the surrounding community.[10] These jobs are tallied by building in **Table 3.16-7**, below. See Section 3.15.6, **Public Services**, for a description of the community services organizations which are located in these buildings. Overall, approximately 142 jobs are estimated to be based onsite currently, including 39 SHA positions associated with management/maintenance of Yesler Terrace, and 10 positions associated with operation of the Seattle Parks Department's Yesler Community Center.

[10] SHA and Collins Woerman, Personal Communication. April 2010.

Table 3.16-7
WEST OF BOREN - EMPLOYMENT

Employment Based in SHA-Owned Buildings within Yesler Terrace	
SHA (throughout site)	39
Head Start Building & Yesler Admin Building	25
Jesse Epstein Building	68
SHA Total:	**132**
Seattle Parks Dept. Employment	
Yesler Community Center	10
Site Total	**142**

Source: SHA and CollinsWoerman, 2010.

In addition to the above described jobs, Yesler Terrace residents themselves operate approximately 22 in-home daycares. These businesses are licensed to care for up to six children at a time, and are estimated to serve 80 to 100 children.

East of Boren

Many YWCA employees who serve clientele at the shelter are transitory; that is, they do not have full time office space at the Fir Street Shelter, but use space while they are onsite. A total of nine jobs are estimated to be based here, including one resident manager and eight staff with a primary office at the facility.

City of Seattle Growth Targets – Employment

The City of Seattle *Comprehensive Plan* (2005) establishes a goal of adding 84,000 new jobs within the City by 2024. As with housing, urban centers are targeted to handle the bulk of this growth. The Yesler Terrace site is located within the First Hill/Capitol Hill Urban Center. Within this Urban Center there are four urban villages; the West of Boren Sectors are located within the First Hill Urban Village, while the East of Boren Sector is located within the 12th Avenue Urban Village. In 2002, there were 22,020 jobs in the First Hill Urban Village, and the 2024 growth target is 2,000 new jobs. Within the 12th Avenue Urban Village there were 4,040 jobs in 2002, and the 2024 growth target is 700 new jobs.

3.16.2 Impacts

Approval of the proposed actions and site redevelopment under Alternatives 1 through 3 would create a range of office, hotel, neighborhood commercial and neighborhood service uses onsite adding additional space for employment and housing units in the First Hill neighborhood and the City of Seattle. Redevelopment under Alternative 4 would add housing units and some additional neighborhood commercial development in the East of Boren Sector. Actual impacts from the added population, employment and housing units from the proposed redevelopment would be generated incrementally as the site developed over the full buildout period.

For purposes of analysis, this Draft EIS makes assumptions regarding the mix of uses, level of redevelopment and associated numbers of employees and residents that could be generated

under the EIS alternatives over the 20-year buildout period. The assumptions have been developed to allow an analysis of the environmental impacts associated with different thresholds of development, as well as from the No Action Alternative. Ultimately, the actual rate of buildout and specific development levels (including numbers of employees and residents) at the site would depend upon specific redevelopment proposals and local and regional economic, market and regulatory factors.

Table 3.16-8 provides a summary of assumed population, employment and housing levels under the EIS alternatives. For purposes of this Draft EIS analysis, population estimates were generated for each alternative using two different population rates (persons per household): one for the extremely low income and very low income housing units and one for the low income and market rate housing units. The two rates were developed in order to accurately represent the estimated population of the Yesler Terrace redevelopment, by utilizing SHA demographic information and 2000 Census data for comparable market areas.

Population rates (persons per household) for extremely low income and very low income units were calculated based on demographic information from SHA for the existing 561 extremely low income units located at the Yesler Terrace site. SHA data indicates that approximately 1,231 persons reside in the existing 512 units which equates to approximately 2.41 persons per household. This number was applied to the number of extremely low income and very low income units assumed under each alternative in order to estimate population.

Population rates (persons per household) for low income and market rate housing were calculated based on 2000 Census data, future population/household projections for comparable markets (West Seattle, Central District, South Lake Union, and First Hill) and baseline assumptions about the size of low income and market rate housing units. The low income and market rate housing units would generally be assumed to be smaller units than the extremely low and very low income units. It is estimated that approximately 1.5 persons per household would be generated out of each low income and market rate housing unit. This number was applied to the number of low income and market rate units assumed under each alternative in order to estimate population. See **Appendix P** for details concerning the population assumptions and estimates.

Employment refers to the number of jobs that could be accommodated at the site. The number of jobs that could be accommodated is based on the land use assumptions made for each alternative, using a ratio of square foot of building space per employee. Detailed employment tables are provided below in the discussion of each alternative.

Table 3.16-8
POPULATION, HOUSING AND EMPLOYMENT IMPACT SUMMARY

	Alternative 1	Alternative 1A	Alternative 2	Alternative 3	Alternative 4	No Action
West of Boren						
Population	4,779	4,779	6,362	7,773	2,253	1,231
Housing Units	2,747	2,747	3,747	4,697	1,219	521 (515**)
Employment*	2,810	1,480	3,513	4,216	133	142
East of Boren						
Population	449	449	453	542	542	--
Housing Units	253	253	253	304	304	40 (32**)
Employment	17	17	17	30	17	9
Project Totals						
Population	5,228	5,228	6,815	8,315	2,795	1,231
Housing Units	3,000	3,000	4,000	5,000	1,523	561 (547**)
Employment	2,837	1,507	3,540	4,256	160	151

Source: CollinsWoerman, 2010.

* The Employment number shown for the West of Boren Sectors does not include 10 employees based in the Yesler Community Center. The Employment number shown for the Project Totals does include the Yesler Community Center employees.

**The numbers in parentheses represent housing units that would be used for housing purposes. As mentioned in the Affected Environment section, 6 units in the West of Boren Sector are used as offices by SHA, and 3 units are offline due to maintenance issues. It is assumed the office units would not be rehabilitated for housing, but the units offline due to maintenance would be repaired and used for housing again. In the East of Boren Sector, it is assumed that 8 units would continue to be used for non-housing purposes.

As indicated by **Table 3.16-9**, under Alternatives 1-4, a significant proportion of the site would continue to be devoted to low income tenants. The concentration of this housing type would be balanced in these alternatives by the addition of market rate units. In Alternatives 1-3, the types of low income housing provided would be diversified by the introduction of very low income and low income units. The resultant mix of housing unit types would shift the residential population on Yesler Terrace from an extremely low income community to a mixed-income community. Distribution of the different unit types across the site is detailed under each alternative.

Approximately 43-49 percent of the overall housing provided under Alternatives 1-3 would be low income housing, which includes extremely as well as very low income, affordable to households earning up to 80 percent of the area's median income. Approximately 37 percent over the overall housing provided under Alternative 4 would be low income housing.

It is assumed for purposes of this Draft EIS that a portion of the low income housing units would be provided by either a for-profit or non-profit housing developer. Under Alternatives 1-3, these low income non-SHA provided units would comprise approximately 45 to 58 percent of the total number of low income units. No additional low income housing units beyond the existing 561 are assumed to be built under Alternative 4.

Table 3.16-9
HOUSING UNIT TYPE ALLOCATIONS

	Alternative 1 & 1A	Alternative 2	Alternative 3	Alternative 4	No Action Alternative
Extremely Low income (at or below 30% of AMI)	561	561	561	561	561
Very Low income (at or below 50% of AMI)	239	335	335	0	0
Low income (at or below 80% of AMI)	660	950	1,231	0	0
Market Rate	1,540	2,154	2,873	962	0
Total Units	**3,000**	**4,000**	**5,000**	**1,523**	**561**

Source: CollinsWoerman, 2010.

Alternative 1

Alternative 1 would feature a lower density level compared to Alternatives 2 and 3 with approximately 3.65 million SF of total floor space for mixed use redevelopment over the 20-year planning horizon. This alternative would include approximately 3,000 residential units and 870,500 SF of redevelopment with employment-generating uses, including office, hotel, neighborhood commercial and neighborhood services related uses by the 2030 buildout.

Construction Impacts

Direct Impacts

West of Boren Sectors. Future redevelopment assumed under Alternative 1 would consist of three primary construction-related activities: 1) demolition of existing buildings and demolition of some existing utilities and paved areas; 2) construction of new site infrastructure, including primary roadways, utilities and open space/parks; and 3) construction of new buildings and associated parking.

Construction activities under this alternative would result in new temporary construction employment opportunities during the approximately 20-year site buildout. Based in the assumed buildout period to 2030, construction would occur on a periodic basis over an extended period of time. These jobs would be discontinued once redevelopment on the site is completed.

Residential Displacement and Community Cohesion. Redevelopment under Alternatives 1 would result in the demolition of all existing residential structures, and construction of a new mixed use, mixed-income community over the long-term. Residents would be required to relocate in order to accommodate demolition and construction activities, and relocated residents would incur the inconvenience associated with relocating from their homes and finding comparably affordable housing. It is possible that children would be required to change schools, depending on where in the City or County families relocate. It is also possible that in-home businesses operated by residents, such as daycares, would be disrupted or discontinued due to relocation.

It is important to note, however, that the proposed site redevelopment would occur in phases, and therefore the entire site population would not be displaced simultaneously. Also, as construction of new housing is completed, some residents could potentially move directly from their existing housing into the new housing, without having to leave the site. Yesler Terrace residents would be given the opportunity to be involved in prioritizing who should remain onsite during redevelopment (such as the elderly, disabled, etc.).

Under all of the EIS redevelopment alternatives, one-to-one replacement of all existing extremely low income housing units is assumed to occur onsite. SHA would provide all current residents who maintain their eligibility for public housing with the option of returning to new housing at the redeveloped site. Also, total low income housing opportunities onsite under Alternative 1 would be expanded beyond what is currently available (561 extremely low income units) with the addition of approximately 239 very low income units and 660 low income units.

All residents would be offered relocation assistance in compliance with the federal Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970 (URA). The URA applies to federally-funded projects, such as the Yesler Terrace Redevelopment, that involve the involuntary relocation of people from their homes or businesses. In the past, the HOPE VI program (a potential HUD grant funding source for the proposed redevelopment) has required SHA to consider tenants as being permanently displaced by redevelopment projects similar to the proposed Yesler Terrace Redevelopment, even though there would be opportunities for residents to return to the site. Residents would be entitled to the benefits (described below) that are available to permanently displaced persons. In addition to these benefits, residents in good standing per SHA rules would be given the option to return to the new, redeveloped community.

In accordance with the URA, SHA would offer a package of relocation benefits to current Yesler Terrace residents who are eligible for relocation assistance, including options for payment of moving costs, temporary or permanent relocation to units in other SHA-owned or managed properties, or possibly the provision of Section 8 Vouchers, which pay for part of the monthly rent for either temporary or permanent relocation to privately owned apartments or homes. SHA would also pay the difference (if any) between what tenants paid at Yesler Terrace for their unit and utilities versus any increase in a comparable unit, for up to 42 months or in a lump sum amount. See the 3.16.3, **Mitigation Measures**, section, below, for details concerning the Tenant Relocation Plan.

Community Cohesion. For this analysis, community cohesion is generally defined as maintaining connections within the community. Implementation of Alternative 1 would temporarily impact community cohesion through the relocation of some residents during site construction and redevelopment. This impact would be temporary, and a phased construction process could stagger the displacement, and allow for some residents to move into new housing without leaving the site, thus minimizing impacts to community cohesion. Permanent impacts to community cohesion could also result because some residents could choose to permanently leave the site as a result of relocation during construction.

Indirect Impacts

During periods of high construction activity, surrounding businesses (i.e. restaurants, retail stores to the south and east) could experience indirect impacts to revenues from construction traffic, rerouting of traffic, utilities service disruptions, and limited access. These impacts would be on a periodic and extended basis, and would be regulated by the City of Seattle Municipal Code, as mitigated by other methods including business promotion and marketing, highlighting access points, and signage. Conversely, due to the increased numbers of construction workers

in the area, it is also possible that some businesses (restaurants, retail, services, etc.) could experience an increase in business during the ongoing construction phases.

East of Boren. Direct and indirect construction impacts within the East of Boren Sector could be similar to the West of Boren Sectors. However, these impacts would be shorter in duration, and less intensive overall, due to the smaller size of the area (1.8 acres) as compared to the West of Boren Sectors (34.8 acres), and the lesser density of development proposed for this area.

Operational/Direct Impacts

Community Cohesion and Public Well Being

Alternative 1 could impact community cohesion through changes in the existing demographics onsite, as described further below. The community established on the redeveloped site may not achieve the same levels of ethnic diversity as pre-development, since current residents may choose to return or not return. Economic diversification of the community would occur, while still providing for the housing needs of those public housing residents who wish to return after the redevelopment. This is a major goal of this project, and is one of the Yesler Terrace Guiding Principles. The Yesler Community Center provides many services and is viewed by many residents as the "core" of the community.[11] Under Alternative 1, the Yesler Community Center would be retained, providing an anchor during and after construction to help maintain community cohesion. As well, social networking opportunities could be enhanced with the provision of neighborhood commercial space, and better designed and located open space areas.

For this analysis, public well being is generally defined as maintaining a reasonable quality of life, including an environment that offers amenities such as walkability, aesthetic quality, access to open space, social connections, etc. The redevelopment proposed under Alternative 1 could improve various aspects of the public well being as compared to existing conditions. Many elements of the new community, including building design, pedestrian access and vehicular access, are intended to promote a pedestrian orientation and improve public safety. Redevelopment of the site under Alternative 1 would be expected to enhance public well being by providing the following:

- Neighborhood services space would be updated and improved;
- Neighborhood commercial uses (i.e. retail, restaurant, grocery stores etc.) could provide residents with access to additional amenities within walking distance of their homes and could provide spaces for social networking opportunities;
- Office/hotel and neighborhood commercial uses could provide residents with opportunities for employment within walking distance of their homes;
- Improved rights-of-way (primary and secondary) and private access roads developed as complete streets would provide sidewalks for pedestrians;
- Pedestrian circulation through the site, along all streets and private access roads, including a system of pedestrian linkages to connect public open spaces and streets would be provided; and,
- Increased usable public and semi-private open space opportunities would be provided in the form of parks, semi-private yards, courts and entries, and additional private open

[11] Yesler Terrace Redevelopment Project Citizen Review Committee. *Yesler Terrace Planning Concepts*. November 2007.

space in the form of balconies, building roofs and upper level courtyards would be provided for residents' exclusive use.

The aesthetic quality of the site would be improved through improved building design and the public streetscape would be enhanced with landscaping and public art.

Housing

Total Site Area. The total number of residential units onsite would increase from 561 to 3,000 under Alternative 1. Density would increase from roughly 15.6 dwelling units/acre to 178 dwelling units/acre. The majority of this housing (70 percent) is assumed to be located in a combination of 5, 6 and 7 story mid-rise buildings (approximately 55 feet – 75 feet in height). The remaining units are assumed to be within four high-rise buildings of 18 to 23 stories (maximum 240 foot height).

For purposes of the EIS analysis, certain assumptions have been made related to the possible building heights. These assumptions are not intended to indicate a definitive development plan for the site, but are used instead as a basis for assessing the potential impacts of redevelopment in this Draft EIS. The specific heights of onsite buildings would be determined as part of future redevelopment applications.

Table 3.16-10 summarizes the proposed housing mix and affordability of units to be developed under this Alternative. As demonstrated, the housing units would be relatively balanced between low income and market rate units; 51 percent of the housing units would be market rate and 49 percent would be low income.

Overall, the total number of extremely low income housing units on the site that may be occupied would likely increase from 544 units to 561 units (17 units on-site are not currently used for housing purposes). An additional 899 very low income and low income units would be added to the site. Of these, 239 would be very low income units built and operated by SHA or another affordable housing provider, and would contribute to the City's target of 9,440 units affordable to household earning at or below 50 percent of the AMI. An additional 660 low income units would be built in conjunction with the market rate housing, which would be affordable to households earning at or below 80 percent of the AMI. These would contribute to the City's target of 7,990 units affordable to households earning 51 to 80 percent of the median income. The new very low income and low income housing developed on-site would increase the City's overall stock of affordable rental housing and would be a positive impact of this alternative over and above the one-for-one replacement of the existing extremely low income housing units. This addition of 916 affordable housing units would represent an approximately 4.1 percent increase of the City's stock of 22,000 existing subsidized units in Seattle.

Table 3.16-10
ALTERNATIVE 1 – HOUSING UNIT TYPE ALLOCATIONS

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal	East of Boren	Total
Extremely Low income	156	137	93	122	508	53	561
Very Low Income	65	57	38	51	211	28	239
Low income	192	106	129	233	660	0	660
Market Rate	399	220	268	484	1,371	169	1,540
Total Units	**812**	**520**	**528**	**890**	**2,750**	**250**	**3,000**

Source: CollinsWoerman, 2010.

As indicated by the table above, while a significant proportion of the site would continue to be devoted to low income tenants, the concentration of this housing type would be balanced by a similar proportion of market rate units. The types of low income housing provided would also be diversified by the introduction of very low income and low income units, shifting the residential population on Yesler Terrace from an extremely low income community to a mixed-income community

All current residents of the Yesler Terrace site are renters. Redevelopment under Alternative 1 would slightly increase the number of extremely low income rental units on the site from 544_to 561[12], and would add 239 very low income rental units to the site for people with incomes between at or below 50 percent of the area median income. The 1,540 market rate and 660 low income units developed under this alternative could be a mix of renter and/or owner occupied, depending on future real estate and market conditions.

The proposed unit mix for housing developed under this alternative would be a combination of studio, one bedroom, two bedroom, three bedroom and four bedroom units. A majority of the three and four bedroom units provided for extremely low and very low income households would be located at grade with ground-level access. The number of housing units per building would increase significantly, resulting in density levels that would be more reflective of, or greater, than the site vicinity.

The total number of new housing units provided in the West of Boren Sectors by 2030 (2,229-units)[13] would exceed the 2024 growth target of 1,200 new households identified for the First Hill Urban Village in the City's *Comprehensive Plan*.

East of Boren. 250 housing units would be built in the East of Boren Sector under Alternative 1. Of these, 169 units (68 percent) would be market rate, and the remaining 81 units (32 percent) would provide a mix of low income housing, ranging from extremely low income to very low income. The resultant development would change the use of the site from that of extremely low income housing to a mixed use, mixed-income community.

[12] The number of extremely low income rental units would increase slightly because 17 units onsite are not currently used for housing purposes.
[13] 2,750 total units minus 521 existing units in the West of Boren Sectors = 2,229 new units

The total number of new housing units provided in East of Boren (210 units)[14] would contribute to meeting the 2024 growth target of 700 new households identified for the 12th Avenue Urban Center Village in the City's *Comprehensive Plan*.

Population

Total Site Area. The permanent, on-site residential population could be expected to increase from 1,231 residents currently (in 512 occupied units in the West of Boren Sectors) to approximately 5,228 residents (in 3,000 units throughout the site).[15] An increase in higher-income households via the introduction of market rate housing would occur. The number of units available onsite to low income households would increase. Together, these changes would alter the socioeconomic dynamics and demographics of the community and surrounding neighborhood. Middle-income residents attracted to market rate units would reduce the percentage of low income residents as compared to existing conditions, which would economically diversify the residential population.

The availability and ratios of market rate and low income housing would likely change the population characteristics in several ways. Relative to the age distribution, the percentage of residents aged 17 years and younger (currently 39 percent at Yesler Terrace) would likely decrease; conversely, the percentage of residents aged 18 years and older would likely increase. In terms of gender, the ratios of women onsite could decrease to reflect more balanced ratios between men and women. The ethnic makeup of the site could also shift as a result of the mixed-income housing stock which would be developed, although the precise extent of change in racial and ethnic diversity onsite cannot be determined. Overall, the proportion of minorities and immigrants on the site would be expected to decrease as compared to existing conditions wherein the site population is approximately 89 percent minority, and 30 percent immigrant. The introduction of market rate housing to the Yesler Terrace site would also have the effect of economically diversifying the community. The median household income onsite (currently about $10,504) could be expected to increase. In sum, the age, gender, ethnicity and income levels which currently exist onsite would be anticipated to shift towards ratios more consistent with the site vicinity and the City of Seattle due to the diversity of the housing stock which would be developed.

East of Boren. The East of Boren Sector is currently rented by YWCA and is used as a temporary shelter for women and families. SHA has not determined whether space for this shelter would be accommodated on the redeveloped site. It is possible the shelter could stay in the East of Boren Sector or be moved to a different area of the site, and it is also possible that the shelter could relocate to another area of the City. The analysis below bases population projections on the assumption that YWCA would not return to the site, since this would result in a larger impact to the site and site vicinity in terms of an increased permanent residential population.

Within the East of Boren Sector, the residential population would shift to a permanent residential population of approximately 449 people. In general, population characteristics/trends could be expected to shift as described for the West of Boren Sectors.

[14] 250 total units minus 40 existing units in the Sector East of Boren = 210 new units

[15] This population estimate is based on 1.5 persons per household for market rate and low income housing units, and 2.41 persons per household for extremely and very low income housing units.

Employment

Total Site Area. Redevelopment under Alternative 1 would increase employment on the site by providing space for jobs related to office, hotel, neighborhood commercial and neighborhood services uses. **Table 3.16-11** shows potential onsite employment and identifies the number of jobs that could be created based on a ratio of square foot of building space per employee, consistent with the land use assumptions made for this alternative. Overall, development of Alternative 1 could result in approximately 2,837 jobs on the Yesler Terrace site by 2030. These jobs would primarily be concentrated in the NW Sector where all of the office space would be developed (see **Figure 2-6**).

It is possible that a portion of the office development space (SF) could be devoted to hotel uses. It is assumed that a hotel use would generate less employment than office uses.

Table 3.16-11
ALTERNATIVE 1 - PROJECT EMPLOYMENT PROJECTIONS*

Type of Use	Total SF	SF/Employee	Total Employees
West of Boren			
-Office	800,000	300	2,667
-Neighborhood Commercial	30,000	600	50
-Neighborhood Services*	28,000	300	93
TOTAL			**2,810**
EAST of Boren			
-Office	0	300	0
-Neighborhood Commercial	10,000	600	17
-Neighborhood Services	0	300	0
TOTAL			**17**
Project Totals - Including West & East of Boren			
-Office	800,000	300	2,667
-Neighborhood Commercial*	40,000	600	67
-Neighborhood Services	28,000	300	93
Existing Yesler Comm. Cntr.	22,000	--	10
		TOTAL	**2,837**

Source: CollinsWoerman, 2010.
*Does not include existing 22,000 SF Yesler Community Center, and 10 existing employees.

Redevelopment under Alternative 1 would provide a broader mix of employment uses than currently exists onsite and would introduce additional economic diversity to the site. New opportunities for office, neighborhood commercial, hotel and neighborhood services uses would be afforded to Yesler Terrace residents, the First Hill Neighborhood and First Hill/Capitol Hill Urban Center, and the City as a whole. Overall, development of Alternative 1 could result in approximately 2,810 jobs within the West of Boren Sectors, resulting in a net gain of 2,678 new jobs.[16] Although the total job capacity of the site would not be expected to be fulfilled until buildout in 2030, this number of jobs would exceed the 2024 targeted employment growth (2,000 new jobs) identified for the First Hill Urban Center Village in the City's Comprehensive Plan.

At this stage of the redevelopment process, it is not possible to identify specific businesses that could locate to the Yesler Terrace site. Without the identification of specific businesses, it cannot be determined how many of the jobs would be net new jobs to the City of Seattle. Businesses could locate at the site based on three scenarios: existing businesses that relocate

[16] 2,810 jobs minus 132 existing jobs = 2,678 net new jobs.

to the site from other parts of the City or County; existing businesses that expand to the Yesler Terrace site from local areas; or, new businesses that move to the area from outside the local region or state. Over the 20-year buildout of the site it is possible that a mix of these scenarios would occur; however, it would be speculative to estimate the exact mix without knowing the specific nature of the businesses.

The mix of employment on the Yesler Terrace site is assumed to include a range of job types and wage scales. Office and neighborhood commercial jobs could range from high paying executive jobs to lower wage clerical jobs. Retail and restaurant uses would typically include lower wage jobs when compared to the other types of uses. Ultimately, the exact mix of jobs and wage scales would depend on the actual businesses that choose to locate on the site.

Continuation of Existing Employment Opportunities. As part of the redevelopment of the site under Alternative 1, it is assumed that most of the existing jobs and organizations based onsite would be temporarily or permanently displaced. Permanent displacement could occur due to potential changes in SHA's rental policies/rates or other economic factors. SHA anticipates that organizations currently located onsite would be offered the opportunity to return to the redeveloped community, if space becomes available and assuming that SHA and service providers who are currently contracted for services enter into a new contract after current agreements expire. It is also possible that some organizations or agencies could move directly into redeveloped neighborhood commercial or office space, without having to leave the site (see Section 3.15.6, **Public Services**, for further information). The existing Yesler Community Center would be retained, and uses and employment (10 jobs) based in this facility could be expected to continue as occurs under existing conditions.

Also, as mentioned previously, a number of Yesler Terrace households have in-home daycare businesses. Under Alternative 1, it is assumed that a portion of the extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses. Licensed daycares must provide each child with a minimum amount of space for indoor and outdoor play areas. The provision of adequate indoor and fenced outdoor space in these units would allow Yesler Terrace residents to continue operating daycares within their homes on the redeveloped site.

East of Boren. As mentioned previously, the East of Boren Sector currently is rented by YWCA for their Fir Street Shelter, and approximately nine jobs are associated with the operation of this facility. SHA has not determined whether the current tenant would be provided space in the redeveloped site, therefore it is possible that these jobs may be temporarily or permanently displaced from the site.

As indicated by **Table 3.16-11**, above, approximately 10,000 SF of neighborhood commercial space would be provided in the East of Boren Sector. Overall, development of Alternative 1 could result in approximately 17 jobs within the East of Boren Sector by full buildout, resulting in a net gain of 8 new jobs.[17] This number of new jobs would make only nominal contributions to the 2024 targeted employment growth (1,200 new jobs) identified for the 12th Avenue Urban Center Village.

Redevelopment of the East of Boren Sector under Alternative 1 would shift employment from social services providers to neighborhood commercial businesses. As described for the West of Boren Sectors, it is possible that a mix of relocated businesses from within the City and region as well as new businesses could locate in this area of the site. It is not possible to identify the

[17] 17 jobs minus 9 existing jobs = 8 net new jobs.

specific origin of these businesses; therefore, it cannot be determined how many of the created jobs would be net new jobs for the City of Seattle. As with the West of Boren Sectors, a range of job types and wage scales would be provided within the East of Boren Sector.

Indirect Impacts

Redevelopment of Alternative 1 would result in a mixed-income residential community together with office, hotel, neighborhood commercial and neighborhood services job opportunities. These changes would result in increased density and an economically diversified population. This could result in increased spending for goods and services within the area surrounding the site, as well as within the Yesler Terrace site itself. In particular, nearby neighborhood commercial businesses in Little Saigon to the south and the Chinatown/International District to the west, could benefit from the increased residential and employee population on the site. Residents of the market rate housing would likely have higher levels of disposable income than residents of low income housing.

The proposed redevelopment could contribute to economic development in the surrounding area, including building renovation/expansion, new construction and business start-ups over time. As a result, residents onsite and in the site vicinity could enjoy increased employment opportunities.

Alternative 1 could also have an effect on real estate located adjacent and nearby. Residential and commercial properties could appear more desirable, resulting in an increase in demand for housing and other uses in the site vicinity. This, however, could also result in increases in property values, and rental rates and taxes over the long term. This could potentially decrease affordability for some residents and businesses, causing them to relocate. However, it is also important to note that such impacts could also occur for reasons independent of the proposed Yesler Terrace redevelopment.

Alternative 1A

Alternative 1A would feature 401,000 SF of office space as compared to 800,103 SF under Alternative 1; all other proposed housing, neighborhood commercial and neighborhood services development would be identical to Alternative 1. As detailed by **Table 3.16-12**, below, approximately 1,480 jobs would be associated with the proposed amount of office development, resulting in net gain of approximately 1,348 new jobs in the West of Boren Sectors by the presumed 2030 buildout, as compared to 2,678 jobs under Alternative 1.[18] Although this number of new jobs would not be expected to be reached until buildout in 2030, these new jobs would contribute to the 2024 targeted employment growth (2,000 new jobs) identified for the First Hill Urban Center Village in the City's Comprehensive Plan. Except for the decreased employment capacity in the West of Boren Sectors as compared to Alternative 1, socioeconomic impacts would generally be similar to those described for Alternative 1.

[18] 1,480 total jobs minus 132 existing jobs = 1,348 net new jobs

Table 3.16-12
ALTERNATIVE 1A - PROJECT EMPLOYMENT PROJECTIONS*

Type of Use	Total SF	SF/Employee	Total Employees
West of Boren			
-Office	401,000	300	1,337
-Neighborhood Commercial	30,000	600	50
-Neighborhood Services*	28,000	300	93
TOTAL			**1,480**
EAST of Boren			
-Office	0	300	0
-Neighborhood Commercial	10,000	600	17
-Neighborhood Services	0	300	0
TOTAL			**17**
Project Totals - Including West & East of Boren			
-Office	800,000	300	1,337
-Neighborhood Commercial*	40,000	600	67
-Neighborhood Services	28,000	300	93
Existing Yesler Comm. Cntr.	22,000	--	10
TOTAL			**1,507**

Source: CollinsWoerman, 2010.
*Does not include existing Yesler Community Center (22,000 SF) and the 10 jobs based in this facility.

Alternative 2

Alternative 2 would feature a medium density level, with approximately 4.75 million SF of total floor space for mixed use redevelopment over the 20-year planning horizon. Alternative 2 would include approximately 4,000 residential units and 1.1 million SF of redevelopment with employment-generating uses, including office, hotel, neighborhood commercial and neighborhood services uses by the projected 2030 site buildout.

Construction Impacts

Direct Impacts

West of Boren Sectors. Site preparation and construction activity impacts (direct and indirect) under Alternative 2 would be similar to Alternative 1. However, due to the higher development density proposed under this Alternative, the construction phases could last longer, although the site buildout would still be expected to take approximately 20 years.

Residential Displacement and Community Cohesion. Similar to Alternative 1, redevelopment of the site would cause existing residents of Yesler Terrace to be temporarily displaced. Impacts to community cohesion and relocation measures would be generally as described for Alternative 1.

East of Boren. The level of development assumed for the East of Boren Sector under Alternative 2 is identical to that presumed for Alternative 1 (i.e., 253 housing units and 10,000 SF of neighborhood commercial space). Therefore, construction impacts would be the same as those described for Alternative 1. Redevelopment of the site would cause the current tenant, the

YWCA, to be temporarily or permanently displaced. Refer to Section 3.15, **Public Services**, for further discussion.

Operational/Direct Impacts

Community Cohesion and Public Well Being

Although the density of the site development would be higher under Alternative 2, operational impacts to community cohesion and public well being would generally be similar to Alternative 1, except for the following:

> Proposed street vacations and new street dedications would provide a more connected grid network internally and to/from the surrounding community.
> Additional utility infrastructure improvements (to water and sewer mains) would occur to support proposed uses.

Housing

Total Site Area. The total number of residential units on the site would increase from 561 to 4,000 under Alternative 2. Density would increase from roughly 15.6 dwelling units/acre to 227 dwelling units/acre. The majority of this housing (64 percent) is assumed to be comprised of a combination of 7 and 8 story mid-rise buildings. The remaining units are assumed to be distributed among seven high-rise, 14 to 23 story buildings (maximum 240' height). Similar to Alternative 1, building heights are assumed for purposes of this EIS analysis, but these assumptions are not intended to indicate a definitive development plan for the site. Specific building heights would be determined as part of future redevelopment applications submitted by SHA and/or developers.

Table 3.16-13 summarizes the proposed housing mix and affordability of units to be developed under this alternative. As indicated, just over half (53 percent) of the new units would be market rate, and the remaining 1,846 units (47 percent) would provide a mix of low income housing, ranging from extremely low income to low income.

The total number of extremely low income housing units on the site that may be occupied would likely increase from 544 units to 561 units (17 units on-site are not currently used for housing purposes). An additional 1,285 very low income and low income units would be added to the site. Of these, 335 would be very low income units built and operated by SHA or another affordable housing provider, and would contribute to the City's target of 9,440 units affordable to household earning less than 50 percent of the median income. The 950 low income units would be built by a market rate and would contribute to the City's target of 7,990 units affordable to households earning 51 to 80 percent of the median income. The new very low income and low income housing on-site would increase the City's overall stock of affordable rental housing and above the one-for-one replacement of the existing extremely low income housing units. This increase of 1,302 affordable housing units would represent an 5.9 percent increase of the City's stock of 22,000 existing subsidized units in Seattle.

Table 3.16-13
ALTERNATIVE 2 – HOUSING UNIT TYPE ALLOCATIONS

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal	East of Boren	Total
Extremely Low income (SHA Units)	156	137	93	122	508	53	561
Very Low income (SHA Units)	94	82	57	74	307	28	335
Low income (non-SHA units)	275	300	180	195	950	0	950
Market Rate	578	171	393	840	1,982	172	2,154
Total Units	**1,103**	**690**	**723**	**1,231**	**3,747**	**253**	**4,000**

Source: CollinsWoerman, 2010.

As indicated by the table above, while a significant proportion of the site would continue to be devoted to low income tenants, the concentration of this housing type would be balanced by a similar proportion of market rate units. The types of low income housing would also be diversified by the introduction of very low income units (affordable to households earning at or below 50 percent of the median income) and low income units (affordable to households earning at or below 80 percent of the median income).

All current residents of the Yesler Terrace site are renters. Redevelopment of the site would increase the number of low income rental units on the site with the addition of 335 very low income units. The 2,154 market rate and 951 low income units could be a mix of renter and/or owner occupied, depending on future market conditions.

The proposed unit mix for housing developed under this alternative would be a combination of studio, 1 bedroom, 2 bedroom, 3 bedroom and 4 bedroom units. A majority of the 3 and 4 bedroom units provided for extremely low and very low income households would be located at grade with ground-level access. The number of housing units per building would increase significantly, and density on the site would be more reflective of, or greater, than the site vicinity.

The total number of new housing units provided in the West of Boren Sectors by 2030 (3,226 units)[19] would exceed the 2024 growth target of 1,200 new households identified for the First Hill Urban Center Village in the City's Comprehensive Plan.

East of Boren. The housing development proposed for East of Boren under Alternative 2 is identical to Alternative 1, and therefore impacts would be the same as described for Alternative 1.

Population

Total Site Area. The permanent, on-site residential population could be expected to increase from 1,231 residents currently (in 512 occupied units in the West of Boren Sectors) to approximately 6,815 residents (in 4,000 units throughout the site). An increase in higher-income households and the introduction of market rate housing would occur. The number of units available onsite to low income households would increase. Changes in the age, gender,

[19] 3,747 units minus 521 existing units in The West of Boren Sectors = 3,226 net new housing units.

ethnicity and income levels of the site population could be expected to be similar in nature to those discussed under Alternative 1.

Population and housing impacts in the East of Boren Sector under Alternative 2 would be the same as Alternative 1.

Employment

Total Site Area. Similar to Alternative 1, redevelopment under Alternative 2 would increase employment capacity on the site by providing jobs related to office, hotel, neighborhood commercial and neighborhood services uses. **Table 3.16-14** shows potential on-site employment by 2030 and identifies the number of jobs that could be created based on ratios of square foot of building space per employee, consistent with the land use assumptions made for this alternative. Overall, the total employment capacity on the site could reach up to 3,540 jobs by buildout in 2030. These jobs would be most heavily concentrated in the NW Sector. As discussed for Alternative 1, it is possible that a portion of the 1 million SF of office development could be devoted to hotel uses. It is assumed that a hotel use would generate less employment than office uses.

Table 3.16-14
ALTERNATIVE 2 - PROJECT EMPLOYMENT PROJECTIONS

Type of Use	Total SF	SF/Employee	Total Employees
West of Boren			
-Office	1,001,126	300	3,337
-Neighborhood Commercial	50,000	600	83
-Neighborhood Services*	28,000	300	93
TOTAL			3,513
EAST of Boren			
-Office	0	300	0
-Neighborhood Commercial	10,000	600	17
-Neighborhood Services	0	300	0
TOTAL			17
Project Totals - Including West & East of Boren			
-Office	1,000,000	300	3,337
-Neighborhood Commercial	60,000	600	100
-Neighborhood Services	28,000	300	93
Existing Yesler Com. Centr.	22,000	--	10
		TOTAL	**3,540**

Source: CollinsWoerman, 2010.
*Does not include 22,000 sq.ft. for existing Yesler Community Center, and 10 existing employees.

As described under Alternative 1, redevelopment assumed under Alternative 2 would provide a broader mix of employment uses than currently exists and would introduce additional economic diversity to the site. New opportunities for office, hotel, neighborhood commercial and neighborhood services uses would be afforded. Overall, development of Alternative 2 would result in approximately 3,513 jobs in the West of Boren Sectors, resulting in a net gain of 3,381

new jobs by 2030.[20] These new jobs would exceed the 2024 targeted employment growth (2,000 new jobs) identified for the First Hill Urban Center Village in the City's Comprehensive Plan, even though the total job capacity of the site would not be completely fulfilled until buildout in 2030.

As under Alternative 1, it is possible that a mix of relocated businesses from within the City and region as well as new businesses could locate at the Yesler Terrace site. It is not possible to identify the specific origin of these businesses; therefore, it cannot be determined how many of the created jobs would be net new jobs for the City of Seattle. More space for employment generating uses would be provided under Alternative 2 than under Alternative 1.

As with Alternative 1, a range of job types and wage scales would be provided under Alternative 2. The wage scale range described under Alternative 1 would apply under this Alternative as well.

Continuation of Existing Employment Opportunities. Similar to Alternative 1, it is assumed that most of the existing jobs and organizations based onsite would be temporarily or permanently displaced. Permanent displacement could occur due to potential changes in SHA's rental policies/rates or other economic factors. SHA anticipates that organizations currently located onsite would be offered the opportunity to return to the redeveloped community, if space becomes available, and assuming that SHA and service providers who are currently contracted for services enter into a new contract after current agreements expire. The Yesler Community Center is the only existing building that would be retained under Alternative 2. The 10 jobs which are currently based in this facility would be anticipated to continue under the site redevelopment.

Similar to Alternative 1, it is assumed that a portion of the extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses, allowing this business use to continue on the redeveloped site.

East of Boren. Employment impacts under Alternative 2 would be the same as described for Alternative 1, due to the identical amount of neighborhood commercial space which is assumed for the area (10,000 SF), and the assumed potential temporary or permanent displacement of the current tenant, the YWCA.

Indirect Impacts

Indirect impacts under Alternative 2 would be similar to Alternative 1.

Alternative 3

Alternative 3 would feature the highest density level of the EIS Alternatives, with approximately 5.8 million SF of total floor space for mixed use redevelopment over the 20-year planning horizon. Alternative 3 would include approximately 5,000 residential units and 1.3 million SF of redevelopment with employment generating uses, including office, neighborhood commercial and neighborhood services uses at full buildout by 2030.

[20] 3,513 jobs minus 132 existing jobs = 3,381 net new jobs.

Construction Impacts

Direct Impacts

West of Boren Sectors. Site preparation and construction activity and impacts under Alternative 3 would be similar to Alternative 1. However, due to the higher development density proposed under this alternative, the individual construction phases could last longer than Alternatives 1 and 2, although the site buildout would still be expected to take approximately 20 years.

Residential Displacement and Community Cohesion. Similar to Alternative 1, redevelopment of the site would cause existing residents of Yesler Terrace to be temporarily displaced. Relocation and impacts to community cohesion and public well being would be generally as described for Alternative 1.

East of Boren. Site preparation and construction activity and impacts in this area would be similar to Alternative 1. However, due to the slightly higher development density proposed under Alternative 3, the nature and intensity of construction activity would be greater than that described for Alternative 1, and slightly more temporary construction jobs would potentially be created by redevelopment.

Operational/Direct Impacts

Community Cohesion and Public Well Being

Although the density of the site development would be highest under Alternative 3, operational impacts to community cohesion and public well being would generally be similar to those described under Alternative 2.

Housing

Total Site Area. The total number of residential units onsite would increase from 561 to 5,000 under Alternative 3. Density would increase from roughly 15.6 dwelling units/acre to 292 dwelling units/acre. . The majority of the housing (62 percent) is assumed to be a combination of 6, 7 and 8 story mid-rise buildings (approximately 55' to 85' in height). The remaining units are assumed to be in eleven high-rise 20 to 28 story buildings (maximum 300' height). Similar to Alternatives 1 and 2, building heights and the number of buildings are assumed for purposes of this EIS analysis, but these assumptions are not intended to indicate a definitive development plan for the site. Specific building heights would be determined as part of future redevelopment applications submitted by SHA and/or developers.

Table 3.16-15 summarizes the proposed housing mix and affordability of units to be developed under this Alternative. As indicated, approximately 2,873 of the new units (57 percent) would be market rate, and the remaining 2,127 units (43 percent), would provide a mix of low income housing, ranging from extremely low income to low income.

Similar to Alternatives 1 and 2, the total number of extremely low income housing units onsite that may be occupied would likely increase from 544 units to 561 units (17 units on-site are not used for housing purposes). An additional 1,566 very low income and low income units would be added to the site. Of these, 335 would be very low income units built and operated by SHA or another affordable housing provider and would contribute to the City's target of 9,440 units

affordable to household earning less than 50 percent of the AMI. The remainder of the low income housing units (1,231 units) would be provided by market rate development. These would contribute to the City's target of 7,990 units affordable to households earning 51 to 80 percent of the AMI.[21] This increase of 1,583 affordable housing units would represent at 7.2 percent increase of the City's stock of 22,000 subsidized units in Seattle.

Table 3.16-15
ALTERNATIVE 3 – HOUSING UNIT TYPE ALLOCATIONS

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal	East of Boren	Total
Extremely Low Income	152	133	91	119	495	66	561
Very Low income	92	81	55	72	300	35	335
Low income	358	198	241	434	1,231	0	1,231
Market Rate	778	429	523	944	2,674	199	2,873
Total Units	**1,380**	**841**	**909**	**1,560**	**4,700**	**300**	**5,000**

Source: CollinsWoerman, 2010.

All current residents of the Yesler Terrace site are renters. Redevelopment of the site would increase the number of low income rental units on the site with the addition of 335 very low income SHA rental units. The 2,873 market rate and 1,231 non-SHA low income units could be a mix of renter and/or owner occupied, depending on market conditions which occur in the future.

Similar to Alternative 1, the proposed unit mix for housing developed under this alternative would be a combination of studio, 1 bedroom, 2 bedroom 3 bedroom and 4 bedroom units. A majority of the 3 and 4 bedroom units provided for extremely low and very low income households would be located at grade with ground-level access. Under Alternative 3, the number of units per building would increase, resulting in higher density levels which would exceed the targeted density identified in the Comprehensive Plan for the First Hill Urban Village. The number of housing units per building would increase significantly, resulting in density levels that would be more reflective of, or greater, than the site vicinity.

Similar to Alternative 1, the total number of new housing units provided in the West of Boren Sectors by 2030 (4,179 units[22]) would significantly exceed the 2024 growth target of 1,200 new households in the First Hill Urban Village, which is identified in the City of Seattle Comprehensive Plan.

East of Boren. Approximately 300 housing units would be built in the East of Boren Sector under Alternative 3, compared to approximately 253 units under Alternatives 1 and 2. Of the total 300 units, 199 units (66 percent) would be market rate and 101 units (34 percent) would be extremely low income and very low income SHA units. While more low income housing would be provided than is currently present (40 units), a greater share of the total new housing units in the East of Boren Sector would be devoted to market rate housing. The resulting development

[21] The City's low income housing targets are from the 2005 City of Seattle Comprehensive Plan.
[22] 4,700 units minus 521 existing units in The West of Boren Sectors = 4,179 net new units.

would change the use of the site from an exclusively extremely low income housing community to a mixed-income, mixed use residential community.

The total number of new housing units provided in East of Boren (260 units)[23] would contribute to meeting the 2024 growth target of 700 new households identified for the 12th Avenue Urban Center Village in the City's Comprehensive Plan.

Population

New residential uses under Alternative 3 would result in a substantial increase in the on-site population, and would be greater than described for Alternatives 1 and 2. The permanent, on-site residential population could be expected to increase from 1,231 residents currently (in 512 occupied units in the West of Boren Sectors) to approximately 8,315 residents (in 5,000 units throughout the site). The introduction of market rate housing and an increase in higher-income households would likely occur. The number of low income unit households would also increase.

Changes in the age, gender and ethnicity of the site population could be expected to be similar in nature to those discussed under Alternative 1.

East of Boren. Within the East of Boren Sector, the residential population would shift from a temporary, extremely low income population to a mixed income population of approximately 542. General population characteristics/trends would be expected to shift as described for the West of Boren Sectors.

Employment

Total Site Area. Similar to Alternatives 1 and 2, redevelopment under Alternative 3 would increase employment capacity on the site by providing jobs related to office, hotel, neighborhood commercial and neighborhood services uses. **Table 3.16-16** shows potential on-site employment by 2030 and identifies the number of jobs that could be created based on ratios of square foot of building space per employee, consistent with the land use assumptions made for this alternative. Overall, the total employment capacity on the site could reach up to 4,256 jobs by buildout in 2030. Alternative 3 would result in the highest potential employment capacity of any of the proposed redevelopment alternatives. As discussed for Alternatives 1 and 2, it is possible that a portion of the 1.2 million SF of office development could be devoted to hotel uses. It is assumed that a hotel use would generate less employment than office uses.

[23] 300 units minus 40 existing units in the East of Boren Sector = 260 net new units.

Table 3.16-16
ALTERNATIVE 3 - PROJECT EMPLOYMENT PROJECTIONS

Type of Use	Total SF	SF/Employee	Total Employees
West of Boren			
-Office	1,201,660	300	4,006
-Neighborhood Commercial	70,000	600	117
-Neighborhood Services*	28,000	300	93
TOTAL			4,216
EAST of Boren			
-Office	0	300	0
-Neighborhood Commercial	18,000	600	30
-Neighborhood Services	0	300	0
TOTAL			30
Project Totals - Including West & East of Boren			
-Office	1,201,660	300	4,006
-Neighborhood Commercial	88,000	600	147
-Neighborhood Services	28,000	300	93
Existing Yesler Com. Centr.	22,000	--	10
		TOTAL	**4,256**

Source: CollinsWoerman, 2010.
*Does not include 22,000 SF for existing Yesler Community Center, and 10 existing employees

As described under Alternative 1, redevelopment assumed under Alternative 3 would provide a broader mix of employment uses than currently exists onsite and would introduce additional economic diversity to the site. New opportunities for office, neighborhood commercial and neighborhood services uses would be afforded to Yesler Terrace residents, the First Hill Neighborhood and Urban Center, and the City as a whole. Although the total job capacity would not be reached until site buildout in 2030, Alternative 3 could result in a net gain of 4,084 new jobs in the West of Boren Sectors.[24] This would exceed the 2024 targeted employment growth (2,000 new jobs) identified for the First Hill Urban Center Village in the City's Comprehensive Plan.

As under Alternative 1, it is possible that a mix of relocated businesses from within the City and region as well as new businesses could locate at the Yesler Terrace site. It is not possible to identify the specific origin of these businesses; therefore, it cannot be determined how many of the created jobs would be net new jobs for the City of Seattle.

As with Alternative 1, a range of job types and wage scales would be provided under Alternative 3. The wage scale range described under Alternative 1 would apply under this Alternative as well.

Continuation of Existing Employment Opportunities. As part of the redevelopment of the site under Alternative 1, it is assumed that most of the existing jobs and organizations based onsite would be temporarily or permanently displaced. Permanent displacement could occur due to potential changes in SHA's rental policies/rates or other economic factors. SHA anticipates that organizations currently located onsite would be offered the opportunity to return to the redeveloped community, if space becomes available, and assuming that SHA and service

[24] 4,216 jobs minus 132 existing jobs = 4,084 net new jobs.

providers who are currently contracted for services enter into a new contract after current agreements expire. Similar to Alternative 2, the Yesler Community Center is the only existing building on the site that would be retained under Alternative 3. Uses and employment (10 jobs) based in this building could be expected to continue as occurs under existing conditions. Also similar to Alternatives 1 and 2, it is assumed that a portion of the extremely low income housing units within the redeveloped site would be configured to meet the requirements for licensed in-home daycare businesses, allowing this existing business use to continue within the redeveloped site.

East of Boren. As mentioned previously, the East of Boren Sector currently is rented by YWCA for their Fir Street Shelter, and approximately nine jobs are associated with the operation of this facility. SHA has not determined whether this tenant would be provided space in the redeveloped site, therefore it is possible that these jobs may be temporarily or permanently displaced from the site. As indicated by **Table 3.16-16**, above, approximately 18,000 SF of neighborhood commercial space would be provided in the East of Boren Sector under Alternative 3. Overall, development of Alternative 3 could result in approximately 30 jobs within the East of Boren Sector by full buildout, resulting in a net gain of 21 new jobs.[25] These jobs would contribute to meeting the 2024 targeted employment growth (700 new jobs) identified for the 12th Avenue Urban Center Village in the City's Comprehensive Plan.

The types of businesses that would potentially locate in the East of Boren Sector and the associated job types would be similar to those indicated in Alternative 1.

Indirect Impacts

Indirect impacts under Alternative 3 would be similar to Alternative 1.

Alternative 4

Under Alternative 4, existing City of Seattle Comprehensive Plan and Lowrise-3 zoning designations would govern future development of the site. Redevelopment under this alternative would feature approximately 1.5 million SF of total floor space for mixed use redevelopment over the 20-year planning horizon. Alternative 4 would include approximately 1,523 residential units and 85,896 SF of development (in a combination of new and existing buildings) with employment generating uses including office, neighborhood commercial and neighborhood services.

Construction Impacts

Direct Impacts

West of Boren. Similar to Alternatives 1 through 3, construction jobs would be provided as the site redeveloped. However, there would be fewer construction jobs because there would be less overall redevelopment. These jobs would be considered temporary, yet on a phased basis, and would be discontinued once full buildout of the site was completed (assumed to be by 2030).

Residential Displacement and Community Cohesion. Similar to Alternative 1, redevelopment of the site would cause existing residents of Yesler Terrace to be temporarily

[25] 30 jobs minus 9 existing jobs = 21 net new jobs.

displaced. Relocation and impacts to community cohesion and public well being would be generally as described for Alternative 1.

East of Boren. Construction impacts in the East of Boren Sector would be similar to the West of Boren Sectors, but would be less intense and shorter in duration due to the smaller size of this redevelopment area.

Operational/Direct Impacts

Community Cohesion and Public Well Being

Alternative 4 could impact community cohesion through changes in the existing demographics, as described under the Population section below. These changes would occur from the addition of market rate housing to the site. Unlike Alternatives 1-3, no additional types of low income housing would be developed (i.e. very low income and low income housing).

Public well being would be enhanced in a manner similar to that described Alternative 1, except for the following:

- Some neighborhood services space, currently housed in the Yesler Administration Building and the SHA management offices, would be redeveloped and updated.
- No neighborhood commercial or office/hotel space would be developed onsite, and therefore no access to new employment or commercial opportunities would be available to site residents.
- No neighborhood commercial space would be provided, and therefore there would be less social networking opportunities for residents.
- Opportunities for public art and other amenities may be decreased due to lack of mixed-uses on site.

Housing

Total Site Area. The total number of residential units would increase from 561 to 1,523 under Alternative 4. Density would increase from roughly 15.6 dwelling units/acre to 74 dwelling units/acre. The redeveloped housing would be comprised of 4 story low-rise buildings (approximately 37 feet – 42 feet).

Table 3.16-17 summarizes the proposed housing mix and affordability of units to be developed under this alternative. As indicated, only two types of housing would be provided under Alternative 4, including extremely low income and market rate. The number of extremely low income housing units on the site that may be occupied would increase slightly from 544 units to 561 units (17 units on-site are not currently used for housing purposes) and would comprise approximately 37 percent of the total housing stock; approximately 962 new market rate units would be built, making up the remaining 63 percent. While the numbers of low income housing at the site would be maintained, a larger ratio of the total housing stock would be devoted to market rate units. Unlike Alternatives 1-3, no new very low income or low income units would be developed.

Table 3.16-17
ALTERNATIVE 4 – HOUSING UNIT TYPE ALLOCATIONS

	NW Sector	NE Sector	SE Sector	SW Sector	Subtotal	East of Boren	Total
Extremely Low income	152	133	91	119	495	66	561
Market Rate	297	21	226	180	724	238	962
Total Units	**449**	**154**	**317**	**290**	**1,219**	**304**	**1,523**

Source: CollinsWoerman, 2010.

Similar to Alternative 1, the proposed unit mix for housing developed under this alternative would be a combination of studio, 1 bedroom, 2 bedroom, 3 bedroom and 4 bedroom units. A majority of the 3 and 4 bedroom units provided for extremely low income households would be located at grade with ground-level access.

All current residents of the Yesler Terrace site are renters. Redevelopment under Alternative 4 would maintain the number of extremely low income rental units on the site. The 962 new market rate units could be a mix of renter and/or owner occupied, depending on future real estate and market conditions.

East of Boren. Approximately 304 housing units would be built in the East of Boren Sector under Alternative 4, compared to approximately 250 units under Alternatives 1 and 2, and similar to the 300 units under Alternative 3. Of the total 304 units, 238 units (78 percent) would be market rate and 66 units (22 percent) would be low income, representing a larger percentage of market rate units than Alternative 3. The resultant development would change the use of the site from an extremely low income population, to a mixed-income residential community.

Population

Total Site Area. The permanent on-site residential population could be expected to increase from 1,231 residents currently (in 512 occupied units in the West of Boren Sectors) to approximately 2,795 residents (in 1,523 units throughout the site). The roughly 1,565 residents associated with the market rate housing would likely reflect age, gender, ethnicity and income characteristics of the site vicinity and the City. Overall, a mixed-income community would be introduced to the site.

East of Boren. Within the East of Boren Sector, the residential population would shift from a temporary extremely low income to a more permanent, mixed income population of approximately 542 residents. General population characteristics/trends would be expected to shift as described for the West of Boren Sectors.

Employment

Total Site Area. Under Alternative 4, minimal additional employment opportunities would be created on the site because the L3 zoning in the West of Boren Sectors would not permit new commercial or office development. **Table 3.16-18** shows potential onsite employment by 2030 and identifies the number of jobs that could be created based on ratios of square foot of building space per employee, consistent with the land use assumptions made for this alternative. Overall, the total employment capacity on the site could reach up to 160 jobs by buildout in 2030

as compared to 132 jobs under existing conditions. The number of new jobs added under this alternative would not make a significant contribution to meeting the employment growth targets for either the First Hill Urban Center Village (2,000 new jobs) or the 12th Avenue Urban Center Village (700 new jobs).

Table 3.16-18
ALTERNATIVE 4 - PROJECT EMPLOYMENT PROJECTIONS

Type of Use	Total SF	SF/Employee	Total Employees
West of Boren			
-Office (Epstein bldg)*	20,259	300	68
-Neighborhood Commercial	0	600	0
-Neighborhood Services**	19,500	300	65
TOTAL			133
EAST of Boren			
-Office	0	300	0
-Neighborhood Commercial	10,000	600	17
-Neighborhood Services	0	300	0
TOTAL			17
Project Totals - Including West & East of Boren			
-Office*	20,259	300	68
-Neighborhood Commercial	10,000	600	17
-Neighborhood Services**	49,938	300	65
Existing Yesler Com. Centr.	22,000	--	10
		TOTAL	**160**

Source: CollinsWoerman, 2010.
*Existing Jesse Epstein Office building to remain under Alternative 4.
**Does not include the 8,500 SF steam plant or the 22,000 SF Yesler Community Center, which would both be retained under Alternative 4.

The Jesse Epstein office building, the Steam Plant and the Yesler Community Center would be retained under Alternative 4. The existing employment opportunities (approximately 78 jobs) within these facilities would therefore be maintained to the same or similar capacity as currently exists onsite. An additional approximately 19,500 SF of space would be provided to replace the existing neighborhood service uses/facilities in the West of Boren Sectors contained within several other existing buildings. Slightly more employment opportunities would likely be supported in the redeveloped space as compared to existing conditions, due to the improvement of the facilities. SHA anticipates that organizations currently located onsite in buildings that are replaced would be offered the opportunity to return to the redeveloped community, if space becomes available, and assuming that SHA and service providers who are currently contracted for services enter into a new contract after current agreements expire (see Section 3.15, **Public Services**, for additional information).

As described for Alternative 1, a portion of the extremely low income housing units built under Alternative 4 would be configured to meet the requirements for in-home daycare businesses, allowing this existing business use to continue on the redeveloped site.

East of Boren. Similar to Alternatives 1-3, it is assumed that the existing tenant located on the East of Boren Sector (YWCA) could be temporarily or permanently displaced, along with the approximately nine jobs associated with operation of this facility.

Employment impacts would be the same as Alternatives 1 and 2, due to the identical amount of neighborhood commercial space (10,000 SF) which would be developed in the East of Boren Sector under Alternative 4.

Indirect Impacts

Alternative 4 represents redevelopment of the site according to the L3 zoning. The scale of development assumed would be less than Alternatives 1-3, and no new office, hotel or neighborhood commercial development would be added to the site, as these are not allowed uses under the existing zoning. Some neighborhood commercial space would be added to the East of Boren Sectors. Alternative 4 would result in a mixed-income residential community, together with some minimal additional employment uses. These changes would result in increased density and an economically diversified population, but not to the same extent as would occur under Alternatives 1-3.

Increases in spending for goods and services within the area surrounding the site could be expected to occur, particularly since less neighborhood commercial space would be developed onsite. However, these increases would likely be less than would occur under Alternatives 1-3, due to the fewer number of residential units that would be added to the site. Residents of market rate housing would likely have higher levels of disposable income than low income housing residents. The closest neighborhood commercial areas in Little Saigon and the Chinatown/International District would likely benefit from the increased spending by the larger site population. Some redevelopment pressure in areas surrounding the site could also occur.

Cumulative Impacts

Redevelopment of the Yesler Terrace site under Alternatives 1 through 4, along with planned and potential development in the site area (i.e. future development associated with Seattle University, the King County Youth Services Center, the South Downtown zoning changes, and the new First Hill streetcar line) would add to the cumulative population, employment and housing growth in the City of Seattle and the First Hill neighborhood in particular. The above-mentioned projects would include both employment-generating and residential uses. The Yesler Terrace redevelopment, together with these new developments, would contribute to meeting or exceeding the City's long-term growth targets/projections for housing employment and population.

Redevelopment in low income or underutilized areas (such as the Yesler Terrace site) can sometimes result in changes in adjacent and nearby areas in the form of the displacement of businesses, low income individuals, and/or the services that support them due to increased property values and/or rents. While such indirect and cumulative impacts are possible, their occurrence would also be dependent on other conditions, such as favorable market/ economic conditions, local plans and zoning, political support and other broad development trends that are already in progress. Neighborhoods to the west of I-5 (such as Chinatown/International District and Japantown) would be expected to be more insulated from potential impacts due to the I-5 corridor, which acts as a barrier between Downtown and First Hill. With respect to the Little Saigon Neighborhood directly to the south of the site, other broad changes in development trends are expected to occur over time (see below).

Through the *Livable South Downtown Plan* (2009), the City has targeted the Little Saigon area for increased residential and job growth. In order to achieve these objectives, the zoning of the Little Saigon neighborhood is under review by the City Council and is likely to be revised to

Downtown Mixed-use Residential/Commercial (DMR/C 65/65-85 (150). These zoning changes are intended to encourage residential and job growth development, while allowing existing small businesses to adapt, retaining the existing neighborhood character and improving livability.

The EIS conducted for the *Livable South Downtown Plan* noted that businesses in the Little Saigon neighborhood are vulnerable to displacement due to the neighborhood's existing development potential under the current zoning, and competition from Asian retail districts in other neighborhoods. Impacts to businesses in Little Saigon (resulting from both the planned changes for the South Downtown area, as well as future projects in the vicinity, including the Yesler Terrace redevelopment) were considered during the South Downtown planning process, and strategies to support the small business community are included in the recommended South Downtown Land Use Code amendments.[26] This support includes business assistance and programs to retain and enhance the business community, and is intended to address the potential displacement of small businesses that lease space in the area. .

Another potential cumulative impact on socioeconomics relates to the increased potential for local spending for retail goods and services within adjacent or nearby neighborhoods. Even though new retail and commercial space would be provided onsite under Alternatives 1, 1A, 2 and 3, the larger population, broader mix of income groups, and future access and proximity to enhanced public transportation opportunities (i.e. streetcar) increases the likelihood that site residents would make offsite trips for commercial purchases and entertainment. This potential for increased spending represents a potentially positive cumulative impact which could benefit nearby businesses, particularly those located in Little Saigon.

No Action Alternative

The No Action Alternative represents a continuation of the site in its present condition. As under Alternative 4, the existing City of Seattle *Comprehensive Plan* and L-3 zoning designations would govern future development of the site. The 561 extremely low income public housing units would be renovated or replaced as necessary or on a programmed schedule.

Community Cohesion and Public Well Being

The No Action Alternative could also result in a positive impact in that repair or replacement of existing buildings would take less time than the redevelopment alternatives, and would likely result in a shorter duration of residential displacements, if any. This would result in less of an impact to community cohesion. Public well being would not be enhanced by improving the design or layout of the site, or providing new space for employment opportunities, or neighborhood commercial areas with retail amenities and possible new social networking opportunities.

Population, Housing and Employment

Under this alternative, no additional residential units would be added to the site, and there would be a continuation of existing population levels, together with a continuation of the site's existing demographic characteristics (race/ethnicity, age, gender and income).

Assuming the YWCA wishes to continue operations and renegotiates its lease with SHA, it is assumed that YWCA would continue to rent the East of Boren Sector for the operation of the Fir Street Shelter.

[26] Ibid.

The existing minimal employment based on the site could be expected to continue in a similar manner as occurs under existing conditions.

3.16.3 Mitigation Measures

Alternatives 1-3 would create capacity for a range of uses at the Yesler Terrace site and would increase population, employment and housing potential in the area. Alternative 4 would increase population and housing potential, and create some new employment (very minimal as compared to Alternatives 1-3). This growth would occur in an area that is close to downtown and is targeted to accommodate residential and employment growth as one of the City's designated urban village areas, per the 2005 *Comprehensive Plan*. For further discussion of the relationship of the EIS alternatives to the City's Comprehensive Plan, refer to Section 3.9, **Relationship to Plans, Policies and Regulations**.

Required/Proposed Mitigation

Increases in employment, population and housing would occur gradually within the site over the 20-year buildout period. No significant adverse impacts to community cohesion, public well being, population, employment and housing would be expected to result from any of the redevelopment alternatives and as a result, no other mitigation measures are identified for these elements.

Regulatory Compliance - Residential Displacement

SHA would comply with the following regulations:

> The URA, which provides benefits for persons or organizations involuntarily displaced as a result of federally funded projects.[27]

Tenant Relocation Plan – Temporary Relocation

The following measures are intended to address temporary relocation of residents during the construction process. All residents who remain in good standing with SHA and who maintain their eligibility for low income housing would have the option of returning to the redeveloped Yesler site as new units become available.

Relocation Involvement

> SHA would provide for extensive involvement of residents in relocation planning and would disseminate and communicate information about the timing of and resident choices related to relocation. These involvement and communication efforts would likely include the following:
>
> – Community-wide relocation planning meetings to inform the community about relocation and solicit feedback on an effective approach;
> – Relocation surveys to assist with the development of relocation options and procedures that conform to the priorities and preferences of residents;

[27] 49 CFR Part 24.

- A language-based telephone hotline (interpreted into the seven primary languages spoken at Yesler Terrace) to provide information and allow for resident feedback (anonymous, if desired) on meetings and upcoming surveys or other activities;
- Website that includes regular updates on the progress of the project and answers to frequently asked questions;
- Articles in the newspaper that is distributed to SHA residents by Neighborhood House (The Voice) to share information on relocation benefits, options, Section 8 rules, and development progress; and regular relocation orientation meetings to explain relocation benefits and housing options (Meetings would be interpreted into the primary languages spoken in the Yesler Terrace community).

Relocation Options

As required by the URA, residents would be offered a range of relocation assistance options. The URA applies to projects with federal funding, such as Yesler Terrace, that involve the displacement of people from their homes. Specifically, requirements of the URA include:

- Provide a minimum 90 days written notice prior to relocation;
- Provide reimbursement for moving expenses; and,
- Provide payments for the added cost of renting comparable replacement housing.

Some SHA tenants would be able to temporarily relocate to on-site units that would not be removed until later phases of demolition, and since construction would be phased, some residents would be able to move directly from their existing unit to a redeveloped unit, without having to leave the site.

SHA would provide the following relocation options to residents depending upon the availability of various resources, such a rental assistance vouchers, etc.:

Relocation to another SHA-owned public housing development or to other SHA-owned property, where space is available. Residents who plan to return to the newly redeveloped Yesler Terrace community would have priority to be relocated to existing SHA housing.

Tenant-based (Section 8) Housing Vouchers could be provided. These vouchers are for renting housing within privately-owned apartments or homes. At this time it is not known if or how many Vouchers may be available for Yesler Terrace residents.

SHA would pay the difference (if any) between what tenants paid at Yesler Terrace for their unit and utilities versus any increase in a comparable unit, for up to 42 months or in a lump sum amount if the resident so chooses.

Relocation Assistance

In conjunction with placing residents in comparable assisted housing situations, SHA would also provide a package of relocations benefits for Yesler Terrace residents to prepare and assist residents with the actual task of moving. Regardless of the type of relocation which residents receive, an SHA relocation team would assist residents with their moves, reimburse the resident for the cost of the move, and/or provide a fixed

moving expense and relocation allowance. Eligible tenants (i.e. elderly or disabled) could request assistance with packing and unpacking. SHA would provide the following specific assistance:

- Link residents with service providers in areas to which they relocate in order to ensure continuity of services;
- Provide transportation or transportation assistance (bus tokens, taxi scripts etc.) and accompany residents to visit potential units;
- Assist residents with applications for relocation benefits and/or rental applications;
- Coordinate with moving companies;
- Assist with the transfer of utility accounts;
- Pay for the cost of utility disconnections and reconnections; and,
- Pay for storage of personal property, if necessary.

The proposed moving assistance provisions described above would meet the cost allowance and payment requirements of the URA.

SHA would notify residents 18 months in advance of planned demolition and relocation activity. This early notification exceeds federal requirements by six months. SHA staff would also provide one-on-one counseling to residents who would be relocated in order to help them identify and understand options for relocation assistance, including the overall package of benefits that they would receive. Residents would have at minimum of 6 to 8 weeks from the initial counseling session to determine which benefit package they prefer. However, this timeframe will not prevent residents from choosing a different benefit option if they so choose prior to receiving benefits.

Permanent Tenant Relocation

Residents may choose to permanently move from Yesler Terrace. Residents who do not wish to return to the redeveloped community may elect to receive a lump sum payment in compensation for their displacement, in order to make their own housing arrangements.

3.16.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be expected.

3.17 ENVIRONMENTAL JUSTICE

This section describes the existing demographic conditions on the site and in the site vicinity, including the presence and composition of minority and low-income populations. Potential disproportionate and/or adverse impacts of the proposed Yesler Terrace Redevelopment are then evaluated for the on-site and site vicinity population.

Background

According to the Environmental Protection Agency (EPA), environmental justice is:

> "the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies. Meaningful involvement means that: 1. People have an opportunity to participate in decisions about activities that may affect their environment and/or health; 2. The public's contribution can influence the regulatory agency's decision making process; 3. Their concerns will be considered in the decision making process; and, 4. The decision makers seek out and facilitate the involvement of those potentially affected."[1]

Under Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*[2], certain federal agencies, including the Department of Housing and Urban Development (HUD), are required to consider how federal projects, or federally-funded projects, may have disproportionately high and adverse human health or environmental effects on minority and/or low-income populations (as defined below). Executive Order 12898 provides "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations." As Responsible Entity for HUD under a delegation agreement with the agency, the City of Seattle Human Services Department (HSD) is required to comply with Executive Order 12898 as part of NEPA review of the proposed Yesler Terrace Redevelopment.[3]

HUD defines "low income" by comparing the area median income (AMI) to the annual household income for households of various sizes. To qualify as low income, public housing households not must earn more than 80 percent of the AMI in order to be eligible for assistance. SHA uses the AMI for the Seattle-Bellevue Metropolitan Statistical Area (MSA).

According to the EPA, "low income population" means any readily identifiable group of low income persons who live in geographic proximity and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by the proposed policy or activity.

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[1] EPA. http://www.epa.gov/environmentaljustice/basics/index.html. Accessed June 2010.
[2] 59 Fed. Reg. 7629 (1994).
[3] Title 24, Part 58 of the Code of Federal Regulations contains HUD regulations implementing NEPA and requires Responsible Entities to comply with Executive Order 12898.

According to the EPA, a "minority population" is considered to be present if the minority population percentage of the affected area is greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (census tracts are generally considered appropriate).

Disproportionately high and adverse effect means that an adverse effect is predominantly borne by a minority population and/or a low income population and that the effect that will be suffered by the minority population and/or low income population is appreciably more severe or greater in magnitude than that borne by the rest of the population.

3.17.1 Affected Environment

The Yesler Terrace site is located in Seattle's First Hill neighborhood. Land uses in the vicinity of the site include single family and multi-family residential uses, major institutions (Harborview Medical Center) a public school (Bailey-Gatzert Elementary), offices, and commercial businesses such as retail and service providers and restaurants. There are no current land uses that pose an environmental health risk, such as gas stations or dry cleaners, in the immediate vicinity of the site. The site is situated immediately east of Interstate 5 (I-5). See Section 3.8, **Land Use**, for additional information about land uses immediately adjacent to the site and land uses in the greater site vicinity.

Population and Income

As of 2009, approximately 89 percent of current residents of the Yesler Terrace site are minorities, and 39 percent of the total Yesler Terrace residential population is children (under age 18). As demonstrated by **Table 3.16-3** in Section 3.16, **Socioeconomics**, both the site and site vicinity contained significantly higher percentages of minorities as compared to the overall percentages in the City of Seattle. In 2000, the City's population was roughly 30 percent minority, while approximately 83 percent of Yesler Terrace residents and 51 percent of the residents in the site vicinity were minorities. See Section 3.16, **Socioeconomics**, for greater detail.

Both the site and site vicinity have substantially lower household incomes as compared to the City of Seattle's median household income of $45,736 (2000 Census) and the 2000 Seattle-Bellevue MSA Area Median Income (AMI) of $60,500. In comparison for the year 2000, the median household income for Yesler Terrace was $8,378, which is approximately 18 percent of Seattle's median household income, and 12.7 percent of the Seattle-Bellevue AMI, qualifying as extremely low income. The site vicinity, which is defined as the three Census Tracts in which the site is located, Census Tracts 85, 86 and 91 (see **Figure 3.16-1**), has a median household income of $17,158, which is approximately 38 percent of Seattle's median household income, and qualifies as low income, and is approximately 26 percent of the Seattle-Bellevue AMI, which falls under the extremely low income category. In 2009, Yesler Terrace's median household income was $10,504, which is 12.5_percent of the 2009 Seattle-Bellevue AMI ($84,300), qualifying as extremely low income. See Section 3.16, **Socioeconomics**, for additional demographic information.

3.17.2 Impacts

Meaningful Involvement

As directed by EPA, an important component of ensuring environmental justice requires that decision-makers afford potentially affected people (in this case, Yesler Terrace residents and other community stakeholders) the opportunity to participate in and influence decisions which may affect their environment and/or health. Decision-makers should facilitate participation, and consider stakeholder input in their decision-making process. This type of participation is termed 'meaningful involvement'.[4]

SHA has involved the Yesler Terrace residents in the ongoing redevelopment planning process in order to ensure meaningful involvement. These efforts began in 2006 with the formation of the Citizen Review Committee (CRC). The CRC was formed to make recommendations to the SHA Board of Commissioners on proposed Yesler Terrace redevelopment, and was made up of participants representing Yesler Terrace residents, the surrounding neighborhood and stakeholders throughout the City. Through a series of meetings conducted from 2006 to the present, the CRC developed a planning framework called the *Yesler Terrace Definitions and Guiding Principles* that would guide the redevelopment process. Based on the definitions and guiding principles developed by the CRC, eight planning concepts were developed by the CRC to respond to one or more of the guiding principles. The Guiding Principles and Planning Concepts are available in **Appendix A**.[5] These concepts then served as the cornerstone for SHA to develop conceptual site development scenarios. Five workshops were held by SHA to gather input from residents of Yesler Terrace that led to the development of the Site Concept Framework that provided the basis for the range of redevelopment alternatives evaluated in this Draft EIS (see Section 2.2 in **Chapter 2** for additional information). The amount of density, street layout and open space assumed for each alternative was developed from the Site Concept Framework for each of the redevelopment alternatives evaluated in the EIS.

This planning process also provided the basis for the purpose of the Yesler Terrace Redevelopment, which is to redevelop the community into a mixed-income, mixed use community that better serves existing and future residents.

For this Draft EIS, a public scoping meeting was held on April 29, 2010 at the Yesler Terrace Community Center in Seattle, Washington, and notice of this meeting was individually hand-delivered to each household within the existing Yesler Terrace community. Notice of the meeting was also provided in the Seattle Times, Daily Journal of Commerce, and other local news publications intended to serve the Yesler Terrace and surrounding neighborhoods. Translation services were provided for the scoping meeting presentations for each of the primary languages spoken by Yesler Terrace residents, and written materials were provided in the primary languages spoken by residents of Yesler Terrace. At the meeting, participants were afforded the opportunity to provide oral comments on the scope of the Draft EIS, either privately to a court reporter, or publicly, in front of the entire group. The public also had the option of submitting written, emailed or faxed comments during the entire 45-day Draft EIS scoping comment period. Scoping comments were used to refine and inform the type of analysis included in this Draft EIS. (See **Appendix B** for the Summary of the Public Scoping Process).

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4 EPA. Environmental Justice. http://www.epa.gov/environmentaljustice/basics/index.html .

5 The Yesler Terrace Guiding Principles and Planning Concepts are also available on SHA's website at: http://www.seattlehousing.org/redevelopment/yesler-terrace .

The opportunity for further public input will occur during the DEIS comment period, including a public meeting during that period that will be held to collect comments. Notice of the public meeting would be hand-delivered to each household within the existing Yesler Terrace community, and an opportunity for written or oral comment would be provided at the meeting with translation services for each of the primary languages spoken by Yesler Terrace residents. Notice of the public meeting will also be provided in the Seattle Times, Daily Journal of Commerce, and other local news publications intended to serve the Yesler Terrace and surrounding neighborhoods. The summary section of this DEIS will also be translated into the primary languages spoken by Yesler Terrace residents.

Impacts Common to Alternatives 1 through 4

Construction

Site

Prior to site preparation and redevelopment activities in a particular area of the Yesler Terrace site, residents would be relocated to other onsite or to offsite locations. It is assumed that residents would be relocated to comparable housing that meets basic decency, safety and sanitary standards. Site preparation and construction activities could result in periodic and intermittent impacts to the health of the population in immediately adjacent areas to the redevelopment activities, both on and offsite.

During construction, noise from demolition and construction activities has the potential to affect nearby populations. Construction activities would be subject to applicable City of Seattle noise limits, and noise mitigation measures could be implemented to reduce the extent to which people are affected by construction noise. Overall, the temporary nature of construction coupled with restriction to daytime hours and the implementation of noise mitigation measures, would minimize the potential for significant noise impacts from construction activities and equipment. See Section 3.7, **Noise**, for additional information on noise-related construction impacts and possible mitigation measures.

Construction activities also could affect air quality due to emissions from construction-related sources and equipment and dust from construction activities including grading, sloping and filling. Some construction phases would also cause odors, particularly during paving operations using tar and asphalt. Construction contractors would be required to comply with regulations requiring that reasonable precautions be taken to minimize dust emissions, and prohibiting air contaminants in quantities likely to be injurious to human health, plant or animal life or property, or which unreasonably interfere with enjoyment of life and property. Overall, with implementation of the controls required for the various aspects of construction activities and consistent use of best management practices to minimize on-site emissions, construction would not be expected to significantly affect air quality. See Section 3.2, **Air Quality**, for additional information on air-quality-related construction impacts and possible mitigation measures.

Elevated lead concentrations are reported to be present in shallow soil around many of the existing Yesler Terrace buildings in all five sectors due to the past use of lead-based paint on the exterior walls (see Section 3.6, **Environmental Health**, for further information). A soils analysis from the site completed previously for SHA indicates that lead concentrations in samples collected from a depth of 0 to 3 feet were greater than the MTCA Method A cleanup level for unrestricted land uses [250 parts per million (ppm)] in multiple locations on the Yesler Terrace site.

According to Ecology's Area Wide Soil Contamination webpage, concentrations in the 500-700 ppm range are considered to be low-to-moderate levels of lead in soil for residential areas. An Area-Wide Contamination Task Force Report indicated that, in general, scientific studies did not show conclusively that exposure to low-to-moderate levels of lead contamination in soil in Washington State causes harmful health effects.[6] However, the report also indicated that because research studies were not always carried out to the extent necessary, long-term health problems associated with exposure to low- to moderate levels of lead contamination in soil are not clearly understood. Additionally, the report indicates that there are members of the scientific community that argue even with low levels of exposure, there is a potential to cause health problems for sensitive receptors (i.e. young children). While additional soil sampling would be necessary to further characterize the lead concentrations at the site and to identify any potential areas of concern, based on the limited data available, concentrations of lead in soil on the site can be generally characterized as low to moderate (see **Appendix I** for further information).

As well, lead-based paint and asbestos could be present in some onsite buildings. Survey and abatement has been completed on some apartment buildings to remove asbestos-containing materials (ACBM) and to encapsulate lead-based paint. It is not known whether all ACBM have been removed from the buildings and an ACBM survey would be required prior to demolition to determine the presence of ACBM materials.

Prior to redevelopment activities, additional characterization, removal and proper disposal of soil with lead concentrations exceeding regulatory cleanup levels would be necessary. Also, a site-specific health and safety survey would be conducted to confirm the presence of any contaminants or hazardous materials (i.e. asbestos and lead based paint) in buildings to be demolished. Hazardous materials and contaminants identified would be abated prior to demolition and construction on the site. Residents would be relocated prior to abatement and demolition activities, and therefore would not be exposed to hazardous materials and contaminants during remediation work. Abatement activities would adhere to applicable regulations regarding handling of hazardous and contaminated materials as well as conventional dust control measures to minimize the exposure of the immediately surrounding populations. No disproportionate adverse impacts to public health from redevelopment activities would be anticipated. See Section 3.6, **Environmental Health**, for additional information.

The construction site could also create an attractive nuisance, resulting in safety impacts, during redevelopment. However, the areas of the site undergoing construction could be secured and made non-accessible after-hours to avoid this potential safety issue.

Overall, the type of construction activity and impacts that would occur onsite would be similar in nature to other large infrastructure or redevelopment projects occurring throughout the City, and would be carried out in compliance with the City of Seattle Municipal Code. No disproportionately high and adverse impacts (i.e. impacts appreciably more severe or greater in magnitude than that borne by the community at large, which in this case is defined as the City of Seattle) to low-income or minority populations would be expected.

Site Vicinity

Construction activities could result in impacts to immediately adjacent populations similar to those discussed for the site above (i.e. public health). These activities would be periodic and intermittent in nature, and would be concentrated in one sector of the site at a time, due to the phasing of construction work and therefore, would only affect certain adjacent and surrounding

[6] Ross & Associates, et al. 2003.

populations at a given time. All construction activity would be required to comply with the City of Seattle regulations to control noise and air quality/emissions during construction. Compliance with these regulations would be expected to mitigate potentially adverse impacts from construction within the site vicinity and no disproportionate adverse impacts would be expected.

Operational/Direct Impacts

Site

Redevelopment of the site under Alternatives 1-4 would result in a mixed-income, mixed use community. The following evaluates environmental justice-related public health impacts that could occur following redevelopment of the site.

Redevelopment of the site under Alternatives 1-4 would eliminate site-related health hazards which are associated with Yesler Terrace's aging buildings and infrastructure. Specifically, demolition and redevelopment would eliminate mold problems caused by water intrusion through building foundations and poor ventilation. Also, a major rodent infestation associated with old steam pipes would be corrected by removal of this infrastructure which is no longer in use. Sewer and water infrastructure problems would be improved (see Section 3.14, **Utilities**, for more information). Sidewalks and planters would be improved to meet or exceed current City of Seattle design standards for required widths, and curb ramps meeting Americans with Disabilities Act (ADA) requirements would be provided. The proposed redevelopment would also eliminate any existing site-related health hazards related to lead-based paint, asbestos and lead contaminated soils (see Section 3.6, **Environmental Health**, for additional information).

With respect to noise conditions on the site, no significant noise impacts are expected as a result of redevelopment under Alternatives 1-4 (i.e. due to increased traffic on area roadways or due to heating, venting and air-conditioning and mechanical equipment associated with new buildings). However, the site suitability analysis indicates that portions of the site would be deemed unacceptable under HUD noise criteria without implementation of noise mitigation, including extraordinary noise attenuation measures in an area within the SW Sector, due to the proximity of 1-5 and other major roadways to the site (see Section 3.7, **Noise**, for additional information). The site's adverse noise conditions would not be considered a disproportionately high and adverse impact to low-income or minority populations, however. This is because a diversity of housing types would be provided onsite, and there would be a relatively balanced ratio of low income and market rate units throughout the site. As illustrated in Section 3.16, **Socioeconomics**, the three categories of low income housing units would be equitably distributed throughout all sectors of the site along with market rate housing. Therefore, no potentially disproportionate adverse health impacts to minority or low income populations would be expected. However, a disproportionate impact to minority or low-income populations could result if a larger portion of low-income units were placed in those areas of the site with worse noise conditions.

With respect to air quality conditions on the site, similar to noise, no significant air quality impacts are expected as a result of redevelopment under Alternatives 1-4 (i.e. due to increased traffic on area roadways). However, the site suitability analysis indicates that certain toxic air pollutants associated with roadways in the vicinity of the Yesler Terrace site would exceed health-based standards to the degree that there is a potentially elevated health risk in long-term residency near busy roads. See Section 3.2, **Air Quality**, for additional information. These conditions would not be expected to result in a disproportionately high and adverse impact to

low income or minority populations, due to the anticipated equitable distribution throughout the site of low income and market rate housing.

Site Vicinity

Development of a new mixed use, mixed-income community would be anticipated to improve the character of the site and neighborhood, resulting in positive impacts in the immediate site vicinity. The site would be improved by replacing deteriorating and outdated housing with a redeveloped community that employs creative urban design and architectural techniques. The redeveloped site would provide enhanced connections to surrounding neighborhoods. Nearby residents would be in close proximity to potential new job opportunities, commercial amenities, and community services on the site. The increased residential population would also provide an increased customer base for businesses in surrounding areas.

No Action Alternative

The No Action Alternative represents a continuation of the site in its present condition. The existing extremely low income public housing units would be repaired, replaced pr renovated as buildings fail or on a programmed schedule. Existing streets, utilities and other infrastructure would be repaired as necessary over time. Existing adverse air quality and noise conditions could be considered to disproportionately affect minority and low income populations due to the fact that no market rate housing would be added to the site. Existing elevated existing lead concentrations in shallow soils around the site would remain, unless entire buildings were replaced. In such cases it is assumed that additional characterization, removal and proper disposal of soil with lead concentrations exceeding regulatory cleanup levels would occur.

The No Action Alternative would not significantly improve existing housing conditions or the standard of living for current or future residents. The site would continue to be devoted primarily to housing uses, and no new employment or retail amenities would be available via the provision of neighborhood commercial and office development. The site would continue to be physically isolated from the surrounding community, because the existing street system would remain unchanged.

3.17.3 Mitigation Measures

Required/Proposed Mitigation Measures

Construction

- All construction activities would be required to comply with City of Seattle Municipal Code regulations as related to air quality and noise.
- The areas of the site undergoing construction would be secured and non-accessible after hours to prevent the creation of an attractive nuisance which could result in safety/public health impacts to the residential population on-site.
- Abatement, remediation, and disposal of any hazardous materials on site would occur in accord with local, state, and federal regulations prior to start of construction or demolition activities on site.

3.17.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would be anticipated as a result of the redevelopment alternatives (Alternatives 1-4), providing that low income housing is not concentrated in those areas of the site subject to the worst noise conditions. The No Action Alternative could result in a significant unavoidable adverse impact in that there would continue to be a disproportionate adverse impact to the site population with respect to the existing adverse air and noise conditions.

3.18 WIND ANALYSIS

This section evaluates the potential for wind flow changes on and around the Harborview Medical Center heliport to change as a result of the Yesler Terrace Redevelopment. This section is based on the August 2010 *Heliport Wind Assessment* prepared by RWDI (see **Appendix H**).

3.18.1 Affected Environment

The Yesler Terrace site is located adjacent to Harborview Medical Center, the region's Level 1 Trauma Center. Harborview maintains a heliport with three helipads for medical emergencies that is located atop the parking structure in the southwest portion of the Harborview campus, which is directly to the north of the Yesler Terrace site. While the heliport is primarily served by commercial aircraft, military aircraft also occasionally access the heliport. Harborview has two 500-foot wide approach and departure flight paths – from the west and the south – for helicopter access to the heliport (see **Figure 3.9-1** in Section 3.9, **Relationship to Plans, Policies and Regulations**).

A majority of the southern flight path is above I-5; however, a portion of the Yesler Terrace site lies beneath part of the heliport's southern flight path. The existing low-rise buildings on the Yesler Terrace site may not affect wind conditions for the heliport in any significant manner.

As part of the Yesler Terrace Redevelopment EIS process, a representative of AirMethods, the parent company of Airlift Northwest, which provides air transport/medical services to Harborview patients, was contacted to discuss potential issues with greater height on the Yesler Terrace site south of the heliport. Based on this meeting which discussed the proposed redevelopment alternatives, a wider, approximately 691-foot southern flight path was recommended by the AirMethods representative.[1] It was recommended that the wider flight path be lined up with the westernmost building line of the new Harborview additions. This new building addition line was noted at the meeting as creating the natural extension of the flight path restriction. The building layout for each redevelopment alternative has been developed so that potential building locations and height of potential structures at the site would be outside this recommended wider southern glide path.

3.18.2 Impacts

This section evaluates potential wind impacts to the Harborview Medical Center emergency helicopter flight path as a result of the Yesler Terrace Redevelopment. This section evaluates impacts under the capacity model of Alternative 3, which represents the highest density alternative, with the tallest assumed potential building heights for the capacity model. The wind analysis evaluates wind flow impacts from both the building configurations in a 500-foot wide flight path (Option 2), and the building configurations in a wider (681-foot wide) flight path recommended by AirMethods (Option 1). The building configurations in Option 1 (the wider flight path) were utilized in the capacity model for Alternative 3 in other sections of this EIS. It is assumed that wind changes under Alternatives 1, 1A and 2 would be similar to or less than Alternative 3.

[1] Meeting with Steve Lodwig, Program Aviation Manager at Air Methods, March 4, 2010

Alternative 3

Heliport Wind Assessment

In order to determine the local wind directionality, wind statistics at the Seattle Boeing Field between 1944 and 2006 and the Seattle-Tacoma International Airport between 1948 and 2008 were analyzed. Figures 2a and 2b in **Appendix H** graphically depict the distributions of wind frequency and directionality; southerly winds are prevalent for these two airports.

Wind speeds and occurrence frequencies may be affected by many factors including building geometry, orientation and position, and the height of surrounding buildings, upstream terrain and the local wind climate. To visualize the wind conditions around the site, wind flows were simulated for wind approaching from the south based on two potential building configurations (Option 1, the wider flight path, and Option 2, the 500' flight path) for the building that would be located closest to the helipad.

The results of the wind simulations are presented as contours of wind speed showing wind flow patterns at various horizontal levels above and a vertical slice through the heliport area in Figures 3 through 5 through 10 in **Appendix H**. The figures represent the average wind speed from the south. Actual wind flows will fluctuate and approach from different directions. In the figures, a dark or light blue color represents low wind speed areas; green indicates moderate wind speeds, and yellow and red regions are associated with high wind speeds.

The wind simulations indicate that a minimal change in winds would occur in the vicinity of the heliport with either of the two potential building configurations (Option 1 or 2) when winds are from the prevailing southerly direction. According to the simulations, Option 1 would have less effect on wind flow near the helipad than Option 2, due to the shape of the building farthest to the northwest, which is adjacent to the heliport and well exposed to the prevailing southerly winds.

Due to the height of the proposed redevelopment, which would create a larger wake region than the existing, low-rise buildings, some local effects in wind flow patterns were noted, primarily to the north of the redevelopment and locally to the west.

Pedestrian Comfort Wind Assessment

Taller, high-rise buildings can affect the wind environment for pedestrians and a pedestrian wind assessment is often conducted to determine possible wind-related impacts relative to the comfort and safety of pedestrians using open spaces on or adjacent to high-rise buildings. Pedestrian wind comfort criteria are discussed further below.

The pedestrian wind comfort criteria used in typical assessments are categorized by three typical pedestrian activities:

- Sitting: Low wind speeds during which one can read a newspaper without having it blown away. These wind speeds are appropriate for outdoor cafes and other amenity spaces that promote long term sitting.
- Standing: Slightly higher wind speeds that are strong enough to rustle leaves. These wind speeds are appropriate at major building entrances, bus stops or other areas where people may linger but not necessarily sit for extended periods of time.

- Walking: Winds that would lift leaves, move litter, hair and loose clothing. Appropriate for sidewalks, intersections, plazas, parks or playing fields where people are more likely to be active and receptive to some wind activity.

Wind conditions are considered suitable for sitting, standing or walking if the wind speeds are expected for at least four out of five days (80 percent of the time).

An uncomfortable designation means that the criterion for walking is not satisfied. Safety is also considered by the criteria and is associated with excessive gust wind speeds that can adversely affect a pedestrian's balance and footing. If winds sufficient to affect a person's balance occur more than two times per summer or winter season, the wind conditions are considered severe. Wind control measures are typically required at locations where winds are rated as uncomfortable or they exceed the wind safety criterion.

A simple comparison of the wind conditions relative to those that currently exist was completed for the area surrounding the helipad (see **Appendix H;** figure located in Appendix A of the Heliport Wind Assessment report). In general, it appears that when winds occur from the south, wind speeds relative to those that currently exist would be reduced along 9th Avenue under Alternative 3. However, wind speed increases were noted along Alder Street. A more detailed, quantitative pedestrian comfort wind assessment could be completed for the site and site vicinity at the time of individual permit applications.

Alternative 4

Under Alternative 4, the Lowrise-3 zoning designations would govern future development of the West of Boren sectors. No high-rise buildings would be developed, and no impacts to helicopter performance or pedestrian wind comfort would be expected.

No Action Alternative

Wind patterns under the No Action Alternative are assumed to be the same as under existing conditions. No impacts to helicopter performance would be expected.

3.18.3 Mitigation Measures

Required/Proposed Mitigation Measures

- The building layout and associated height of structures at the site would be below the wider southern glide path.

3.18.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are anticipated with implementation of appropriate mitigation measures.

Chapter 4 - REFERENCES

CHAPTER 4
REFERENCES

City of Seattle. *2010-2015 Adopted Capital Improvement Program*, 2009.

City of Seattle. *2009-2012 Consolidated Plan for Housing and Community Development*. October 2008.

City of Seattle. *Bicycle Master Plan*, 2007.

City of Seattle. *Client Assistance Memorandum (CAM) #117*, December 2009.

City of Seattle. *Residential Waste Stream Composition Study,* 1998.

City of Seattle. *Seattle Municipal Code*, http://clerk.ci.seattle.wa.us/~public/code1.htm, Accessed June 8, 2010.

City of Seattle. *Seattle Pedestrian Master Plan*, September 2009.

City of Seattle; Department of Community Development. Light and Glare Study, Phase I and Light and Glare Study, Phase II. 1979 and 1980.

City of Seattle, Department of Neighborhoods. *Central Area Neighborhood Plan*. Adopted November 1998.

City of Seattle, Department of Neighborhoods. *First Hill Neighborhood Plan*, November 1998.

City of Seattle, Department of Planning and Development. *Client Assistance Memo 123 - Seattle's Tenant Relocation Assistance Ordinance*, Updated May 2010.

City of Seattle, Department of Planning and Development. *Livable South Downtown Planning Study Executive Recommendations*, December 2009.

City of Seattle, Department of Planning and Development. *Livable South Downtown Planning Study, Final Environmental Impact Statement*, 2008.

City of Seattle, Department of Planning and Development. *Seattle Comprehensive Plan*. January 2005.

City of Seattle, Department of Transportation, *UVTN Monitoring Project 2007 Update*, June 2008.

City of Seattle, Department of Transportation, *Accident data for the period 01/01/2007 through12/31/2009*.

City of Seattle, Department of Transportation, *Director's Rule 19-2008 for Transportation Management Programs*, Effective December 31, 2008.

City of Seattle, Department of Transportation, *Map of Major Truck Streets*, 2003.

City of Seattle, Department of Transportation, *Seattle Transit Plan*, 2005.

City of Seattle, Department of Transportation, *Transportation Concurrency Project Review System, Director's Rule 5-2009*, Effective April 13, 2009.

City of Seattle, Fleets and Facilities Department. *Fire Facilities and Emergency Response Levy Program*. http://www.seattle.gov/fleetsfacilities/firelevy/.

City of Seattle, Fire Department. *Seattle Fire Department Emergency Response Report*, 2009.

DeJONG Consultants. *Seattle Public Schools Enrollment Projections Report*, March 14, 2008.

DKS Associated, Inc., *Synchro Model Files for Existing and 2030 Conditions*.

EPA. http://www.epa.gov/environmentaljustice/basics/index.html. Accessed June 2010.

EPA. AQS Data Mart Direct Interface. Accessed August 2010.

Institute of Transportation Engineers. *Parking Generation*, 3rd Edition, 2004.

Institute of Transportation Engineers. *Promoting Sustainable Transportation Through Site Design: an ITE Recommended Practice*, 2010.

Institute of Transportation Engineers, *Trip Generation Handbook*, June 2004.

Institute of Transportation Engineers, *Trip Generation, 8th Edition*, 2008.

Johnson and O'Neil. *Wildlife-Habitat Relationships in Oregon and Washington,* 2001.

King County. *King County IMAP*. Accessed June 2010.

King County Metro, *Fall 2009 APC Zone database*, May 5, 2010.

King County Metro, *Transit Website*, April 2010.

King County Metro, *Trip Planner*, May 2010.

NOAA. Atmospheric Data for Seattle, WA. 2005.

Office of Superintendent of Public Instruction, *Washington State Report Card*, 2010.

Puget Sound Regional Council (PSRC), *Destination 2030, the Metropolitan Transportation Plan for the Central Puget Sound Region*, 2001.

Puget Sound Regional Council, *Journey-to-Work data from 2000 U.S. Census*.

Ross & Associates Environmental Consulting, Ltd. Landau Associates, and Hubbard Gray Consulting. *Area-Wide Contamination Task Force Report*. 2003. Available at http://www.ecy.wa.gov/programs/tcp/area_wide/Final-Report/PDF/TF-Report-final.pdf.

Rimpo and Associates, *Urbemis9.2.4 model*, 2007.

Seattle City Light Website, http://www.seattle.gov/light/ , accessed July 10, 2010.

Seattle Department of Neighborhoods Website, http://www.seattle.gov/neighborhoods/, accessed May 2010.

Seattle Fire Department. Personal Communication with Assistant Chief William Hepburn and Senior Fire Protection Engineer Rich Richardson. May and June 2010.

Seattle Fire Department. Personal Communication with William Hepburn, Assistant Chief of Operations. Seattle Fire Department. June 24, 2010.

Seattle Fire Department. *Seattle Fire Department 2008 Annual Report*.

Seattle Housing Authority. *Yesler Terrace Background Report*, September 30, 2008. (prepared by CollinsWoerman, SVR, Civitas, and Blumen Consulting Group).

Seattle Neighborhood Group. *GroundUp Organics Program*, Creatives4Community. June 1, 2010.

Seattle Parks and Recreation Department. *An Assessment of Gaps in Seattle's Open Space Network: The 2006 Gap Report Update*, May 8, 2006.

Seattle Parks and Recreation Department. *Gap Report Update Summary*, 2006.

Seattle Parks and Recreation Department. *Seattle Parks and Recreation Department Website.* http://www.seattle.gov/parks/. Accessed June 2010.

Seattle Police Department. Personal Communication with Michael Quinn, Strategic Advisor, Office of the Deputy Chief of Staff. June 2010.

Seattle Police Department. *Seattle Police Department Neighborhood Policing Staffing Plan 2008-2012*, March 2007.

Seattle Public School District, *Capacity Management Policy - H13.00*, adopted November 18, 2009.

Seattle Public School District, *Data Book for Adopted Attendance Area Boundaries*, November 16, 2009.

Seattle Public School District, *Enrollment District Report - September Adjusted*, accessed June 2010.

Seattle Public School District, Research, Evaluation and Assessment/Student Information Services Office (REA/SISO), Data Profile: District Summary, December 2009.

Seattle Public School District, *Transportation Service Standards 2009 -2010*, 2009.

Seattle Public Schools District, website, http://www.seattleschools.org, accessed May 2010.

Seattle Public Schools District. *2020 Facilities Master Plan*, March 26, 2008.

Seattle Public Utilities. *2006 Residential Waste Stream Composition Study Final Report*. Prepared by Cascadia Consulting Group, Inc., November 2007.

Seattle Public Utilities. Personal communication with Hans Van Dusen, Sold Waste Contracts Manager. July 2010.

State of Florida Department of Transportation, *LOS Manual*, 1995.

Transportation Research Board, *Highway Capacity Manual*, 2000.

United States Census Data. http://www.census.gov/main/www/cen2000.html, accessed May 2010.

United States Department of Transportation. *Draft U.S. DOT Strategic Plan FY 2010 – FY 2015, "Transportation for a New Generation,"* April 15, 2010.

URS Corporation. *Streetcar information*, May 2010.

Washington Mutual/Seattle Art Museum Final EIS. November 2003.

Wong, Stephanie. *A Spatial Model to Assess the Impact of Major Roadways on a Low Income Seattle Neighborhood Using an Intensive NOx Sampling Campaign*. Master's Thesis, UW School of Public Health. June 2010.

Yesler Terrace Redevelopment Project Citizen Review Committee. *Yesler Terrace Planning Concepts,* November 2007.

Chapter 5 - DISTRIBUTION LIST

CHAPTER 5
DISTRIBUTION LIST

Federal Agencies
U.S. Department of Housing and Urban Development, Environmental/Community Planning
Advisory Council on Historic Preservation
U.S. Army Corps of Engineers, Seattle District
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Federal Emergency Management Agency
U.S. Department of the Interior, Bureau of Indian Affairs
U.S. Environmental Protection Agency, Region 10
U.S. Fish and Wildlife Service

State Agencies
Office of the Governor
Department of Archaeology and Historic Preservation
Department of Commerce
Department of Ecology, Environmental Review Section
Department of Ecology, Shorelands & Environmental Assistance
Department of Natural Resources, SEPA Center
Department of Fish and Wildlife, Region 4
Department of Fish and Wildlife, Habitat Management Division
Department of Social and Health Services (DSHS)
Department of Transportation (WSDOT), Environmental Affairs Office
Department of Health, Environmental Health
State Habitat Office

Regional Agencies
Puget Sound Clean Air Agency
Puget Sound Partnership
Puget Sound Regional Council
Sound Transit

Local Agencies

King County
King County Metro Transit, Environmental Planning
Seattle – King County Department of Health
King County Youth Correctional Facility

City of Seattle
Mayor's Office
City Council
Human Services Department, Community Development Block Grant Program
Department of Planning and Development
Department of Planning and Development, SEPA Register
Department of Neighborhoods

Department of Parks and Recreation
Office of Economic Development
Office of Intergovernmental Relations
Office of Housing
Fire Department
Police Department
Seattle City Light
Seattle Public Utilities, Environmental Review Section
Seattle Department of Transportation

Schools
Seattle Public Schools – Enrollment Planning*
Bailey-Gatzert Elementary School*
Seattle University*

Libraries
Seattle Public Library – Government Publications
Seattle Public Library
Seattle Public Library – International District/Chinatown Branch
Seattle Public Library – Douglass-Truth Branch
UW Built Environments Library*
UW Allen Library*
UW Suzallo Library*

Tribes
United Indians of All Tribes Foundation*
Confederated Tribes of the Colville Reservation*
Muckleshoot Indian Tribe*
Duwamish Tribe*
Snoqualmie Tribe*
Puyallup Tribe of the Puyallup Reservation*
Confederated Tribes and Bands of the Yakima*

Newspapers
Daily Journal of Commerce*
Seattle Times*
Capitol Hill Times*
Northwest Asian Weekly*
The Seattle Medium Newspaper Group*
ColorsNW Magazine*
Seattle Chinese Post*
South Seattle Beacon*

Other Organizations
Harborview Medical Center*
Swedish Medical Center – First Hill*
Swedish Medical Center –Cherry Hill*
Yesler Terrace Community Council*
Capitol Hill Community Council*
First Hill Improvement Association*

Pike-Pine Neighborhood Council*
Squire Park Community Council*
International District Housing Alliance*
Youth Tutoring Program*
Historic Seattle*
Yesler Community Center*
El Centro de la Raza*
Seattle Displacement Coalition*
SHA Resident Action Council
Community Coalition for Environmental Justice*
Real Change*
Nature Consortium*
Neighborhood House*
Tenants Union*

Scoping Comment Providers**

Mohamed Hamisam*
Yin Lau*
Mike Wold*
Sonja Richter*
Seattle Central Little League*
Puget Sound Sage*
National Park Service*
Mike Smith*

* Denotes entities that were not sent a hard copy of the draft EIS. These entities were provided a copy of the Notice of Availability either electronically or via mail.

**This category includes individuals or organizations that submitted a scoping comment, are not included in the previous categories, and provided contact information.

Chapter 6 - LIST of PREPARERS

CHAPTER 6
LIST of PREPARERS

The following are the key consultants involved in preparation of this Draft EIS.

EA I Blumen

- **Karen Swenson** – Project Manager
  - MP Urban and Environmental Planning, University of Virginia
  - BA Economics and Earth Science, Pacific Lutheran University
  - 16 yrs. of public and private-sector environmental analysis

- **Gretchen Brunner** – QA/QC
  - B.L.A. Landscape Architecture, University of Washington
  - B.A. Biology, Whitman College
  - 23 yrs. of public and private-sector environmental analysis

- **Amy Gritton** – Land Use, Climate Change & Energy, Public Service (Parks & Schools)
  - BA Environmental Studies, University of Washington
  - 5 yrs. of public and private-sector land use and environmental analysis

- **Kristy Hollinger** – Plans & Policies, Environmental Justice, Socioeconomics, Aesthetics, Public Service (Fire, Police and Solid Waste)
  - BA Anthropology
  - MA Environmental Politics and Policy
  - 2 yrs. of public and private-sector environmental analysis

CollinsWoerman

- **Harold Moniz** – Project Manager, Urban Planner
  - BS, Environmental Science, Washington State University
  - 20 years of public and private-sector planning, land use and environmental analysis

- **Steve Schlenker** – Senior Planner, Master Plan design and quantification
  - M Architecture, University of Washington
  - BA Architecture, Iowa State University
  - 24 yrs. of public and private architecture and master planning experience

- **Andy Fenstermacher** – Aesthetics/Light and Glare and Shadows
  - MUP Urban Planning, University of Washington
  - BA, Visual Arts, Fordham University
  - 2 yrs. of private-sector environmental analysis

- **Ruta Patil** – Aesthetics, Light and Glare, Shadows, CADD modeling
  - Masters of Arts in Interior Design, Washington State University
  - Bachelor of Architecture, University of Pune, India
  - 5 yrs. of public and private-sector architecture, interior design and master planning projects

Landau, Inc.

- **Dave Pischer, P.E.** – Earth (& Landau Associates' Project Manager)
  - MS Engineering Mechanics/Geotechnical Engineering, University of Wisconsin
  - BS Engineering Mechanics, University of Wisconsin
  - 30 yrs. of public and private-sector geotechnical and environmental engineering
  - Professional Civil Engineer (Washington #19777)

- **Chad McMullen, P.E.** – Earth (& Task Manager for Subsurface Exploration Program).
  - BS Geological Engineering, Colorado School of Mines
  - MS Civil Engineering, Oregon State University
  - 6 yrs. of public and private-sector geotechnical engineering
  - Professional Civil Engineer (Washington #43688)

- **M. Birkan Bayrak, PhD.** – Earth (Slope stability calculations)
  - PhD, Civil, Construction, and Environmental Engineering, Iowa State University
  - BS and MS, Civil Engineering, Istanbul Technical University
  - 2 yrs. of public and private-sector geotechnical engineering

- **Tim Syverson** – Environmental Health
  - MS and BS in Geology, University of Minnesota
  - 24 yrs of public and private-sector environmental analysis
  - Professional Geologist/Hydrogeologist (Washington #901)

- **Mark Brunner** – Environmental Health, Plants and Animals
  - B.A. Community, Environment, and Planning, University of Washington
  - 4 yrs. of public and private-sector environmental analysis

- **Jason Long** – Plants & Animals
  - MS Environmental Resources, Arizona State University
  - BS Landscape Architecture, Arizona State University
  - 17 yrs. of public and private-sector environmental analysis
  - Registered Landscape Architect (Washington #1135)

- **Steve Quarterman** – Plants & Animals
  - MEM Resource Ecology, Nicholas School of the Environment, Duke University
  - BA Biology, Albion College
  - 11 yrs. of public and private-sector environmental analysis

- **Christopher Young** – QA/QC for Earth, Environmental Health, and Plants and Animals
  - BA Journalism, Central Washington University
  - 10 yrs. of public and private-sector environmental, geotechnical, natural resources, and cultural resources analysis

SvR

- **Peg Staeheli** – Open Space, Circulation, Water Resources, and Public Utilities
  - BS Landscape Architecture, Washington State University
  - Engineering Program: Gonzaga University
  - Architecture Program: University of Copenhagen
  - 32 years of public and private sector planning and infrastructure experience

- **Nate Cormier** – Open Space and Circulation
  - Masters in Landscape Architecture, Harvard University
  - 12 years of public and private sector planning and landscape architecture

- **Mark Davies** – Water Resources and Public Utilities
  - BS Civil Engineering, University of Washington
  - 14 years of public and private sector planning and infrastructure experience

ENVIRON International Corporation

- **Richard Steffel** – Air Quality, Environmental Noise
  - MS Environmental Studies (Air Quality and Energy Conservation)
  - BA Anthropology (Ecological)
  - 30 yrs. of public and private-sector air quality and environmental noise analysis

- **Kristen Wallace** – Environmental Noise
  - MS Aerospace Engineering
  - BA Mathematics and History
  - 17 yrs. of public and private-sector environmental noise analysis

- **Lisa Graham** – Air Quality, GHGs
  - BA Biology
  - 20 yrs. of public and private-sector air quality analysis

- **Kurt Richman** – Air Quality Modeling
  - BS Environmental Science
  - 4 yrs. of public and private-sector air quality and environmental noise analysis

BOLA Architecture + Planning, Inc.

- **Susan Boyle** – Historic Resources
  - Registered architect
  - Master of Architecture, and BA Art History, University of Washington
  - 29 yrs. of public and private-sector historic analysis

- **Sonja Sokol Furesz** – Historic Resources
  - Master of Arts in historic Preservation Planning, Cornell University
  - Bachelors of Arts in Art History, Carlton College
  - 6 yrs. of public and private-sector historic analysis

Cultural Resource Consultants

- **Glenn Hartmann** – Cultural Resources
  - M.A., Anthropology, Washington State University
  - B.A. Social and Behavioral Sciences, John Hopkins University
  - 20 yrs. of public and private sector cultural resource services

- **Margaret Berger** – Cultural Resources
  - M.A., Anthropology, University of Washington
  - B.A., Archeological Studies and Anthropology, Oberlin College
  - 5 yrs. experience public and private-sector cultural resource management

Heffron Transportation, Inc.

- **Marni Heffron** – Transportation and Parking
  - Bachelor of Science, Civil Engineering, University of Washington
  - Professional Engineer, Washington
  - Professional Traffic Operations Engineer
  - 24 years of traffic engineering and transportation planning

- **Michelle Brown** – Traffic analysis
  - Bachelor of Science, Civil Engineering, University of Washington
  - 16 years of traffic engineering and transportation planning

- **Claudia Hirschey** – Transit analysis, traffic support for air and noise analysis
  - Bachelor of Science, Mechanical Engineering, University of Washington
  - Masters of Science, Civil Engineers, University of Wyoming
  - Professional Engineer, Washington
  - 22 years of traffic engineering and transportation planning

Portico Group

- **Dean Alker** – Visual Photo simulations
  - Bachelors of Architecture, University of Idaho
  - 12 yrs. of design visualization, visual simulation, rendering and animation