

Lake Oswego to Portland Transit Project

Community Impact Assessment Technical Report

November 2010

TriMet and Metro

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The preparation of this report was financed in part by the U.S. Department of Transportation, Federal Transit Administration. The opinions, findings and conclusions expressed in this report are not necessarily those of the U.S. Department of Transportation, Federal Transit Administration.

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1. INTRODUCTION

This report contains the detailed analysis and documentation that is the basis for Chapter 3, Section 3.3 on community effects and Section 3.18 environmental justice for the Lake Oswego to Portland Transit Project (LOPT) Draft Environmental Impact Statement (DEIS) published by the Federal Transit Administration in December 2010. This chapter of the report includes a summary of the project background, the Purpose and Need, the alternatives/options considered and the description of the alternatives analyzed.

1.1 Project Background

Transit improvements in the Lake Oswego to Portland corridor have been studied several times in recent history. In the 1970s and 80s, a light rail alignment through Johns Landing was studied as part of the Westside Corridor Alternatives Analysis, and in the 1990s potential light rail alignments through Johns Landing were studied as part of the South/North Corridor Study.

The Willamette Shore Line right of way was first established in 1885-1887 as the Portland and Willamette Valley Railroad, which began operation in July 1887. The Southern Pacific Railroad (SPRR) later purchased the railway in 1914. The railroad had a major impact on the development of southwest Portland. Initially, 14 trains operated between Portland and Oswego (as it then was known), and it became the main transportation link for developing residential communities along the route. The line was electrified in 1914 and passenger traffic hit its peak in 1920 with SPRR running 64 daily trains between Portland and Oswego. Passenger service ended on October 5, 1929, while freight service continued until 1983.

In August of 1984, the Interstate Commerce Commission granted SPRR permission to abandon the line. In 1988, the Willamette Shore Line Consortium (the Consortium) purchased the 6.3-mile-long line from SPRR for approximately \$2 million. The Consortium, comprised of the City of Lake Oswego, City of Portland, Oregon Department of Transportation (ODOT), Clackamas County, Multnomah County, Metro, and TriMet, purchased the line to preserve it for future passenger rail transit use. TriMet holds title for the Consortium and the City of Lake Oswego provides maintenance services funded by the Consortium.

In 2005, with the endorsement of the Joint Policy Advisory Committee on Transportation (JPAC), the Metro Council directed staff to initiate the Lake Oswego to Portland Transit and Trail Alternatives Analysis. The alternatives analysis focused on improving the ability to serve travel demand in the corridor through improved transit service and development of a multi-use pathway.

1.2 Purpose and Need

The **Purpose** of the project is to optimize the regional transit system by improving transit within the Lake Oswego to Portland transit corridor, while being fiscally responsive and supporting regional and local land use goals. The project should maximize, to the extent possible, regional resources and economic development opportunities, and garner broad public support. The project should build on previous corridor transit studies, analyses, and conclusions and should be environmentally sensitive.

The **Need** for the project results from:

- Historic and projected increases in traffic congestion in the Lake Oswego to Portland corridor due to increases in regional and corridor population and employment;
- Lengthy and increasing transit travel times and deteriorating public transportation reliability in the corridor due to growing traffic congestion;
- Increasing operating expenses, combined with increasingly scarce operating resources and the demand for more efficient public transportation operations;
- Local and regional land use and development plans, goals, and objectives that target the corridor for residential, commercial, retail, and mixed-use development to help accommodate forecast regional population and employment growth, and previous corridor transit studies, analyses, and conclusions;
- The region's growing reliance on public transportation to meet future growth in travel demand in the corridor;
- The topographic, geographic, and built-environment constraints within the corridor that limit the ability of the region to expand the highway and arterial infrastructure in the corridor; and
- Limited options for transportation improvements in the corridor caused by the identification and protection of important natural, built, and socioeconomic environmental resources in the corridor.

1.3 Alternatives/Options Considered

Metro's 2004 Regional Transportation Plan (RTP) identified the need for a refinement plan for a high capacity transit option for the corridor, which included an analysis of several modal alternatives. Metro initiated the corridor refinement plan in July 2005 and issued the *Lake Oswego to Portland Transit and Trail Alternatives Analysis Evaluation Summary Public Review Draft* in June 2007.

On December 13, 2007, after reviewing and considering the alternatives analysis report, public comment, and recommendations from the Lake Oswego to Portland Transit and Trail Project Citizen Advisory Committee (CAC), the Lake Oswego to Portland Transit and Trail Project Management Group (PMG), Steering Committee, and partner jurisdictions and agencies, the Metro Council approved Resolution No. 07-3887A. The resolution adopted the *Lake Oswego to Portland Transit and Trail Alternatives Analysis: Alternatives to be Advanced into a Draft Environmental Impact Statement and Work Program Considerations* (December 13, 2007). (See Section 2.1 for additional detail on the process used to identify and narrow alternatives.) It also selected the No-Build, Enhanced Bus, and Streetcar alternatives to advance into the project's DEIS for further study, and directed staff to conduct a refinement study to identify design options in the Johns Landing Area and terminus options to advance into the project's DEIS. The resolution called for further refinement of the trail component to move forward as a separate process.

1.3.1 Alternatives Analysis

The project's alternatives analysis process developed a wide range of alternatives for evaluation and early screening, which included: a no-build alternative, widening of Highway 43, reversible lanes on Highway 43, river transit (three options), bus rapid transit (BRT) (three options); commuter rail, light rail, and streetcar (a wide range of alignment alternatives and terminus alternatives and options).

Through a screening process that assessed the ability of the alternatives to meet the project's Purpose and Need, the initial range of possible alternatives was narrowed. Appendix C of the DEIS provides a summary of the technical evaluation of the alternatives and options considered during the alternatives analysis phase.

The following alternatives were selected for further study through the alternatives analysis phase: 1) No-Build Alternative, 2) Bus Rapid Transit Alternative, and 3) Streetcar Alternative. Following is a description of those alternatives as they were studied in the alternatives analysis (see the *Lake Oswego to Portland Transit and Trail Study Evaluation Summary Public Review Draft* for more information).

- **No-Build Alternative.** Similar to the project's current No-Build Alternative, as described in Section 1.4.1.
- **Bus Rapid Transit Alternative.** The Bus Rapid Transit Alternative would operate frequent bus service with Line 35 on Highway 43 between downtown Portland and downtown Lake Oswego, generally in mixed traffic, with bus station spacing that would be longer than TriMet typically provides for fixed-route bus service. Transit queue bypass lanes would be constructed at congested intersections, where feasible.
- **Streetcar Alternative.** The Streetcar Alternative would extend the existing Portland Streetcar line, which currently operates between NW 23rd Avenue and SW Lowell Street, to downtown Lake Oswego. Study of this alternative includes an evaluation of whether the Willamette Shore Line right of way would be used exclusively or whether it would be used in combination with SW Macadam Avenue or other adjacent roadways.

1.3.2 Scoping/Project Refinement Study

This section describes the alignment and terminus options developed, evaluated, and screened in 2009 as a part of the project's scoping and refinement study phase. In November 2010, Metro published the *Lake Oswego to Portland Transit Project Refinement Report*, which detailed the study's results and summarized public comment. This phase focused on refinements in two areas: 1) alignment options for the Johns Landing area; and 2) terminus options in the Lake Oswego area. In summary, the project's Purpose Statement during the refinement phase was to:

- Optimize the regional transit system;
- Be fiscally responsive and maximize regional resources;
- Maximize the economic development potential of the project;
- Be sensitive to the built and social environments; and
- Be sensitive to the natural environment.

The options, evaluation measures, and results of the Johns Landing streetcar alignment refinement process and the Lake Oswego terminus refinement processes are summarized below.

A. Johns Landing Streetcar Alignment Refinement. For the refinement of streetcar design options within the Johns Landing area, the project used the following criteria: streetcar operations, streetcar performance, financial feasibility, traffic operations, accessibility and development potential,

neighborhood sustainability, and adverse impacts to the natural environment. Measures for each of the criteria were developed and applied to each of the alignment options studied, which included:

- Hybrid 1: Macadam Avenue In-Street
- Hybrid 2: East Side Exclusive
- Hybrid 3: Macadam Avenue with New Northbound Lane
- Willamette Shore Line
- Full Macadam In-Street

B. Lake Oswego Terminus Option Refinement. For the refinement of terminus options in the Lake Oswego area, the project used the following criteria: expansion potential and regional context, streetcar operations, streetcar performance, financial feasibility, traffic operations, accessibility and development potential, and neighborhood sustainability. Measures for each of the criteria were developed and applied to each of the alignment options studied, which included: a) Safeway Terminus Option; b) Albertsons Terminus Option; and c) Trolley Terminus Option.

On June 1, 2009, in consultation with FTA and based on the findings of the analysis, public and agency comment and recommendations from the Lake Oswego to Portland Project Management Group, the Lake Oswego to Portland Transit Project Steering Committee selected the following options in the Johns Landing area to advance into the DEIS: Willamette Shore Line; Hybrid 1 – Macadam Avenue In Street (Boundary Street to Carolina Street); and Hybrid 3: Macadam Avenue with New Northbound Lane (Boundary Street to Carolina Street).

1.4 Description of Alternatives Analyzed in this Technical Report and the DEIS

This section summarizes the roadway and transit capital improvements and transit operating characteristics for the No-Build, Enhanced Bus, and Streetcar alternatives. Table 1-1 provides a summary of the transit capital improvements associated with the three alternatives, and Table 1-2 summarizes the operating characteristics of the alternatives. A more detailed description of the alternatives may be found in the *Lake Oswego to Portland Transit Project Detailed Definition of Alternatives Report* (Metro/TriMet: January 2010). Detailed drawings of the Streetcar Alternative, including the various design options, can be found in the *Streetcar Plan Set*, November 2009.

1.4.1 No-Build Alternative

This section describes the No-Build Alternative, which serves as a reference point to gauge the benefits, costs, and effects of the Enhanced Bus and Streetcar alternatives. In describing the No-Build Alternative, this section focuses on: 1) the alternative's roadway, bicycle and pedestrian, and transit capital improvements; and 2) the alternative's transit operating characteristics. This description of the No-Build Alternative is based on conditions in 2035, the project's environmental forecast year.

1.4.1.1 Capital Improvements

Following is a brief description of the roadway, bicycle and pedestrian, and transit capital improvements that would occur under the No-Build Alternative (see Table 1-1). Figure 1-1 illustrates the location of those improvements.

- **Roadway Capital Improvements.** The No-Build Alternative includes the existing roadway network in the corridor, with the addition of roadway capital improvements that are listed in the

financially constrained road network of Metro's 2035 RTP.¹ Following is a list of the roadway projects that would occur within the corridor by 2035.

- *Moody/Bond Avenue Couplet* (create couplet with two lanes northbound on SW Bond Avenue and two lanes southbound on SW Moody Avenue);
- *South Portal* (Phases I and II to extend the SW Moody Avenue/SW Bond Avenue couplet to SW Hamilton Street and realign SW Hood Avenue to connect with SW Macadam Avenue at SW Hamilton Street);
- *I-5 North Macadam* (construct improvements in the South Waterfront District to improve safety and access); and
- *Macadam Intelligent Transportation Systems* (install system and devices in the SW Macadam Avenue corridor to improve traffic flow).

¹ Metro, 2035 Regional Transportation Plan, approved Dec. 13, 2007.

**Table 1-1 Transit Capital Improvements for the
No-Build, Enhanced Bus, and Streetcar Alternatives (2035)**

Capital Improvements	No-Build	Enhanced Bus	Streetcar¹
<i>New Streetcar Alignment Length²</i>	N/A	N/A	5.9 to 6.0
<i>One-Way Streetcar Track Miles</i>			
Portland Streetcar System	15.7	15.7	26.2 to 27.0
Proposed Lake Oswego to Portland Project	0	0	10.5 to 11.3
<i>Streetcar Stations</i>			
Portland Streetcar System	69	69	79
Proposed Lake Oswego to Portland Project	0	0	10 ³
<i>Streetcars (in service/spares/total)</i>			
Portland Streetcar System	17/5/22	17/5/22	27/6/33
Proposed Lake Oswego to Portland Project	N/A	N/A	10/1/11
<i>Streetcar Operations and Maintenance (O&M) Facilities</i>			
Number of Facilities ⁴	1	1	2
Maintenance Capacity (number of Streetcars)	36	36	36
Storage Capacity (number of Streetcars)	25	25	33
Line 35 Bus Stops			
<i>Line 35 Bus Stops (Lake Oswego to SW Bancroft St.)</i>	26	13	0
<i>Buses (in service/spares)</i>			
TriMet Systemwide	607/712	619/725	601/704
Difference from No-Build Alternative	N/A	13	- 8
Transit Centers⁵	1	1	1
Park-and-Ride Facilities			
Joint Use Surface – Lots/Spaces	3/76	3/76	3/76
Surface – Lots/Spaces	0/0	0/0	1/100
Structured – Lots/Spaces	0/0	1/300	1/300

Note: LO = Lake Oswego; O&M = operating and maintenance.

¹ The transit capital improvements of the Streetcar Alternative summarized in this table would not vary by design option, except when shown as a range and as noted for new streetcar alignment length and one-way track miles. The first number listed is under the Willamette Shore Line design option and the second number listed is under the Macadam design options (in the Johns Landing Segment).

² Under the No-Build and Enhanced Bus alternatives, the Portland Streetcar System would include two streetcar lines: a) the existing Portland Streetcar Line, between NW 23rd Avenue and SW Bancroft Street, and b) the Portland Streetcar Loop, which is currently under construction and will be completed when the Milwaukie Light Rail and Streetcar Close the Loop project are constructed. The Streetcar Alternative would extend the existing Portland Streetcar line south, from SW Bancroft Street to Lake Oswego. One-way track miles are calculated by multiplying the mileage of double-tracked sections and adding that to the mileage of single-track sections. Alignment length and one-way track miles are presented as a range, because they would vary by design option. The number of streetcar stations, streetcars in service or as spares and the number and size of streetcar O&M facilities would not change by streetcar design option.

³ Two optional stations are also being considered for inclusion in the Streetcar Alternative (see Figure 1-5 and Figure 1-6): 1) the Pendleton Station under the Macadam In-Street and Macadam Additional Lane design options in the Johns Landing Segment; and the E Avenue Station in the Lake Oswego Segment.

⁴ There is an existing streetcar operations and maintenance (O&M) facility at NW 16th Avenue, between NW Marshall and NW Northrup streets; under the Streetcar Alternative, additional storage for eight vehicles would be provided along the streetcar alignment under the Marquam Bridge. There would be no change in the number or size of bus O&M facilities under any of the alternatives or design options. Bus stops are those that would be served exclusively by Line 35 between Lake Oswego and SW Bancroft Street

⁵ Under the No-Build and Enhanced Bus alternative, the Lake Oswego Transit Center would remain at its current location (on 4th Street, between A and B avenues); under the Streetcar Alternative, the transit center would be moved to be adjacent to the Lake Oswego Terminus Station.

Source: TriMet, January 2010.

Table 1-2 Streetcar and Bus Network Operating Characteristics of No-Build, Enhanced Bus, and Streetcar¹ Alternatives (2035)

Operating Characteristics by Vehicle Mode	No-Build	Enhanced Bus	Streetcar
Streetcar Network Operating Characteristics¹			
<i>Weekday Streetcar Vehicle Miles Traveled</i>			
Systemwide	2,180	2,180	3,200 or 3,230
Difference from No-Build Alternative	N/A	0	1,020 or 1,050
<i>Weekday Streetcar Revenue Hours</i>			
Systemwide	267	267	326 or 332
Difference from No-Build Alternative	N/A	0	59 or 65
<i>Corridor Weekday Streetcar Place Miles²</i>	N/A	N/A	89,000 or 91,320
<i>Corridor Streetcar Round-Trip Time³</i>	N/A	N/A	37 or 44 minutes
<i>Corridor Streetcar Headways⁴</i>			
Lake Oswego to PSU	N/A	N/A	7.5 / 7.5 minutes
Bus Network Operating Characteristics			
<i>Weekday Bus Miles Traveled</i>			
Systemwide	76,560	77,560	75,520
Difference from No-Build Alternative	N/A	1,000	-1,040
<i>Weekday Bus Revenue Hours</i>			
Systemwide	5,300	5,400	5,210
Difference from No-Build Alternative	N/A	100	-90
<i>Line 35 (bus) Weekday Place Miles²</i>	37,000	57,840	0
<i>Line 35 (bus) Headways⁴</i>			
Lake Oswego to Downtown Portland	15 / 15 min.	6 / 15 min.	N/A
Oregon City to Lake Oswego	15/15 min.	15/15 min.	15/15 min.

Note: N/A = not applicable; LO = Lake Oswego; O&M = operating and maintenance; PSU = Portland State University.

¹ The operating characteristics of the Streetcar Alternative summarized in this table would not vary by design option, except when shown as a range and as noted for streetcar vehicle miles traveled, place miles, and round-trip time. The first number listed is under the Willamette Shore Line Design Option and the second number listed is under the Macadam design options (in the Johns Landing Segment).

² Place miles are a measure of the passenger carrying capacities of the alternatives, similar to airline seat miles. Place miles = transit vehicle capacity (seated and standing) of a vehicle type, multiplied by the number vehicle miles traveled for that vehicle type, summed across all vehicle types. The No-Build Alternative bus place miles are based on lines 35 and 36.

³ Round-trip run time for the proposed streetcar line would include in-vehicle running time from SW Bancroft Street to the Lake Oswego Terminus Station and back to SW Bancroft Street; it does not include layover time at the terminus.

⁴ Headways are the average time between transit vehicles per hour within the given time period that would pass by a given point in the same direction, which is inversely related to frequency (the average number of vehicles per hour in the given time period that would pass by a given point in the same direction). Weekday peak is generally defined as 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.; weekday off-peak is generally defined as 5:00 to 7:00 a.m., 9:00 a.m. to 4:00 p.m. and 6:00 p.m. to 1:00 a.m. There would be streetcar service every 12 minutes between SW Bancroft Street and the Pearl District (via PSU) under the No-Build and Enhanced Bus alternatives. The peak headways shown for the No-Build Alternative are the composite headways for Lines 35 and 36.

Source: TriMet – January 2010.

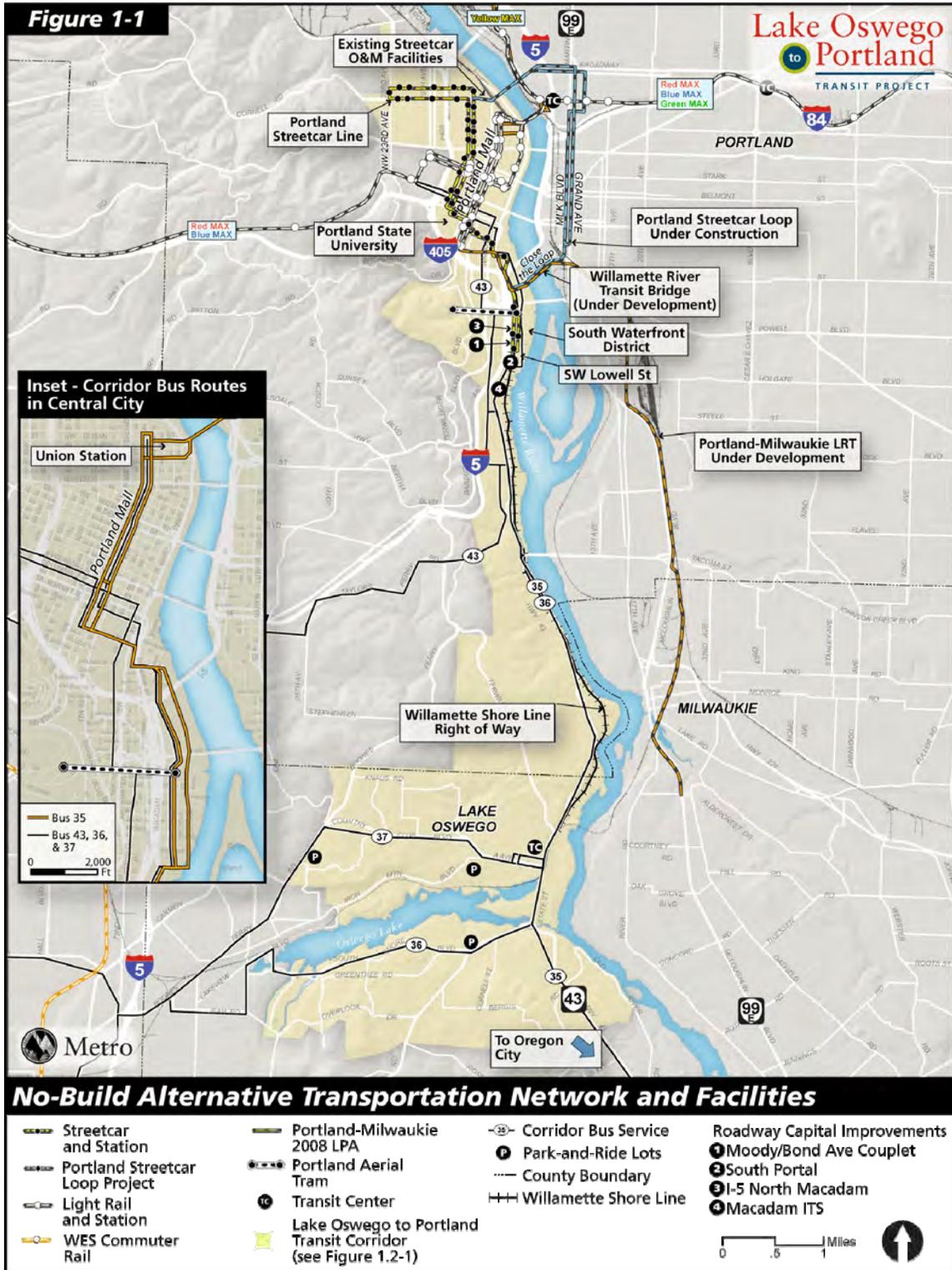


FIGURE 1-1. NO-BUILD ALTERNATIVE TRANSPORTATION NETWORK AND FACILITIES

- **Bicycle and Pedestrian Improvements.** The No-Build Alternative includes the existing bicycle and pedestrian network in the corridor, with the addition of bicycle and pedestrian capital improvements that are listed in the financially constrained road network of Metro’s 2035 RTP. Following is a list of the bicycle and pedestrian projects that are proposed to occur within the corridor by 2035.
 - *Lake Oswego to Portland Trail* (extension of a multiuse path between Lake Oswego and Portland);
 - *I-5 at Gibbs Pedestrian/Bicycle Overcrossing* (construct a bicycle and pedestrian bridge over I-5 in the vicinity of SW Gibbs Street); and
 - *Tryon Creek Bridge* (construct a new pedestrian/bicycle bridge near the mouth of Tryon Creek).

- **Bus Capital Improvements.** There are currently two primary bus capital facilities in the corridor: *Lake Oswego Transit Center* (on 4th Street, between A and B avenues); and *Portland Mall* (bus and light rail lanes and shelters on NW/SW 5th and 6th avenues between NW Glisan Street and SW Jackson Street). These bus facilities would remain as-is under the No-Build Alternative. (The financially constrained transit project list of the RTP includes relocation of the Lake Oswego Transit Center to be adjacent to the Lake Oswego to Portland Streetcar alignment, which is also in the financially constrained project list. Neither would occur under the No-Build Alternative.) No additional bus capital improvements are planned for the corridor under the No-Build Alternative by 2035.

- **Light Rail Capital Improvements.** Under the No-Build Alternative, TriMet’s existing Yellow Line light rail service would continue to operate on the Portland Mall (with a station at PSU added), across the Steel Bridge and into North Portland. Yellow Line facilities and service would be extended north from the existing Expo Center Station, across the Columbia River into Vancouver, Washington, and south from the Portland Mall, generally via SW Lincoln Street, across the Willamette River to Milwaukie, Oregon. In addition, downtown Portland would be served by the following TriMet light rail lines: Blue Line (Gresham to Hillsboro); Red Line (Beaverton to Portland International Airport); and Green Line (downtown Portland to Clackamas Town Center).

- **Excursion Trolley Capital Facilities.** Under the No-Build Alternative there would be no changes to the existing excursion trolley capital facilities that are located or operate within the corridor. Those excursion trolley capital facilities include approximately six miles of single-tracked Willamette Shore Line tracks and related facilities; stations at SW Bancroft and Moody streets and at N State Street at A Avenue; a trolley barn at approximately N State Street at A Avenue; and typically one vintage and/or other trolley vehicle propelled by externally attached diesel units.

- **Streetcar Improvements and Vehicles.** Under the No-Build Alternative, the existing Portland Streetcar Line would continue to operate between NW 23rd Avenue and SW Lowell Street. In addition, the No-Build Alternative includes the Eastside Streetcar Project (currently under construction), which would extend streetcar tracks and stations across the Broadway Bridge, serving NE and SE Portland on N and NE Broadway and NE and SE Martin Luther King Boulevard and Grand Avenue to OMSI. With the Close the Loop Project, the Eastside Streetcar

will be extended across the Willamette River, to complete the planned Streetcar Loop, via a new transit, bicycle, and pedestrian bridge to be constructed under the Milwaukie Light Rail Project, connecting to the Streetcar line in the South Waterfront District. Under the No-Build Alternative in 2035, there would be 22 streetcars in the transit system (including spares), an increase of 11 compared to existing conditions.

- **Park-and-Ride Facilities.** Under the No-Build Alternative, the park-and-ride facilities in the corridor would be those that currently exist: a shared-use 30-space park-and-ride lot at Christ Church (1060 SW Chandler Road); a shared-use 34-space park-and-ride lot at Lake Oswego United Methodist Church (1855 South Shore Boulevard); and a shared use 12-space park-and-ride lot at Hope Church (14790 SW Boones Ferry Road).
- **Operations and Maintenance Facilities.** Under the No-Build Alternative, there would be one operations and maintenance facility within the corridor, which would be the existing streetcar maintenance building and storage yard on NW 16th Avenue under I-405. With the Streetcar Loop and Close the Loop Projects, the storage yard could accommodate 25 streetcars and the maintenance facility would have the capacity to service 36 streetcars (an increase in capacity of 13 and 18 vehicles, compared to existing conditions, respectively).

1.4.1.2 Transit Operations

This section summarizes the transit operating characteristics that would occur under the No-Build Alternative, focusing on bus and streetcar operations (see Table 1-2). Figure 1-1 illustrates the transit network for the No-Build Alternative in the vicinity of the corridor.

- **Bus Operations.** Bus operations under the No-Build Alternative would be similar to TriMet's existing fixed-route bus network with the addition of improvements included in the 2035 RTP's 20-year financially constrained transportation system (see Figure 1-1). Transit service improvements within the No-Build Alternative would be limited to those that could be funded using existing and readily-foreseeable revenue sources. Systemwide, those bus operations improvements would include: 1) increases in TriMet bus route frequency to avoid peak overloads and/or maintain schedule reliability; 2) increases in run times to maintain schedule reliability; and 3) incremental increases in TriMet systemwide bus service hours consistent with available revenue sources and consistent with the 2035 RTP's 20-year financially-constrained transit network, resulting in annual increases in service hours of approximately 0.5 percent per year. Specifically, the No-Build Alternative would include the operation of the TriMet bus route Line 35 between downtown Portland and Lake Oswego (continuing south to Oregon City).
- **Streetcar Operating Characteristics.** Under the No-Build Alternative, the City of Portland, through an operating agreement with the Portland Streetcar, Inc. (PSI), would continue to operate the existing Portland Streetcar line between Northwest Portland and the South Waterfront District, via downtown Portland (see Figure 1-1). On average weekdays in 2035, the Streetcar line would operate every 12 minutes during the peak and off-peak periods. Further, the City of Portland would operate the Streetcar Loop Project, serving downtown Portland, the Pearl District, northeast and southeast Portland, OMSI and the South Waterfront District. Frequency on the line for an average weekday in 2035 would be every 12 minutes during the peak and off-peak periods.

1.4.2 Enhanced Bus Alternative

This section describes the roadway, bicycle and pedestrian, and transit capital improvements and transit operating characteristics under the Enhanced Bus Alternative, generally compared to the No-Build Alternative. The intent of the Enhanced Bus Alternative is to address the project's Purpose and Need without a major transit capital investment.

1.4.2.1 Capital Improvements

This section summarizes the transit, bicycle and pedestrian, and transit capital improvements that would occur under the Enhanced Bus Alternative, compared to the No-Build Alternative (see Table 1-1 and Figure 1-2).

- **Roadway Capital Improvements.** Except for the addition of a two-way roadway connection between the proposed 300-space park-and-ride lot and Foothills Road, there would be no change in roadway improvements under the Enhanced Bus Alternative, compared to the No-Build Alternative.
- **Bicycle and Pedestrian Improvements.** There would be no change in bicycle and pedestrian improvements under the Enhanced Bus Alternative, compared to the No-Build Alternative.
- **Bus Capital Improvements.** Under the Enhanced Bus Alternative, the 26 bus stops that would be served by Line 35 between downtown Lake Oswego and SW Bancroft under the No-Build Alternative would be consolidated into 13 bus stops, which would continue to be served by the Line 35 (the other 13 bus stops would be removed). The bus stops served by Line 35 between Lake Oswego and Oregon City would be unchanged under the Enhanced Bus Alternative, compared to the No-Build Alternative.
- **Light Rail Capital Improvements.** There would be no change in light rail capital improvements under the Enhanced Bus Alternative, compared to the No-Build Alternative.
- **Excursion Trolley Capital Improvements.** There would be no change in excursion trolley capital improvements under the Enhanced Bus Alternative, from the No-Build Alternative.
- **Streetcar Improvements and Vehicles.** There would be no change in streetcar improvements and vehicles under the Enhanced Bus Alternative, compared to the No-Build Alternative.
- **Park-and-Ride Facilities.** In addition to the park-and-ride facilities included under the No-Build Alternative, the Enhanced Bus Alternative would include a 300-space structured park-and-ride lot that would be located at Oswego Village Shopping Center on Highway 43 in downtown Lake Oswego. The park-and-ride lot would be served by Lines 35 and 36.
- **Operations and Maintenance Facilities.** There would be no changes to the region's operations and maintenance facilities under the Enhanced Bus Alternative, compared to the No-Build Alternative, except that the capacity of TriMet's bus operating and maintenance facilities at either the Center or Powell facility would be expanded to accommodate the additional 13 buses under the Enhanced Bus Alternative (see the *Detailed Definition of Alternatives Report* for additional information).

1.4.2.2 Transit Operations

This section summarizes the corridor's transit operations under the Enhanced Bus Alternative, focusing on bus and streetcar operations. Figure 1-2 illustrates the transit network for the Enhanced Bus Alternative in the vicinity of the corridor.

- **Bus Operations.** Except for changes to the routing, frequency, and number of stops of Line 35 and the elimination of Line 36 service between downtown Portland and downtown Lake Oswego, bus operations under the Enhanced Bus Alternative would be identical to the bus operations under the No-Build Alternative. Under the Enhanced Bus Alternative, Line 35's routing between Oregon City and Lake Oswego would remain unchanged relative to the No-Build Alternative. Further, between Lake Oswego and downtown Portland there would be two routing changes to Line 35, compared to the No-Build Alternative: 1) the bus would be rerouted to serve the new park-and-ride lot at the Oswego Village Shopping Center; and, 2) in downtown Portland, Line 35 would be rerouted to serve SW and NW 10th and 11th avenues, generally between SW Market and Clay streets and NW Lovejoy Street/Union Station to address the travel markets.

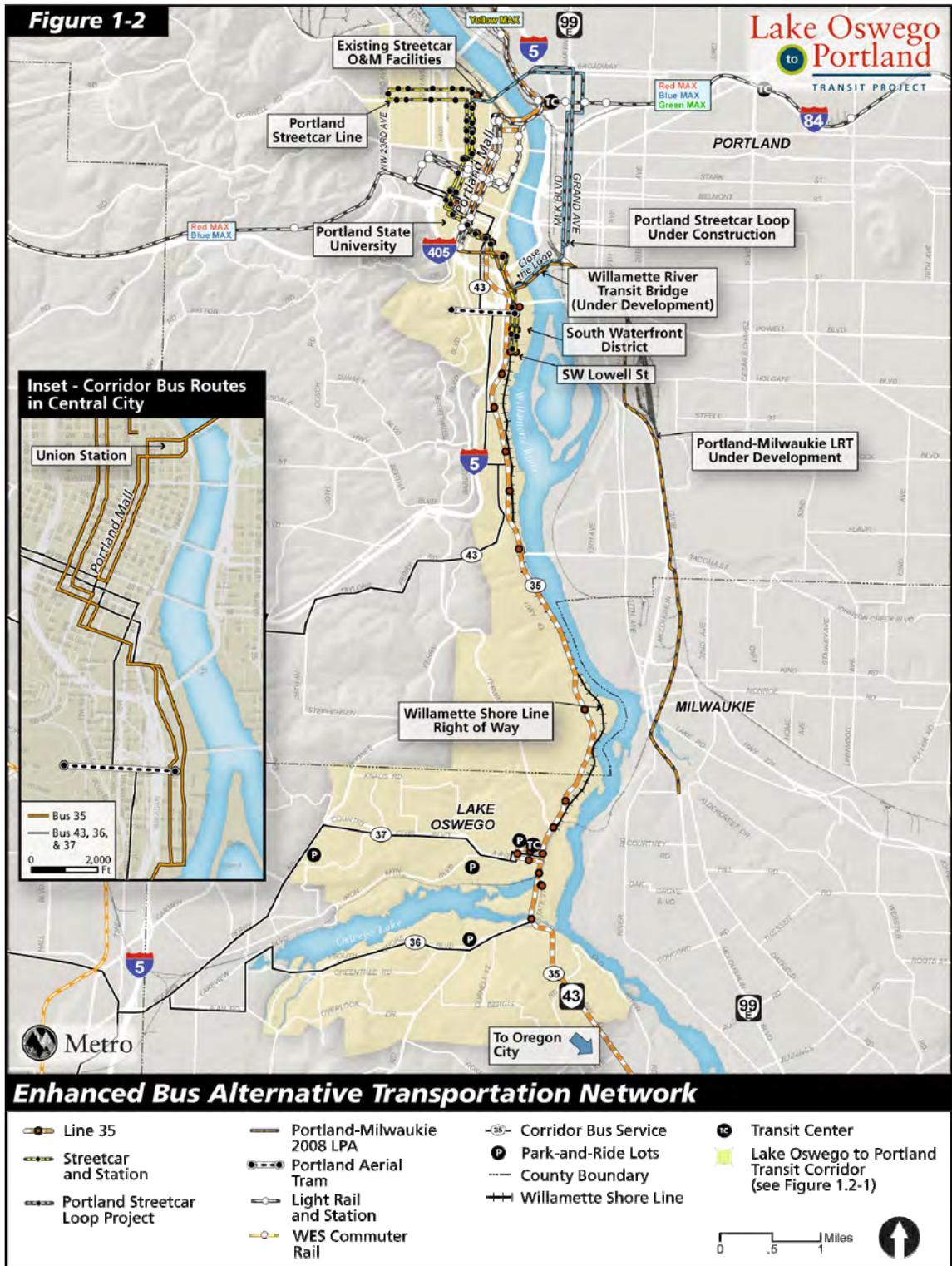


FIGURE 1-2. ENHANCED BUS ALTERNATIVE TRANSPORTATION NETWORK

- **Streetcar Operating Characteristics.** Under the Enhanced Bus Alternative, there would be no change in streetcar operating characteristics, compared to the No-Build Alternative.

1.4.3 Streetcar Alternative

This section describes the roadway, bicycle and pedestrian, and transit capital improvements and transit operating characteristics under the Streetcar Alternative, generally compared to the No-Build Alternative.

1.4.3.1 Capital Improvements

This section summarizes the transit, bicycle and pedestrian, and transit capital improvements that would occur under the Streetcar Alternative, generally compared to the No-Build Alternative (see Table 1-1 and Figure 1-3). This section provides a general description of the capital improvements that would occur under the Streetcar Alternative, independent of design option, and it highlights the differences between design options within three of the corridor's segments.

A. Summary Description

Following is a general description of the roadway, bicycle and pedestrian, and transit improvements that would occur under the Streetcar Alternative. The next section provides a description of differences in capital improvements for design options that are under consideration in three of the project's six segments. See Figure 1-4 for an illustration of the project segments and the design options under consideration.

- **Roadway Capital Improvements.** There would be no roadway improvements under the Streetcar Alternative in the following corridor segments: 1) Downtown Portland; and 2) South Waterfront. The roadway capital improvements that would occur under the other corridor segments are described below for those segments. Changes to traffic controls at signalized and non-signalized intersections would occur throughout the corridor to accommodate the safe and efficient operation of the streetcar and local traffic. The *Detailed Definition of Alternatives Report* and the *Streetcar Plan Set* provide additional details on changes to traffic operations at intersections under the Streetcar Alternative.
- **Bicycle and Pedestrian Improvements.** There would be no change in bicycle and pedestrian improvements under the Streetcar Alternative, compared to the No-Build Alternative, except as noted in the following segment-by-segment description.
- **Bus Capital Improvements.** Under the Streetcar Alternative, all 26 bus stops that would be served by Line 35 on Highway 43 between downtown Lake Oswego and the Sellwood Bridge and on SW Macadam Boulevard north of SW Corbett Street under the No-Build Alternative would be removed, because Line 35 service would be replaced in the corridor by streetcar service. The bus stops served by Line 35 between Lake Oswego and Oregon City would be unchanged under the Streetcar Alternative, compared to the No-Build Alternative. In addition, under the Streetcar Alternative, the Lake Oswego Transit Center would be relocated to be adjacent to the Lake Oswego Terminus Station, from its existing location on 4th Street, between A and B avenues. The changes to the bus capital improvements under the Streetcar Alternative would not vary by any of the design options under consideration.

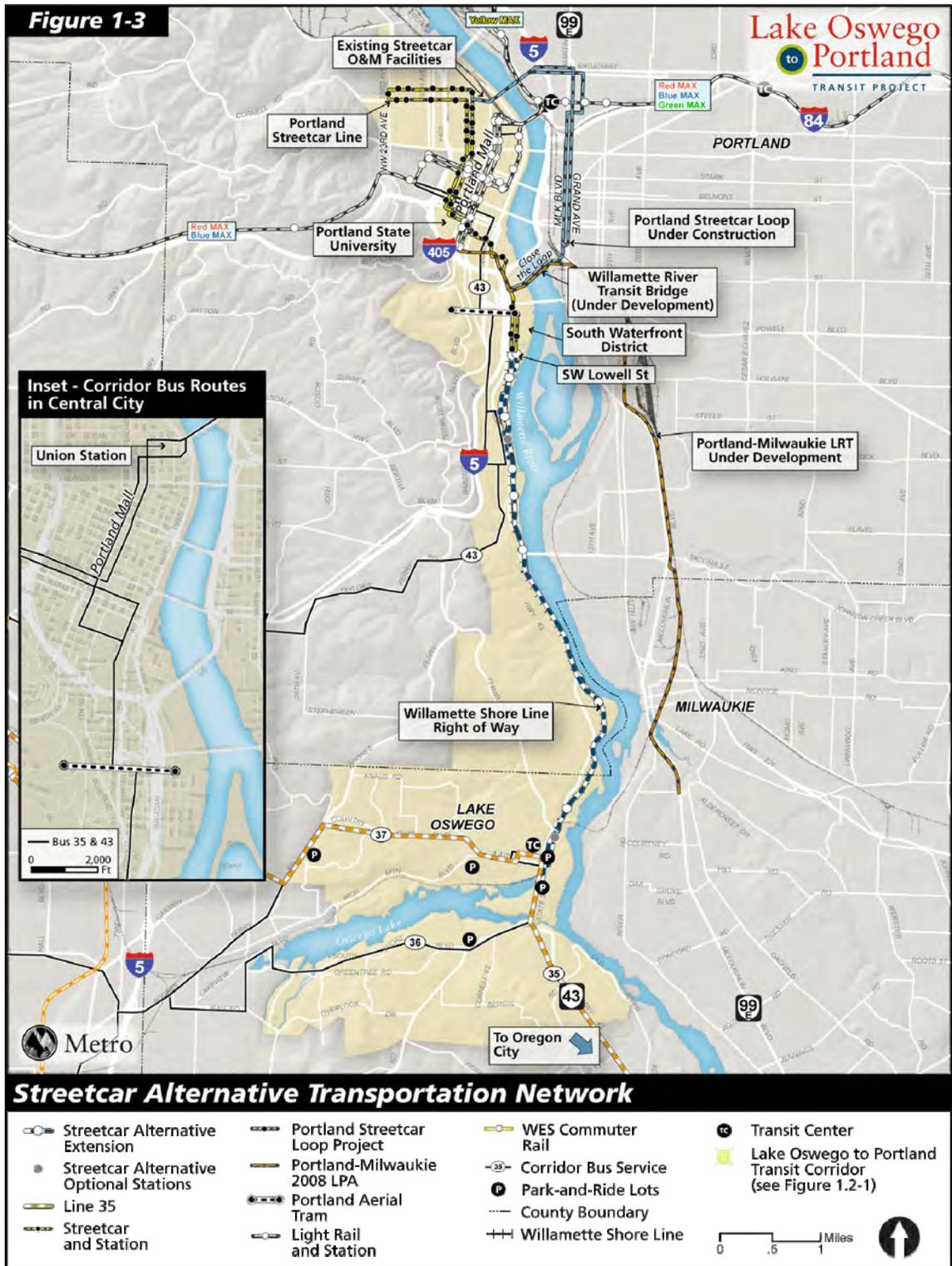


FIGURE 1-3. STREETCAR ALTERNATIVE TRANSPORTATION NETWORK

- **Light Rail Capital Improvements.** There would be no change in light rail capital improvements under the Streetcar Alternative, compared to the No-Build Alternative.
- **Interim Excursion Trolley Capital Improvements.** Under the Streetcar Alternative, there would no longer be an operating and maintenance agreement between the City of Lake Oswego and the Willamette Shore Line Consortium that would allow for the operations of the excursion trolley between SW Bancroft Street and Lake Oswego. Further, the Oregon Electric Railway Historical Society would no longer operate the vintage excursion trolley on the Willamette Shore Line alignment under agreement with the City of Lake Oswego, as they currently do and as they would under the No-Build and Enhanced Bus Alternatives.
- **Streetcar Improvements and Vehicles.** The Streetcar Alternative would extend streetcar tracks and stations south from the existing Portland Streetcar line that operates between NW 23rd Avenue and SW Bancroft Street. Compared to existing conditions and the No-Build Alternative, the Streetcar Alternative would add approximately 5.9 to 6.0 one-way miles of new streetcar tracks and catenary (overhead electrical wiring and support) and ten new streetcar stations between SW Bancroft Street and Lake Oswego. Except when crossing over waterways, roadways, or freight rail lines or through an existing tunnel, the new streetcar line would generally be at the same grade as existing surface streets. Of the approximately six miles of new streetcar tracks, 5.3 miles would be double-tracked (i.e., two one-way tracks) and 0.7 miles would be single-tracked (i.e., inbound and outbound streetcars would operate on the same tracks; see Figure 1-4 for an illustration of the location of single and double-track segments). The new streetcar stations would be of a design similar to the existing streetcar stations in downtown Portland and the Pearl District.
- **Park-and-Ride Facilities.** In addition to the park-and-ride facilities included under the No-Build Alternative, the Streetcar Alternative would include: a) a 100-space surface park-and-ride lot served by the proposed streetcar line at the B Avenue Station; and b) a 300-space structured park-and-ride lot that would be served by the proposed streetcar line at the Lake Oswego Terminus Station. The size and location of these park-and-ride lots would not vary by any of the design options under consideration.
- **Operations and Maintenance Facilities.** With the Streetcar Alternative, a new storage facility that would accommodate eight streetcars would be located adjacent to the streetcar alignment under the Marquam Bridge. The size and location of the streetcar operating and maintenance facilities would not vary by any of the design options under consideration.

B. Segment by Segment Description and Design Option Differences

For the purposes of description and analysis, the Lake Oswego to Portland Corridor has been divided into six segments for the Streetcar Alternative – those segments and design options within four of the segments are illustrated schematically in Figure 1-4. Figure 1-3 illustrates the proposed roadway improvements, streetcar alignment, stations, and park-and-ride lots that would occur in the corridor under the Streetcar Alternative. Figures 1-5 and 1-6 provide more detailed illustrations of the streetcar design options currently under study.

1. Downtown Portland Segment. There would be no roadway or bicycle and pedestrian improvements within the Downtown Portland Segment under the Streetcar Alternative, compared to the No-Build Alternative. Under the Streetcar Alternative, a connection would be added between

westbound streetcar tracks on SW Market Street to southbound tracks on W 10th Avenue, which would allow inbound streetcars from Lake Oswego to turn back toward Lake Oswego, providing increased operational flexibility. There are no streetcar alignment design options within this segment and there would be no new streetcar stations within this segment.

2. South Waterfront Segment. The South Waterfront Segment extends between SW Lowell Street to SW Hamilton Court. Streetcar tracks would be extended south of their existing southern terminus at SW Lowell Street, within the right of way of the planned Moody/Bond Couplet extension, to SW Hamilton Street. There would be two new streetcar stations within this segment (Bancroft and Hamilton stations).

3. Johns Landing Segment. The Johns Landing Segment extends between SW Hamilton Court to SW Miles Street. This segment includes three design options: Willamette Shore Line; Macadam In-Street; and Macadam Additional Lane. Under all options, the streetcar alignment would extend south from SW Hamilton to near SW Julia Street, generally within the existing Willamette Shore Line right of way. The three design options would include two new streetcar stations at varying locations, described below. To the south, all three options would share a common alignment between SW Carolina and SW Miles Street, generally via the existing Willamette Shore Line right of way, and they would share one common station at SW Nevada. Following is a description of how the design options would differ:

- a. ***The Willamette Shore Line Design Option*** would continue the extension of streetcar tracks south within the existing Willamette Shore Line right of way from SW Julia Street to SW Carolina Street (extending to SW Miles Street). There would be three new streetcar stations (Boundary, Nebraska, and Nevada stations).
- b. ***The Macadam In-Street Design Option*** would locate the new streetcar tracks generally within the existing outside lanes of SW Macadam Avenue, approximately between SW Boundary and Carolina streets. Between approximately SW Julia and Boundary streets, the streetcar alignment would be within the right of way of SW Landing Drive, which would be converted from a private to a public street. There would be three new streetcar stations (Boundary, Carolina, and Nevada stations). An optional station at Pendleton Street is also under consideration.

Segments

Design Options

Single-Track Sections

(All others are double-track sections)

Yellow = Short-Term Single Track

Red = Long-Term Single Track

1 - Downtown Portland

2 - South Waterfront

3 - Johns Landing

Willamette Shore Line
Macadam Additional Lane
Macadam In-Street

4 - Sellwood Bridge

5 - Dunthorpe/Riverdale

Willamette Shore Line
Riverwood

6 - Lake Oswego

UPRR Right of Way
Foothills

SW Lowell Street

SW Hamilton Ct

SW Miles Street

Sellwood Bridge

South End of Park

South End of Park to Short Trestle
(1,500')

Elk Rock Tunnel
(1,400')

SW Briarwood Rd

UPRR Right of Way
(1,500')

Lake Oswego Terminus



Streetcar Alternative Design Option Locations

Figure 1-4

FIGURE 1-4. STREETCAR ALTERNATIVE DESIGN OPTION LOCATIONS

- c. ***The Macadam Additional Lane Design Option*** would be similar to the Macadam In-Street Design Option, except that the new northbound streetcar tracks would be located within a new traffic lane just east of the existing general purpose lanes – streetcars would share the new lane with right-turning vehicles. Between approximately SW Julia and Boundary streets, the streetcar alignment would be within the right of way of SW Landing Drive, which would be converted from a private to a public street. There would be three new streetcar stations (Boundary, Carolina, and Nevada stations). An optional station at Pendleton Street is also under consideration.

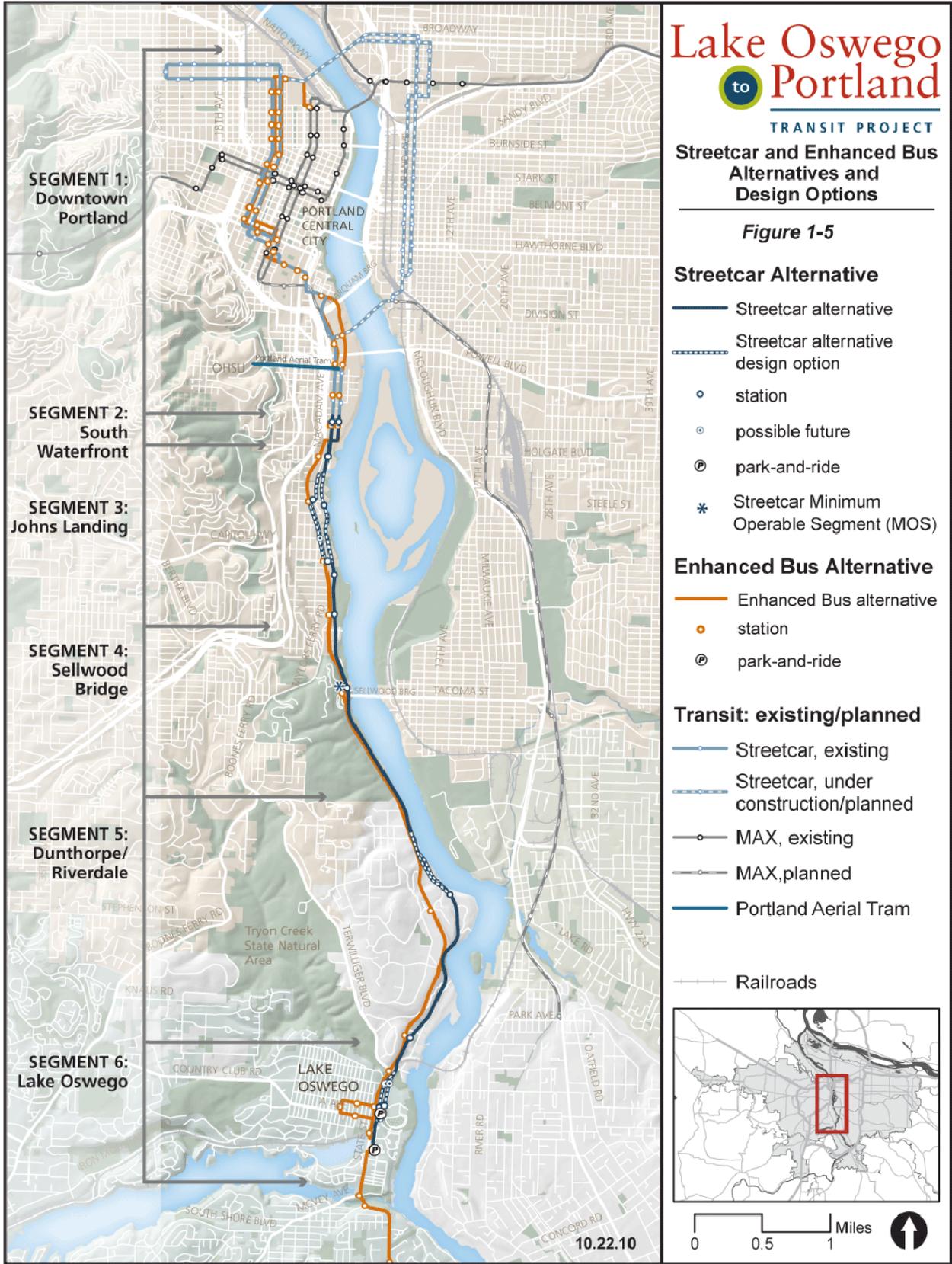


FIGURE 1-5. STREETCAR AND ENHANCED BUS ALTERNATIVES AND DESIGN OPTIONS

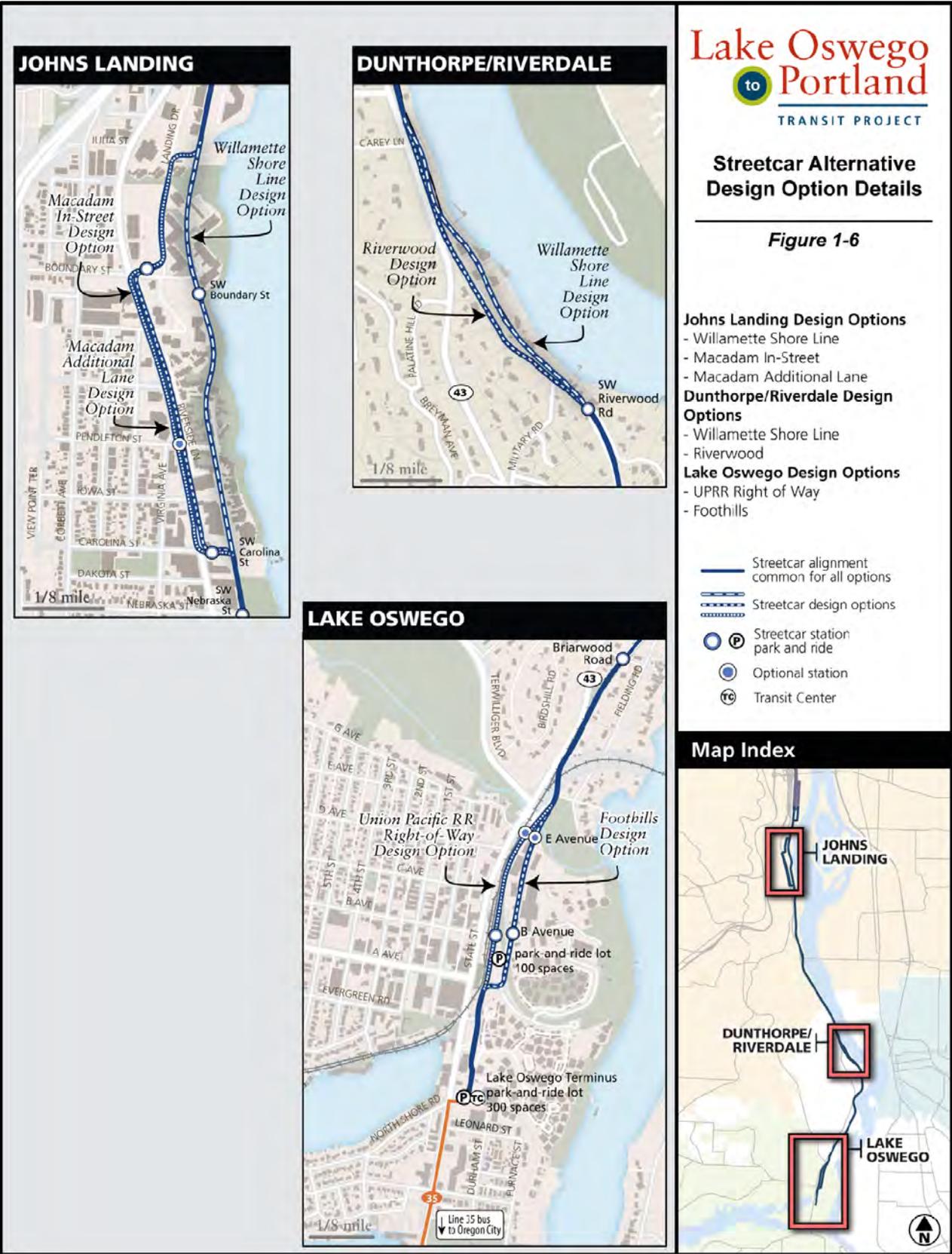


FIGURE 1-6. STREETCAR ALTERNATIVE DESIGN OPTION DETAILS

4. Sellwood Bridge Segment. The Sellwood Bridge Segment extends from Miles Street to the southern end of Powers Marine Park. Generally, the streetcar alignment would be located in the Willamette Shore Line right of way, except for the area between Stephens Creek and approximately 1,200 feet south of the Sellwood Bridge. In this area, the streetcar alignment would be constructed in conjunction with the planned west interchange improvements with the Sellwood Bridge (the streetcar would be located slightly east of the existing Willamette Shore Line right of way). The design and construction of the streetcar alignment under this design option would be coordinated with the design and construction of the new interchange for the Sellwood Bridge. There would be one new streetcar station within this segment (Sellwood Bridge Station).

5. Dunthorpe/Riverdale Segment. The Dunthorpe/Riverdale Segment extends between the southern end of Powers Marine Park and SW Briarwood Road. There are two design options in this segment: Willamette Shore Line Design Option and Riverwood In-Street Design Option. Both options would share a common alignment within the Willamette Shore Line right of way, generally north of where SW Riverwood Road intersects with Highway 43 and generally south of the intersection of SW Military Road and SW Riverwood Road. One new streetcar station is proposed within this segment, generally common to both design options (Riverwood Station). Following is a description of how the design options would differ:

- a. ***The Willamette Shore Line Design Option*** would generally locate the new streetcar alignment in the existing Willamette Shore Line right of way between the intersections of SW Riverwood Road and Highway 43 and SW Riverwood Road and SW Military Road.
- b. ***The Riverwood In-Street Design Option*** would locate the new streetcar alignment generally adjacent to Highway 43, south of SW Riverwood Road, and within the right of way of SW Riverwood Road, generally between where it intersects with Highway 43 (that intersection would be closed) and where it intersects SW Military Road. Except for the closure of the Highway 43 and SW Riverwood Road intersection, SW Riverwood Road would remain open to traffic with joint operation with streetcars.

6. Lake Oswego Segment. The Lake Oswego Segment extends between SW Briarwood Road and the Lake Oswego Terminus Station. There are two design options within this segment: the UPRR ROW design option and the Foothills design option. Both options would generally be the same in two sections: 1) the new streetcar line alignment would extend south from SW Briarwood Road to where the alignment would cross under the existing UPRR tracks; and 2) the new streetcar alignment would be located within a new roadway that would extend south from SW A Avenue to the alignment's terminus near the intersection of N State Street and Northshore Road. Both options would provide for a new bicycle and pedestrian connection under the existing UPRR tracks. There would be two stations within this segment, one that would be common to the two design options (Lake Oswego Terminus Station). An optional station at E Avenue is also under consideration.

This segment would include two park-and-ride lots, both of which would be generally common to the two design options. Following is a description of how the design options would differ:

- a. ***The UPRR ROW Design Option*** would extend the streetcar alignment south, generally in the UPRR right of way, from its under crossing of the existing UPRR tracks to SW A Avenue. The B Avenue Station would be located on the west side of the 100-space surface park-and-ride lot.

- b. ***The Foothills Design Option*** would extend the streetcar alignment south from its under crossing of the UPRR tracks to SW A Avenue generally within the right of way of a new general purpose roadway (Foothills Road), which would be built as part of the Streetcar Alternative.

1.4.3.2 Transit Operations

This section describes transit operations under the Streetcar Alternative, generally compared to the No-Build Alternative (see Table 1-2). Figure 1-3 provides an illustration of the transit lines in the vicinity of the corridor under the Streetcar Alternative. There would be no difference in transit operations under any of the design options under consideration.

The Streetcar Alternative would extend the existing Portland Streetcar line from its current southern terminus at Lowell Street to the Lake Oswego Terminus Station in downtown Lake Oswego, expanding the streetcar length from 4 miles to 9.9 to 10 miles (depending on design option). The total round trip running time of the streetcar line between 23rd Avenue and downtown Lake Oswego (10 miles) in 2035 would be 105 or 112 minutes, excluding layover (based on the Willamette Shore Line and Macadam design options in the Johns Landing Segment, respectively). In comparison, under the No-Build Alternative the round trip running time for the streetcar line between 23rd Avenue and Lowell Street (4 miles) would be 68 minutes.

With the extension of streetcar service to Lake Oswego, Line 35 service between Lake Oswego and downtown Portland would be eliminated. The remainder of Line 35 between Oregon City and Lake Oswego would be combined with Line 78, in effect to create a new route between Oregon City and Beaverton. The new bus route and other TriMet transit routes serving downtown Lake Oswego would be rerouted to serve the relocated Lake Oswego Transit Center, which would be adjacent to Lake Oswego Terminus Station.

1.4.3.3 Construction Phasing Options

This section summarizes Streetcar Alternative construction phasing options currently under consideration – neither the No-Build Alternative nor the Enhanced Bus Alternative include construction phasing options. Currently, there are two types of construction phasing options or scenarios under consideration: 1) finance-related and 2) external project related. The Streetcar Alternative evaluated in this Technical Report and the DEIS is as Full-Project Construction. Should the Streetcar Alternative with phasing be selected as the Locally Preferred Alternative, during preliminary engineering (PE) additional analysis of environmental impacts resulting from the interim project alignment (as opposed to Full-Project Construction) will be conducted and additional opportunity for public review and comment may be required.

A. Finance-Related Phasing Options

Following is a description of the two finance-related phasing options currently under consideration.

- **Full-Project Construction.** Under the first construction phasing option, the project would be constructed and opened in its entirety as described within Section 2.2.2.
- **Sellwood Bridge Minimum Operable Segment (MOS).** Under the Sellwood Bridge MOS phasing option, the Streetcar Alternative would be initially constructed between SW Lowell Street and the Sellwood Bridge, with a second construction phase between the Sellwood Bridge and the Lake Oswego Terminus Station occurring prior to 2035. Under this construction phasing option, there would be no additional park-and-ride facilities in the corridor, compared to existing conditions. Under this phasing option, Line 35 would operate between Oregon City and the Nevada Street Station; frequencies would be adjusted to meet demand. Service and bus stops served exclusively by Line 35 would be deleted between the Nevada Station and downtown Portland.

B. External Project Coordination Related Phasing Options

Following is a description of phasing options related to the coordination of the Streetcar Alternative, if it is selected as the LPA, and other external projects. These external project coordination related phasing options represent interim steps in the construction process that would be taken to implement the Streetcar Alternative.

- **South Waterfront Segment Phasing Options.** If the planned and programmed South Portal roadway improvements are not in place or would not be constructed concurrently with the Streetcar Alternative, there would be two options for proceeding with construction of the streetcar alignment in the segment: 1) a different streetcar alignment using the Willamette Shore Line right of way would be initially constructed within the South Waterfront Segment; or 2) the streetcar alignment and its required infrastructure improvements would be constructed consistent with the alignment under the Full-Project Construction phasing option, but other non-project roadway improvements would be constructed at a later date by others. If the Willamette Shore Line right of way were to be used, then, when the South Portal roadway improvements were made, the streetcar alignment would be reconstructed consistent. The transit operating characteristics of the Streetcar Alternative would not be affected by this phasing option.
- **Sellwood Bridge Segment Phasing Options.** The Sellwood Bridge Segment includes two phasing options for the Streetcar Alternative that reflect two potential phasing options or scenarios for construction of the project in relationship to construction of a proposed new interchange that is planned to occur with the Sellwood Bridge replacement project. If the new interchange is constructed prior to or concurrently with the Streetcar Alternative, the initial and long-term streetcar alignment would be based on the new interchange design. The new interchange design is the basis for the analysis in this technical report and the DEIS. If the proposed interchange is constructed after the Streetcar Alternative, then the initial streetcar alignment to be constructed would be in the Willamette Shore Line right of way. Subsequently, when the proposed interchange is constructed, the Sellwood Bridge replacement project would relocate the streetcar alignment with the new interchange design. Therefore, the long-term streetcar alignment would be the new interchange and the Willamette Shore Line phasing option would only be implemented as an interim alignment. Therefore, the two design options in this segment do not constitute a choice of alignments – instead they represent two construction phasing scenarios, dependent upon how external conditions transpire.

- The Foothills Design Option. The Foothills design option of the Streetcar Alternative is based on roadway improvements that would occur under the City of Lake Oswego's Foothills redevelopment project. If those roadway improvements are not constructed prior to or concurrently with construction of the streetcar alignment, then the Lake Oswego to Portland Transit Project would construct the streetcar alignment and required infrastructure improvements using the same alignment and the roadway improvements would be added at a later date by others.

2. METHODOLOGY AND APPLICABLE REGULATIONS

2.1 Applicable Regulations

The analysis within this technical report follows the guidelines set forth in *Community Impact Assessment: A Handbook for Transportation Professionals* (Florida Department of Transportation, 2000) and NCHRP Report 456: *Guidebook for Assessing the Social and Economic Effects of Transportation Projects* (TRB, 2001). This report is the basis for determining the LOPT Project's compliance with the following laws and regulations:

- Title VI of the Civil Rights Act of 1964
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended
- 49 CFR Part 24, titled Uniform Relocation Assistance and Real Property Acquisition
- Presidential Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*.

2.2 Analysis Methods

2.2.1 Methods for Analyzing the Affected Environment

The affected environment for the community impacts analysis is defined as the neighborhoods and communities that the LOPT project alignment passes through. These neighborhoods are within the City of Portland, unincorporated Multnomah County, unincorporated Clackamas County, and the City of Lake Oswego, and are depicted on Figure 2-1. The first step in this analysis was to gather information regarding the neighborhoods and communities along the LOPT project alignment.

Information gathered for each neighborhood included the following:

- Population and Detailed Demographics (definitions and sources listed below in Table 2-1)
 - Total population
 - Total households
 - Minority population (defined as the percentage of people who did not select “white alone” as their race)
 - Hispanic population
 - Persons over 65 years of age
 - Population with disabilities
 - Non-English-speaking population
 - Households with incomes below the poverty level
 - Housing units by ownership type
- Descriptions of neighborhoods along the project alignment (obtained via fieldwork and neighborhood websites)
- Locations of community facilities, including schools, libraries, police and fire stations, hospitals, civic buildings, and parks and recreational facilities (obtained via Metro's Regional Land Information System [RLIS] data set and via fieldwork in the area)
- Locations of and description of urban amenities, such as restaurants, bars, fitness centers, supermarkets, movie theaters, and other services (as detailed in the 2007 Report by Johnson Gardner entitled “An Assessment of the Marginal Impact of Urban Amenities on Residential Pricing”)
- Locations of affordable housing facilities (as detailed in the 2008 *Oregon Poverty Report*, produced by the Oregon Department of Housing and Community Services)
- Numbers of children receiving a free or reduced-lunch program for the two schools within Segments 2-6 (Portland French School and Riverdale Grade School). Because there will be

no construction in Segment 1, schools in this segment were not analyzed for children receiving a free or reduced-lunch program.

- Existing street segment length (obtained via Metro's RLIS data set)

The analysis of demographics was completed in two ways:

- *Aggregating Census data for demographics by neighborhood, for all neighborhoods within the project area.* Most neighborhoods within the project area have official neighborhood boundaries. In the case of Dunthorpe/Riverdale, where an official neighborhood boundary does not exist, an approximation of the neighborhood area between the southern boundaries of South Portland and South Burlingame, the eastern boundary of Collins View, and the northern boundary of Birdshill was used. Appendix A provides detail on how the Census blocks and block groups were aggregated to provide data at the neighborhood level. Tables 4-1 and 4-2 in Chapter 4 present the data using this method.

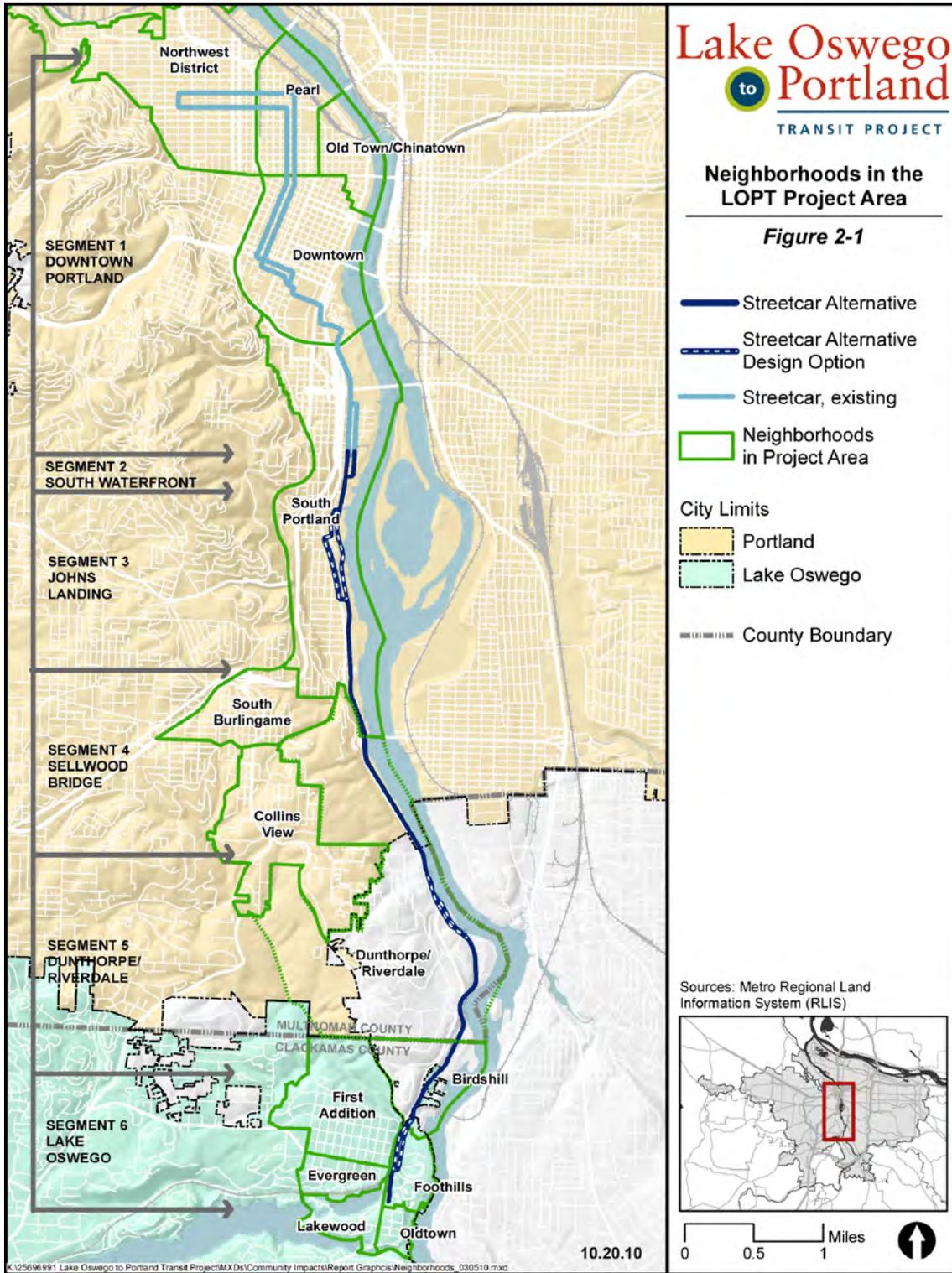


FIGURE 2-1. NEIGHBORHOODS IN THE LOPT PROJECT AREA

- *Analyzing demographics in the corridor for the Census blocks and block groups within one-quarter mile of the alternative alignments.* This was done in order to determine the locations of environmental justice² or other protected populations (elderly and/or disabled) that may be affected by the project. Neighborhoods within the project area are large, and aggregating Census data to include the entirety of a neighborhood does not provide sufficient detailed data pertaining to demographics immediately surrounding the project to determine whether or not environmental justice considerations and potential impacts to the elderly and/or disabled must be taken into account. The figures in Chapter 4 that depict locations of sensitive population groups depict only the Census blocks and block groups that are within one-quarter mile of the alignment.

Table 2-1. Demographic Data Definitions and Sources

Demographic Characteristic	Definition	Source Table within the U.S. Census 2000
Total population	Total number of persons within a given geographic area	Summary File 1, Table P1
Total households	Total number of households (defined as one dwelling unit) within a given geographic area	Summary File 1, Table P15
Minority population	Persons who did not select “White Alone” as their racial category	Summary File 1, Table P3
Hispanic population	Persons of any race who are of Hispanic origin	Summary File 1, Table P4
Persons over 65 years of age	Persons 65 years and older as of the Census 2000	Summary File 1, Table P12
Population with disabilities	Persons 5 years of age or older who have at least one of the following types of disabilities: sensory, physical, mental, self-care, going outside the home, employment	Summary File 3, Quick Table P21
Non-English-Speaking population	Persons who reported that they speak English “not well” or “not at all”	Summary File 3, Table P19
Households with income below the poverty level	Households with incomes at or below the poverty level in 1999	Summary File 3, Table P88
Housing units by ownership type	Persons who either rent or own their home	Summary File 1, Table H4

2.2.2 Methods for Analyzing Environmental Consequences

The next step was to analyze changes that may occur in the surrounding communities as a result of the project alternatives. These potential changes may be direct, indirect or cumulative impacts (or consequences) to communities that are anticipated with each alternative.³

² Environmental justice populations are populations in which the percentage of low-income or minority persons are higher than average. These populations are protected from disproportionate impacts as directed in Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

³ 40 CFR § 1508.8

- **Direct effects** are caused by the action and occur at the same time and place.
- **Indirect effects** are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- **A cumulative impact** is an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The following major elements were analyzed in this technical report:

- Changes in **neighborhood cohesion**
- Changes to **neighborhood quality of life**
- Changes to **neighborhood mobility**
- Potential **property acquisitions and displacements**

Neighborhood cohesion is the amount to which a neighborhood is identifiable as a distinct place, separate from other neighborhoods and composed of a given geographic area. Cohesive neighborhoods have clear boundaries and landmarks, and include community gathering spots such as schools, parks, or urban amenities like restaurants that help to give the neighborhood its identity. Cohesiveness within a neighborhood is influenced by the neighborhood's mix of land uses and visual environment. Neighborhoods can be considered cohesive from the point of view of the residents and businesses within them, or from the point of view of an outsider.

Neighborhood cohesion is analyzed using the following information:

- Anticipated direct or indirect impacts to neighborhood boundaries, which are analyzed by assessing the proposed alternatives geographically in relation to neighborhood boundaries, and qualitatively determining if the alternatives would impact or otherwise alter the boundaries.
- Direct or indirect impacts to community facilities or urban amenities. Direct impacts are determined by overlaying the proposed right-of-way boundary for each alternative on top of existing tax parcel boundaries to determine right-of-way acquisition and potential displacements. Indirect impacts are determined by analyzing whether or not the facility or amenity would experience a change in access or usage patterns due to the transportation and land use changes likely to occur in the area as a result of the project alternatives. These types of impacts can influence both neighborhood cohesion and neighborhood quality of life.
- Anticipated direct, indirect, or cumulative impacts to land uses within each neighborhood (impacts were taken from the *LOPT Land Use and Planning Technical Report*)
- Anticipated direct, indirect, or cumulative impacts to the visual environment (impacts were taken from the *LOPT Visual Resources Technical Report*)

Examples of impacts to neighborhood cohesion include:

Direct Impacts

- Displacement of residences or businesses
- Permanently displacing or altering the ability to use a major community gathering spot (e.g., park, school, community center)
- Physically changing the neighborhood such that existing boundaries are altered or new boundaries are formed (e.g., placing a new major rail facility in the middle of a neighborhood with only intermittent pedestrian crossings)

Indirect Impacts

- Contributing to a significant change in existing land uses within a neighborhood (e.g. changing a major corridor from a primarily residential environment to commercial)

Cumulative Impacts

- Major new development and road improvements occurring within the neighborhood combine with a project to create a divided neighborhood

Neighborhood quality of life is a subjective assessment of the living conditions of a neighborhood, based on noise conditions, air quality conditions, and open space within the neighborhood. Impacts to some community facilities, such as police and fire services and parks, can influence neighborhood quality of life.

Neighborhood quality of life was analyzed using the following information:

- Direct noise impacts from each alternative (impacts were taken from the *LOPT Environmental Noise and Vibration Technical Report*)
- Direct or indirect air quality impacts from each alternative (impacts were taken from the *LOPT Air Quality Technical Report*)
- Direct, indirect, or cumulative impacts to parks and recreational facilities (impacts are taken from the *LOPT Parks and Recreation Technical Report*)
- Direct impacts to affordable housing facilities, community facilities, or urban amenities, which were determined through the right-of-way analysis based on the conceptual design of each alternative

Examples of impacts to neighborhood quality of life include:

Direct Impacts

- Moderate to severe noise impacts to residences
- Air quality impacts
- Removal of open space
- Changes in the ability of police, fire, and emergency services to respond to neighborhood residents
- Displacements of urban amenities or affordable housing units

Indirect Impacts

- Redevelopment of the neighborhood in such a way that open space, affordable housing, or urban amenities are likely to be removed

Cumulative Impacts

- Impacts from commercial development and roadway improvements combine with a project's impacts to substantially reduce the parks and open space acreage in a neighborhood

Neighborhood mobility is the degree to which residents and businesses in the neighborhood are able to move freely throughout the neighborhood and to other neighborhoods in the region. It is measured by the quantity and quality of pedestrian, bicycle, transit, and vehicular transportation infrastructure. A neighborhood with a high level of mobility will typically have extensive sidewalks and bike lanes, a higher level of intersection density, good access to transit, and a well-functioning street system for auto travel.

Neighborhood mobility was analyzed using information from the *LOPT Transportation Technical Report*. The information used includes:

- Changes in traffic congestion and operations from each alternative
- Changes to transit travel times from each alternative
- Changes in access to transit from each alternative
- Changes to bicycle and pedestrian facilities from each alternative

Examples of impacts to neighborhood mobility include:

Direct Impacts

- Increases or decreases in traffic congestion
- Decreases in transit travel times
- Change in the number of transit stops/stations within a neighborhood
- Change in the amount of bicycle and pedestrian facilities in a neighborhood

Indirect Impacts

- Longer-term increases in traffic congestion caused by a project

Cumulative Impacts

- Longer-term increases in traffic congestion caused by the project, when combined with other development and road improvements.

Potential **property acquisitions** are properties (including improved or unimproved land, structures, or landscaping) that have been identified through the conceptual design of the build alternatives as needing to be purchased, partially or fully, in order to build the alternative. Property acquisition requirements are determined by overlaying the conceptual design of the build alternatives on top of existing tax parcel boundaries within Geographic Information Systems (GIS) software.

3. PUBLIC INVOLVEMENT AND COORDINATION

This analysis has been coordinated with the public involvement program conducted throughout the life of the LOPT Project. The public involvement program has incorporated extensive outreach to neighborhoods along the project corridor, including:

- A Community Advisory Committee (CAC), with monthly meetings held in Lake Oswego and Johns Landing
- Open houses in various locations throughout the project corridor
- Presentations at community meetings
- A web site and regular email updates to interested parties.

More details of the public outreach conducted for this project can be found in Chapter 7 of the *LOPT Draft Environmental Impact Statement*.

3.1 Public Involvement Specific to Environmental Justice Outreach and Compliance

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* forms the basis for environmental justice policies in the United States. It requires Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. A person is considered minority if he or she is Hispanic, Latino, black or African American, American Indian, Alaska Native, Asian, Native Hawaiian/Pacific Islander, or of mixed race. Low-income populations are defined as those whose income is at or below the federal poverty level.

Environmental justice populations are located within the project corridor. Demographic information identifying the location of environmental justice populations is provided in Section 4, Affected Environment. This section summarizes the public outreach efforts used to ensure the project's compliance with the Federal environmental justice order.

To respond to the presence of environmental justice populations in Segment 1 of the corridor, downtown Portland, presentations were offered to neighborhood associations to raise awareness about the project and to help people be prepared to participate in discussion about and selection of the locally preferred alternative.

In Segments 2 and 3, presentations were provided to neighborhood and business associations as well as other community and interest groups. More targeted outreach is expected to occur around the time of publication of the DEIS when the public comment period is open and public events and a public hearing are scheduled. This outreach will focus on block groups with higher than average minority, low-income and/or elderly populations, and will be performed in coordination with CAC members connected to environmental justice populations in their areas. Communication will occur via the project web site, written materials, community sites/events and/or canvassing.

To address the presence of elderly populations throughout the corridor, the Lake Oswego Adult Community Center, Elders in Action, Meals on Wheels and other community and interest groups were contacted early in 2010 to network and request that project information be shared with elderly populations throughout the corridor. Around publication of the DEIS, when the public comment period is open and public events and a public hearing are occurring, information will be shared via the project web site, written materials, community sites/events and/or canvassing in specific areas. In

addition, one of the CAC members was designated to represent the elderly population; nine of the CAC members are over age 65.

4. AFFECTED ENVIRONMENT

As shown on Figure 2-1, the Lake Oswego to Portland Transit Project passes through many neighborhoods in the City of Portland and the City of Lake Oswego. It also passes through unincorporated Multnomah County, which does not have a formally identified neighborhood, but is referred to locally as Dunthorpe or Riverdale. The project also passes through a small portion of unincorporated Clackamas County that is contained within the Birdshill neighborhood.

Tables 4-1 and 4-2 present demographic characteristics within neighborhoods in the project study area. Sections 4.1 through 4.6 discuss these characteristics within each project segment. Detailed maps depicting streets within each neighborhood in the project area are provided in Appendix B.

Table 4-1. Demographic Characteristics of Neighborhoods within in the City of Portland, Unincorporated Multnomah County, and City of Lake Oswego (2000)

Jurisdiction Neighborhood ¹	Number of Persons	Households	Residents over 65	Renter Occupied	Disabled	Below Poverty	Minority ²	Non-English Speaking
City of Portland								
Northwest District	10,309	4,388	13%	37%	12%	10%	10%	1%
Pearl District	1,702	858	33%	56%	9%	9%	9%	2%
Old-Town/Chinatown	603	284	12%	41%	9%	12%	14%	1%
Downtown	7,653	4,987	11%	80%	12%	16%	13%	2%
South Portland	6,877	4,390	10%	88%	13%	31%	22%	3%
South Burlingame	1,829	1,065	12%	62%	12%	17%	14%	1%
Collins View	726	407	9%	49%	10%	11%	11%	1%
Unincorporated Multnomah County								
Dunthorpe/Riverdale	1,025	592	11%	11%	11%	8%	10%	0%
Unincorporated Clackamas County								
Birdshill ³	215	107	13%	13%	14%	2%	11%	1%
City of Lake Oswego								
First Addition	2,879	1,004	10%	21%	9%	6%	11%	2%
Foothills	413	171	11%	11%	10%	4%	9%	1%
Old Town	186	76	11%	10%	10%	4%	9%	1%
Evergreen	795	357	7%	24%	8%	11%	11%	2%
Lakewood	424	174	11%	10%	10%	4%	9%	1%
Tri-County Region	1,444,219	569,461	10%	39%	17%	10%	17%	4%

Source: U.S. Census Bureau. Census 2000, Summary File 1 and Summary File 3.

Note: **Bold** percentages indicate that that Census tract had a percentage greater than the Tri-County Region for that demographic characteristic.

¹ See Appendix A for a description of the method used to define the neighborhood boundaries relative to Census block group boundaries for this analysis.

² See Table 4-2 for additional detail by minority group. The total of minority groups in Table 4-2 do not equal the minority data in this table because individuals may be members of two or more minority groups.

³ The majority of the Birdshill neighborhood lies within unincorporated Clackamas County. However, a small portion (9%) is within the city limits of Lake Oswego.

**Table 4-2. Racial and Ethnic Composition by Neighborhood
in the City of Portland, Unincorporated Multnomah County and City of Lake Oswego (2000)**

Jurisdiction/ Neighborhood	Persons	Black alone	American Indian and Alaska Native alone	Asian alone	Two or More Races	Hispanic (any race)
City of Portland						
Northwest	10,309	1%	1%	2%	3%	4%
Pearl	1,702	2%	1%	2%	3%	3%
Old-Town/Chinatown	603	6%	1%	2%	2%	4%
Downtown	7,653	2%	1%	3%	3%	4%
South Portland	6,877	4%	1%	9%	4%	5%
South Burlingame	1,829	1%	0%	7%	2%	3%
Collins View	726	1%	0%	3%	2%	4%
Unincorporated Multnomah County						
Dunthorpe/Riverdale	1,078	1%	0%	3%	3%	4%
Unincorporated Clackamas County						
Birdshill	233	1%	1%	4%	3%	2%
City of Lake Oswego						
First Addition	3,007	1%	0%	3%	3%	2%
Foothills	448	1%	0%	4%	3%	2%
Old Town	3,391	1%	1%	3%	2%	2%
Evergreen	829	0%	0%	4%	3%	4%
Lakewood	460	1%	0%	4%	3%	2%
Tri-County Region	1,444,219	3%	1%	5%	3%	8%

Source: U.S. Census Bureau. Census 2000, Summary File 3.

Note: **Bold** percentages indicate that that Census block group had a population percentage greater than for the tri-county region for that minority group.

4.1 Segment 1 – Downtown Portland

Segment 1 is the largest geographic segment in the project area and includes portions of several neighborhoods within the City of Portland. Neighborhoods in this segment include: Northwest District, Pearl District, Old Town/Chinatown, and Downtown. Below is a general description of each neighborhood’s character and history, and a list of key community facilities, urban amenities, and affordable housing facilities within each neighborhood. Protected population groups in Segment 1 are depicted geographically on Figures 4-1 and 4-2. Community facilities, urban amenities, and affordable housing facilities in Segment 1 are depicted on Figure 4-3. Because there is no new construction proposed for Segment 1, information on existing neighborhood mobility conditions (street segment length, pedestrian network coverage, and residential multi-modal access) is not provided.

4.1.1 Northwest District

The Northwest District is a densely populated, mixed-use neighborhood with large residential and commercial areas. It is bordered by W. Burnside Street to the south, I-405 and the Willamette River to the east and northeast, and the base of the West Hills to the west and northwest. It is roughly bordered by NW Nicolai Street and NW St. Helens Road to the north. It is an historic neighborhood containing many structures dating over 80 years. Two streets in this neighborhood, NW 21st Avenue and NW 23rd Avenue, are well established shopping and dining districts. Zoning in this

neighborhood⁴ is primarily multi-family residential, employment, commercial, and mixed-use. The Northwest District is currently served by the Portland Streetcar along NW Northrup and NW Lovejoy Streets, and NW 23rd Avenue. The Northwest District contains an above-average concentration of residents over 65.

Community facilities in this neighborhood include Forest Park, Legacy Good Samaritan Hospital, Portland Fire & Rescue (NW 17th and Johnson), the Metropolitan Learning Center, Cathedral School, the Northwest Library, Wallace Park, and Couch Park.

There are many **urban amenities** within the Northwest District neighborhood (Johnson Gardner, 2007). Urban amenities in the Northwest District that are within one-quarter mile of the streetcar are listed below by type and number:

- Beer, Wine, and Liquor Stores (1)
- Book Stores (1)
- Breweries (2)
- Child Day Care Services (2)
- Children's and Infants' Clothing Stores (1)
- Bars (4)
- Dry-Cleaning and Laundry Services (1)
- Family Clothing Stores (1)
- Full-service Restaurants (50)
- Men's Clothing Stores (1)
- Motion Picture Theaters Except Drive-Ins (1)
- Prerecorded Tape, CD, and Record Stores (2)
- Retail Bakeries (3)
- Snack and Nonalcoholic Beverage Bars (3)
- Specialty Food Stores (3)
- Sporting Goods Stores (1)
- Supermarkets and Other Grocery Stores (2)
- Women's Clothing Stores (7)

The Northwest District is also home to several **affordable housing facilities** (OHCS, 2006). Below is a list of those facilities that are within one-quarter mile of the streetcar alignment:

- Camar Apartments, 2164 NW Lovejoy Street
- Kearney House, 824 NW 20th Avenue
- Marshall St Apartments, 1715 NW Marshall Street
- Marshall Union Manor 1 and 2, 2020 NW Northrup Street
- Medallion Apartments, 1969 NW Johnson Street

⁴ Zoning maps are provided in the LOPT Land Use and Planning Technical Report.

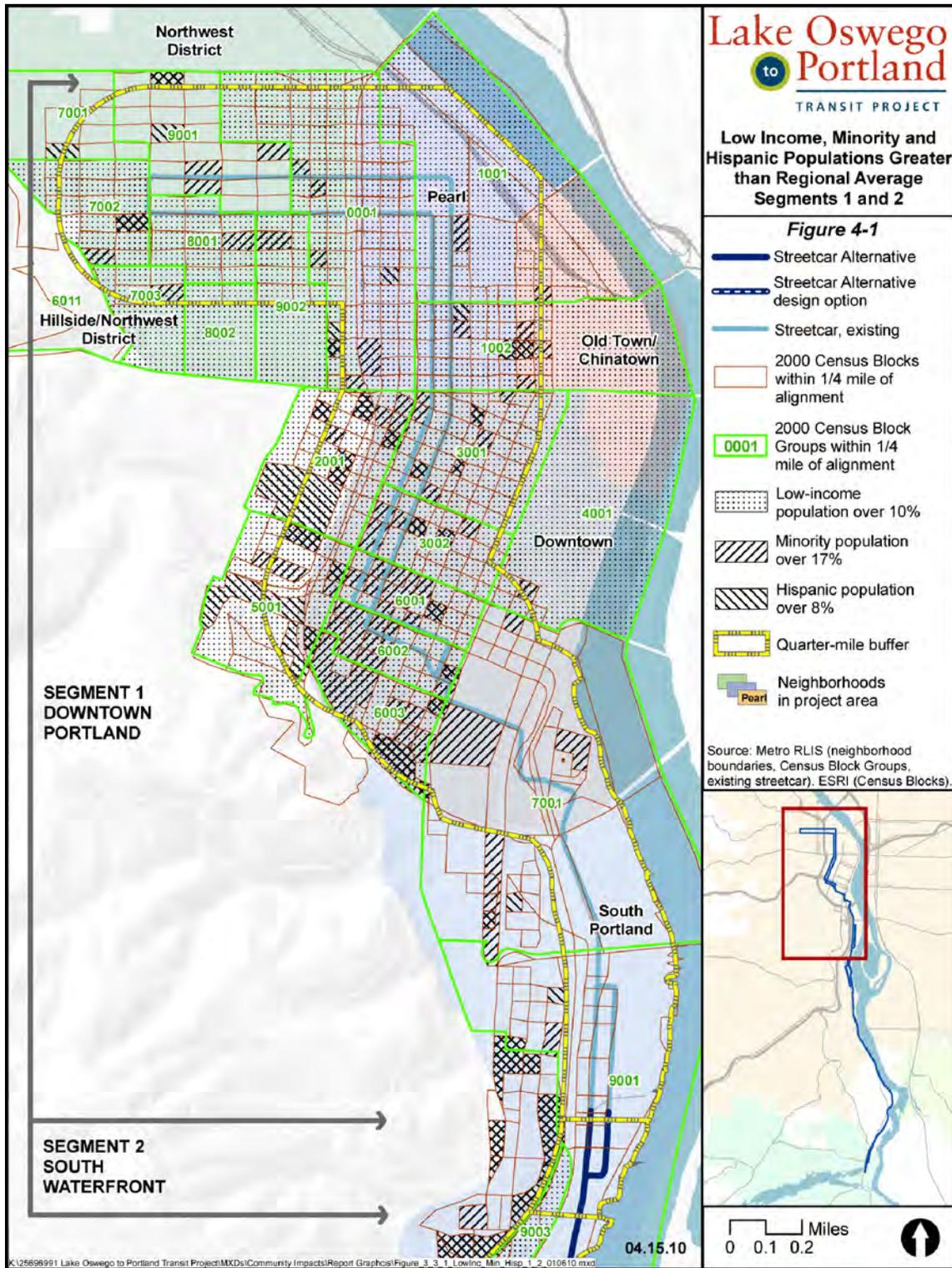


FIGURE 4-1. LOW-INCOME, MINORITY, AND HISPANIC POPULATIONS GREATER THAN REGIONAL AVERAGE SEGMENTS 1 AND 2

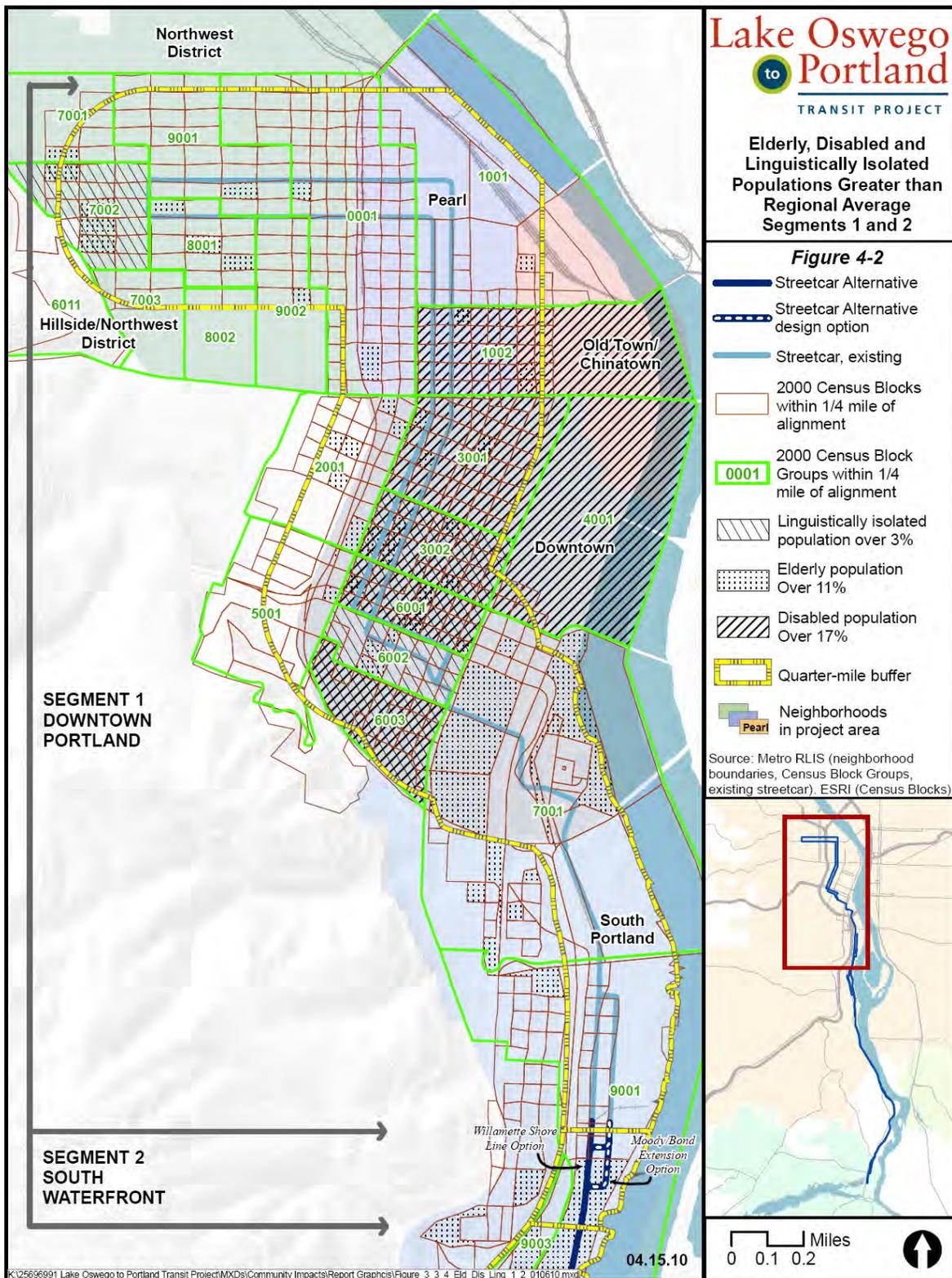


FIGURE 4-2. ELDERLY, DISABLED, AND LINGUISTICALLY ISOLATED POPULATIONS GREATER THAN REGIONAL AVERAGE SEGMENTS 1 AND 2

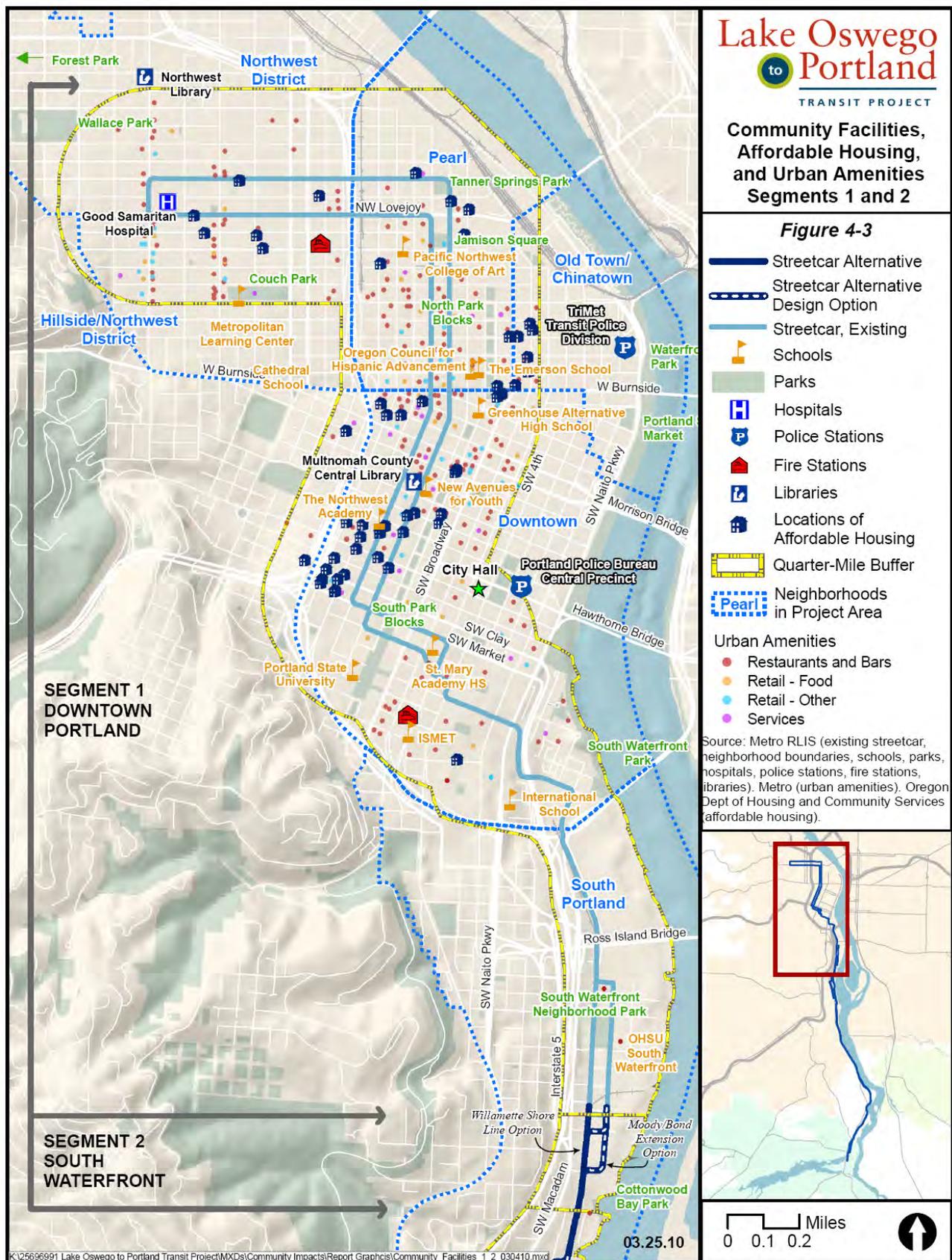


FIGURE 4-3. COMMUNITY FACILITIES, AFFORDABLE HOUSING, AND URBAN AMENITIES SEGMENTS 1 AND 2

4.1.2 Pearl District

The Pearl District is one of Portland's newly redeveloped communities. It is bounded by W. Burnside Street to the south, I-405 to the west and northwest, and the Willamette River, the Broadway Bridge, and NW Broadway Street to the east. The district is primarily zoned mixed use and contains a mix of high-density residences and higher-end retail and dining establishments. The Pearl District is currently served by the Portland Streetcar along NW Northrup and NW Lovejoy Streets, and NW 10th and 11th Avenues. The Pearl District contains an above-average concentration of residents over 65 and renter-occupied housing units.

Community facilities in the Pearl District include the Pacific Northwest College of Art, the Emerson School, Oregon Council for Hispanic Advancement, Tanner Springs Park, Jamison Square, the North Park Blocks, and Liberty Ship Memorial Park.

There are many **urban amenities** within the Pearl District neighborhood (Johnson Gardner, 2007). Urban amenities in the Pearl District that are within one-quarter mile of the streetcar are listed below by type and number:

- Beer, Wine, and Liquor Stores (2)
- Breweries (3)
- Children's and Infants Clothing Stores (2)
- Bars (6)
- Dry-Cleaning and Laundry Services (1)
- Family Clothing Stores (4)
- Fitness and Recreational Sports Centers (3)
- Full-service Restaurants (44)
- Limited-service Restaurants (2)
- Men's Clothing Stores (1)
- Prerecorded Tape, CD, and Record Stores (1)
- Retail Bakeries (3)
- Snack and Nonalcoholic Beverage Bars (7)
- Specialty Food Stores (4)
- Supermarkets and Other Grocery Stores (2)
- Women's Clothing Stores (6)

The Pearl District contains several **affordable housing facilities**. Facilities within one-quarter mile of the streetcar alignment are listed below:

- 8 NW 8th Avenue
- Astoria Hotel, 333 NW 6th Street
- Crane Building, 710 NW 14th Avenue
- Golden West Building, 707 NW Everett Street
- Lovejoy Station, 1040 NW 10th Avenue
- Maybelle Clark Macdonald Center, 605 NW Couch Street
- Sitka Apartments, 1230 NW 12th Avenue
- Station Place Tower, 1020 NW 9th Avenue

4.1.3 Old Town/Chinatown

The Old Town/Chinatown neighborhood contains a variety of retail stores, restaurants and bars, nightclubs, commercial office spaces, and apartment buildings. It is bordered by SW Stark Street,

SW Oak Street, SW Pine Street, and W. Burnside Street to the south, the Willamette River to the east and northeast, the Broadway Bridge to the northwest, and SW 1st Avenue, SW 2nd Avenue, SW 3rd Avenue and SW Broadway Street to the west. Old Town/Chinatown is primarily zoned mixed use commercial. It includes the New Chinatown/Japan Historic District. Old Town/Chinatown is also home to many social service providers. It is currently served by the MAX Green Line and the Downtown Transit Mall. Old Town/Chinatown contains an above-average concentration of residents over 65, renter-occupied housing, and low-income residents. The portion of residents who identify as “Black Alone” is higher in this neighborhood than in the region as a whole.

Community facilities in the Old Town/Chinatown neighborhood include the Portland Saturday Market, the Classical Chinese Gardens, Union Station and the Greyhound Bus Depot, the TriMet Transit Police Division, and the north part of Waterfront Park.

Old Town/Chinatown is home to several **urban amenities**. There is 1 bar and 5 full-service restaurants within one-quarter mile of the streetcar alignment.

There are several **affordable housing facilities** in Old Town/Chinatown. Facilities within one-quarter mile of the streetcar alignment are as follows:

- Biltmore Hotel, 310 NW 6th Avenue
- Butte, 610 NW Davis Street
- Everett Station Lofts, 625 NW Kearney Street
- Helen Ann Swindle Building, 10 NW Broadway Avenue

4.1.4 Downtown

The Portland Downtown neighborhood functions as Portland’s central business district. It is bounded by I-405 to the south and west, the Willamette River to the east, and Burnside Street, SW 1st Avenue, SW 2nd Avenue, and SW 3rd Avenue to the north. This neighborhood is primarily zoned central commercial, with neighborhood areas to the west zoned high-density residential. Downtown Portland is served by the existing Portland Streetcar and MAX light rail; it contains the Portland Transit Mall, used by over one hundred bus lines that serve the greater Portland region. The Portland Downtown neighborhood contains an above-average concentration of residents over 65, renter-occupied housing, and low-income residents.

Community facilities in downtown Portland include the following parks: Pioneer Courthouse Square, Pettygrove Park, Chapman Square, Lovejoy Fountain Park, Portland Center Park, O’Bryant Square, Ira Keller Fountain, Waterfront Park, and the South Park Blocks. The Downtown neighborhood also includes the following schools: Portland State University, St. Mary’s Academy, the Islamic School of Muslim Educational Trust, the Northwest Academy, the International School, New Avenues for Youth, and the Greenhouse Alternative High School. The Multnomah County Central Library, Portland Police Bureau Central Precinct, Portland City Hall, and Portland Fire and Rescue (511 SW College Street) are also community facilities located in this neighborhood.

Downtown Portland contains many **urban amenities**. Amenities within one-quarter mile of the streetcar alignment are listed below, by type and number:

- Specialty Food Stores (16)
- Beer, Wine and Liquor Stores (4)
- Breweries (1)
- Child Day Care Services (3)

- Clothing Accessories Stores (2)
- Department Stores Except Discount (3)
- Bars (7)
- Dry-Cleaning and Laundry Services (2)
- Family Clothing Stores (2)
- Fitness and Recreational Sports Centers (9)
- Full-service Restaurants (104)
- Limited-service Restaurants (15)
- Men’s Clothing Stores (6)
- Motion Picture Theaters Except Drive-Ins (4)
- Nursery Garden and Farm Supply Stores (1)
- Prerecorded Tape, CD, and Record Stores (2)
- Snack and Nonalcoholic Beverage Bars (3)
- Sporting Goods Stores (1)
- Supermarkets and Other Grocery Stores (2)
- Women’s Clothing Stores (6)

There are several **affordable housing facilities** in Downtown Portland. Facilities within one-quarter mile of the streetcar alignment are as follows:

- 623 SW Park Avenue
- 1134 SW Jefferson Street
- 12th Avenue Terrace, 1529 SW 12th Avenue
- 1200 Building, 1200 SW 12th Avenue
- Admiral Apartments, 910 SW Park Avenue
- Alder House, 523 SW 13th Avenue
- Bronaugh Building 1434 SW Morrison Street
- Chaucer Court, 1019 SW 10th Avenue
- Clay Tower Apartments, 1430 SW 12th Avenue
- Fairfield Hotel, 1117 SW Stark Street
- Fountain Place, 929 SW Salmon Street
- Hamilton West Apartments, 1212 SW Clay Street
- Imperial Arms Apartments, 1429 SW 14th Avenue
- The Jeffrey Apartments, 1145 SW 11th Avenue
- The Jeffrey, 1139 SW 11th Avenue
- Kafoury Commons, 1240 SW Columbia Street
- Lexington Apartments, 1125 SW 12th Avenue
- Mark O Hatfield Building, 718 W. Burnside Street
- Mark O. Hatfield Building, 204 SW 8th Avenue
- Morrison Park, 803 SW Morrison Street
- Museum Place South, 1030 SW Jefferson Street
- Outside In, 1132 SW 13th Avenue
- Park Tower Apartments, 731 SW Salmon Street
- Pearl Court Apartments, 920 NW Kearney Street
- Peter Paulson Apartments, 1530 SW 13th Avenue
- Rosenbaum Plaza, 1218 SW Washington Street
- St Francis Apartments, 1110 SW 11th Avenue
- St James Apartments, 1312 SW 10th Avenue
- St. Stephens Church, 1432 SW 13th Avenue

- Taft Residential Care Facility, 1321 SW Washington Street
- Twelfth Avenue Apartments, 1515 SW 12th Avenue
- University Place Apartments, 1510 SW 13th Avenue
- Village at Lovejoy Fountain, 245 SW Lincoln Street
- YWCA Downtown, 1110 SW 10th Avenue

4.2 Segment 2 – South Waterfront and Segment 3 – Johns Landing

Segments 2 and 3 of this project are within the boundaries of the South Portland neighborhood. Protected population groups in Segment 2 are depicted geographically on Figures 4-1 and 4-2. Community facilities, urban amenities, and affordable housing facilities in Segment 2 are depicted on Figure 4-3. Protected population groups in Segment 3 are depicted geographically on Figures 4-4 and 4-5. Community facilities, urban amenities, and affordable housing facilities in Segment 3 are depicted on Figure 4-6.

Street segment length for Segments 2 through 6 in the project area is depicted on Figure 4-7. Pedestrian network coverage for Segments 2 through 6 in the project area is depicted on Figure 4-8. Residential multi-modal access for Segments 2 through 6 in the project area is depicted on Figure 4-9. These three figures help to provide context for existing neighborhood mobility conditions. *[Note: Because there is no new construction proposed for Segment 1, these areas are not covered in the neighborhood mobility figures.]*

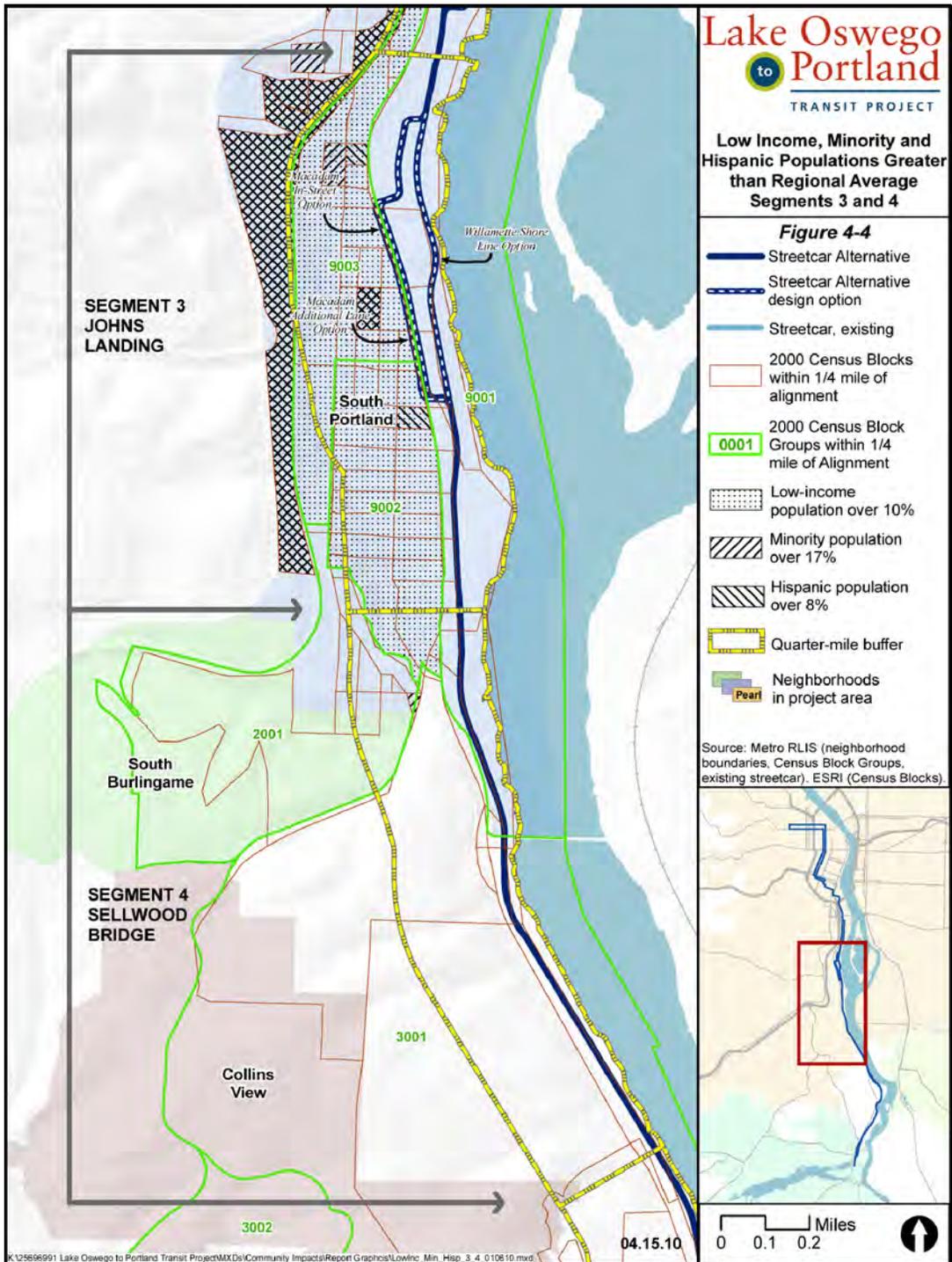


FIGURE 4-4. LOW-INCOME, MINORITY AND HISPANIC POPULATIONS GREATER THAN REGIONAL AVERAGE, SEGMENTS 3 AND 4

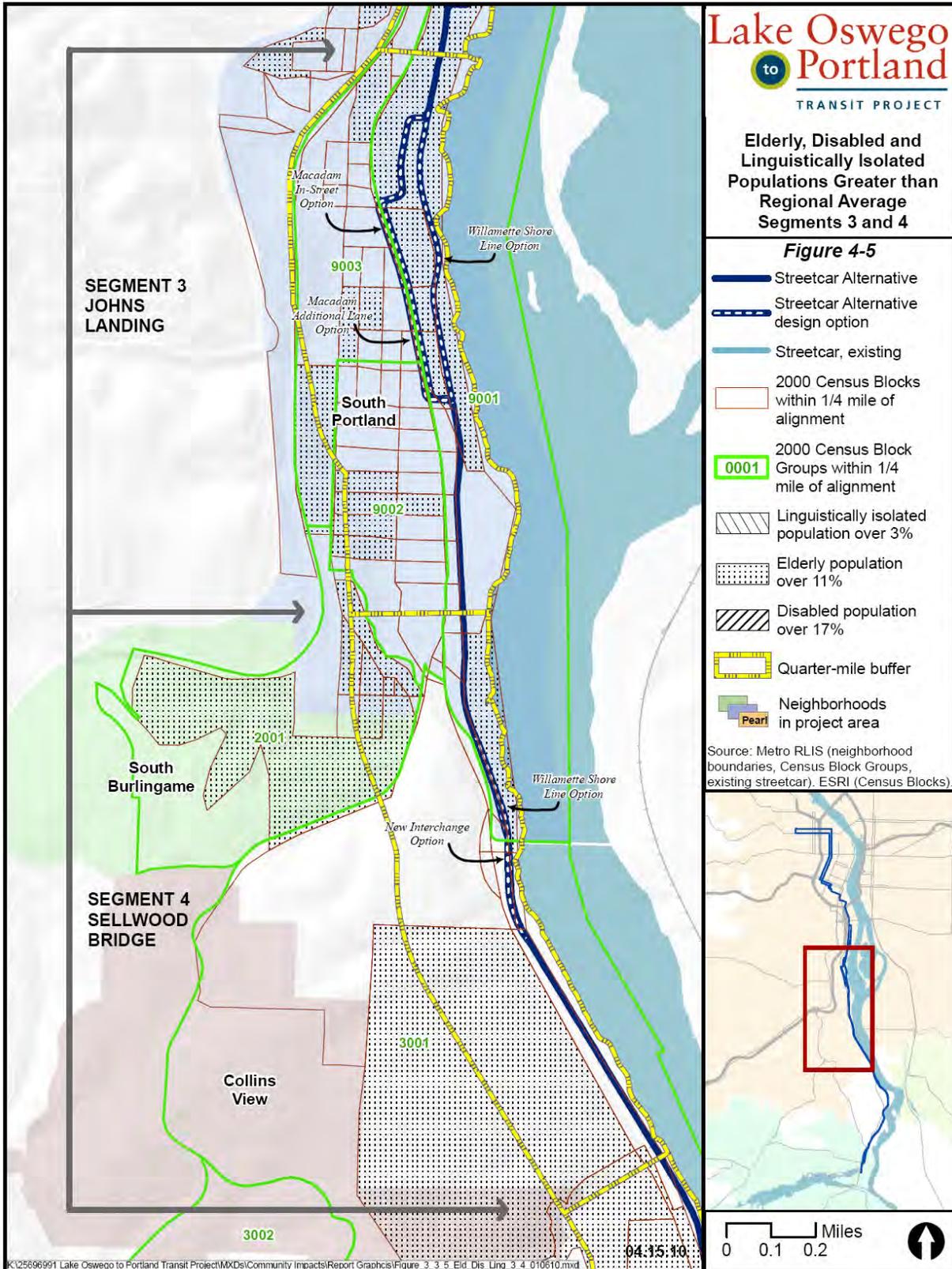


FIGURE 4-5. ELDERLY, DISABLED AND LINGUISTICALLY ISOLATED POPULATIONS GREATER THAN REGIONAL AVERAGE, SEGMENTS 3 AND 4

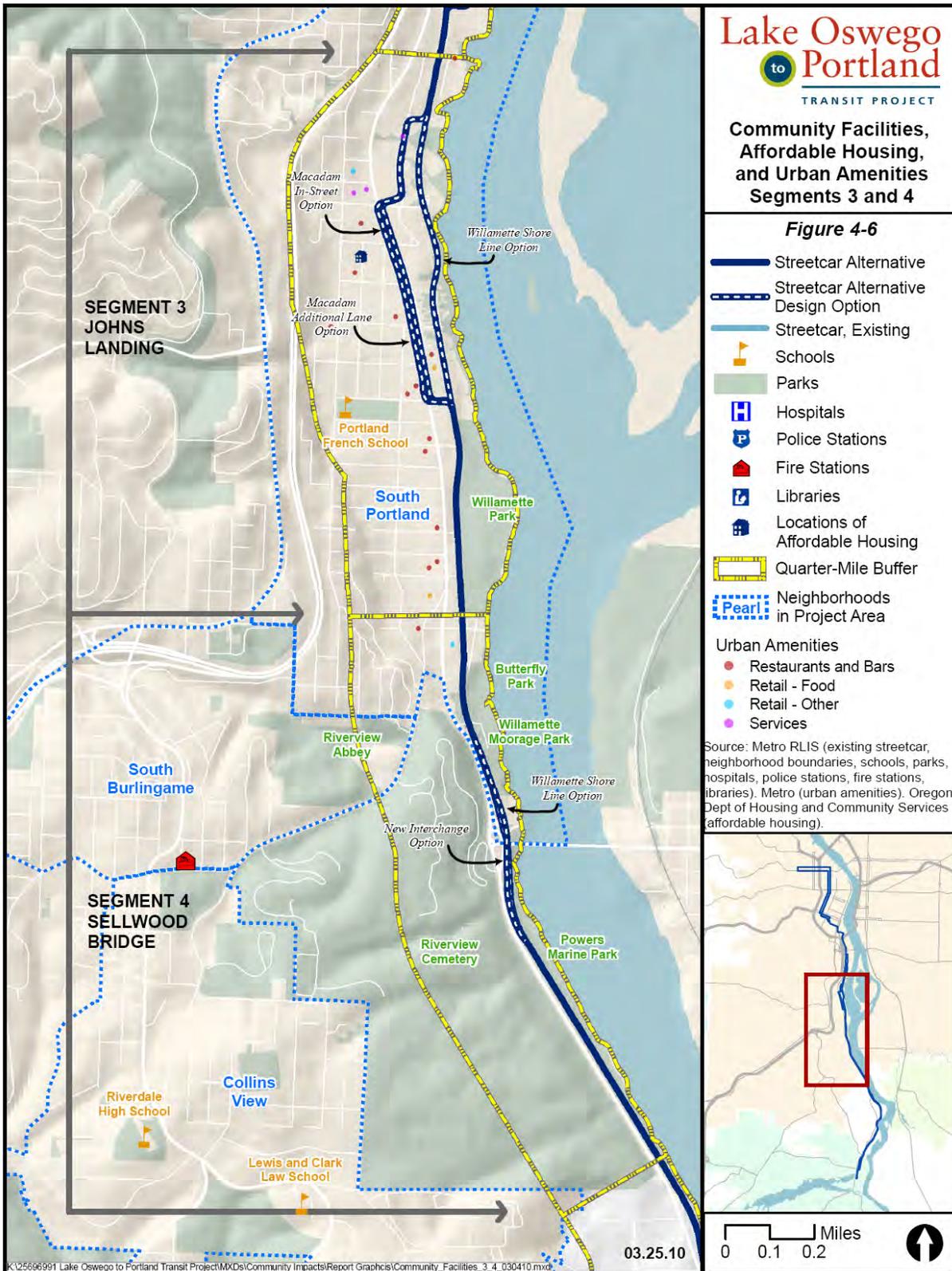


FIGURE 4-6. COMMUNITY FACILITIES, AFFORDABLE HOUSING, AND URBAN AMENITIES SEGMENTS 3 AND 4

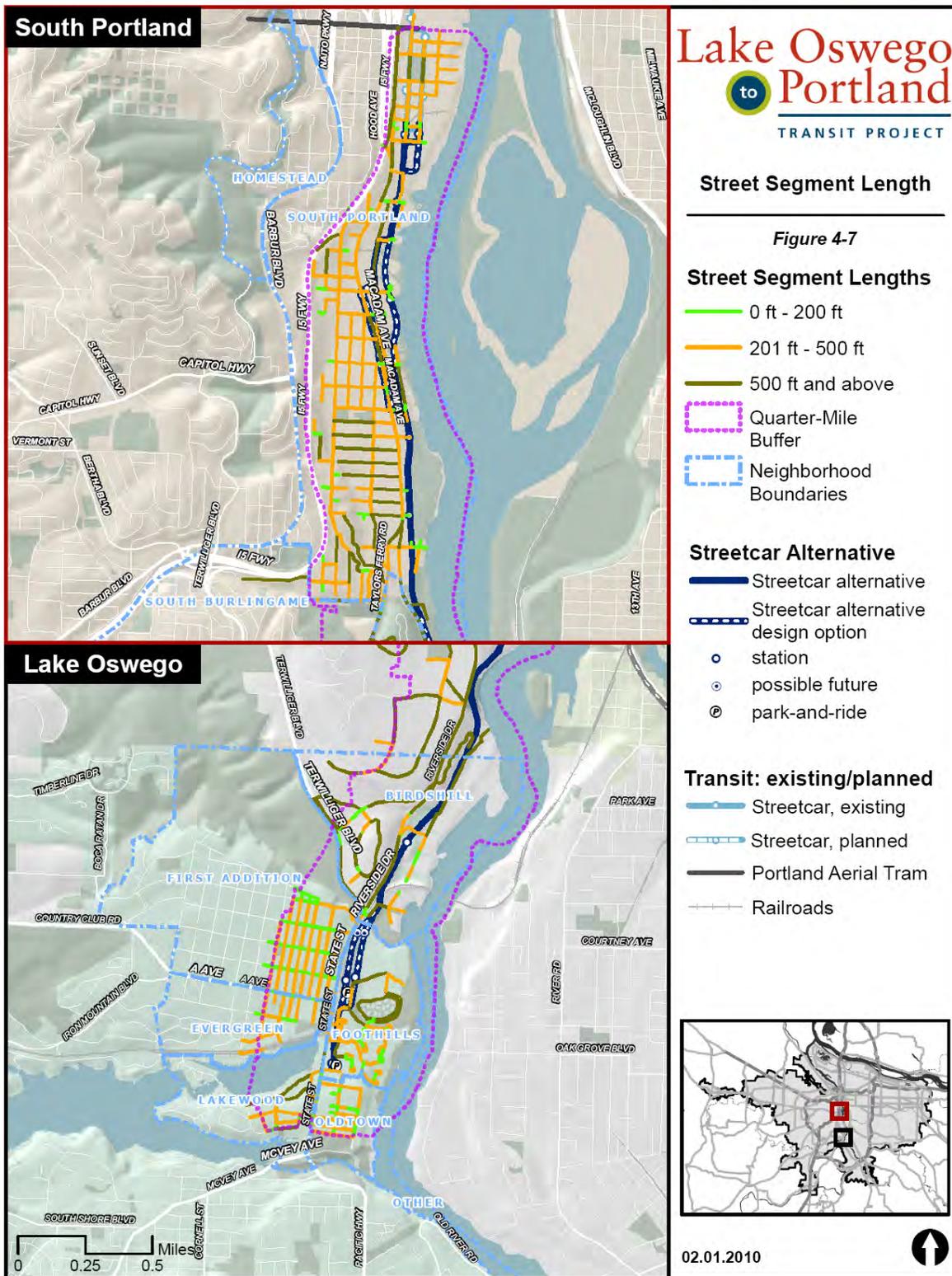
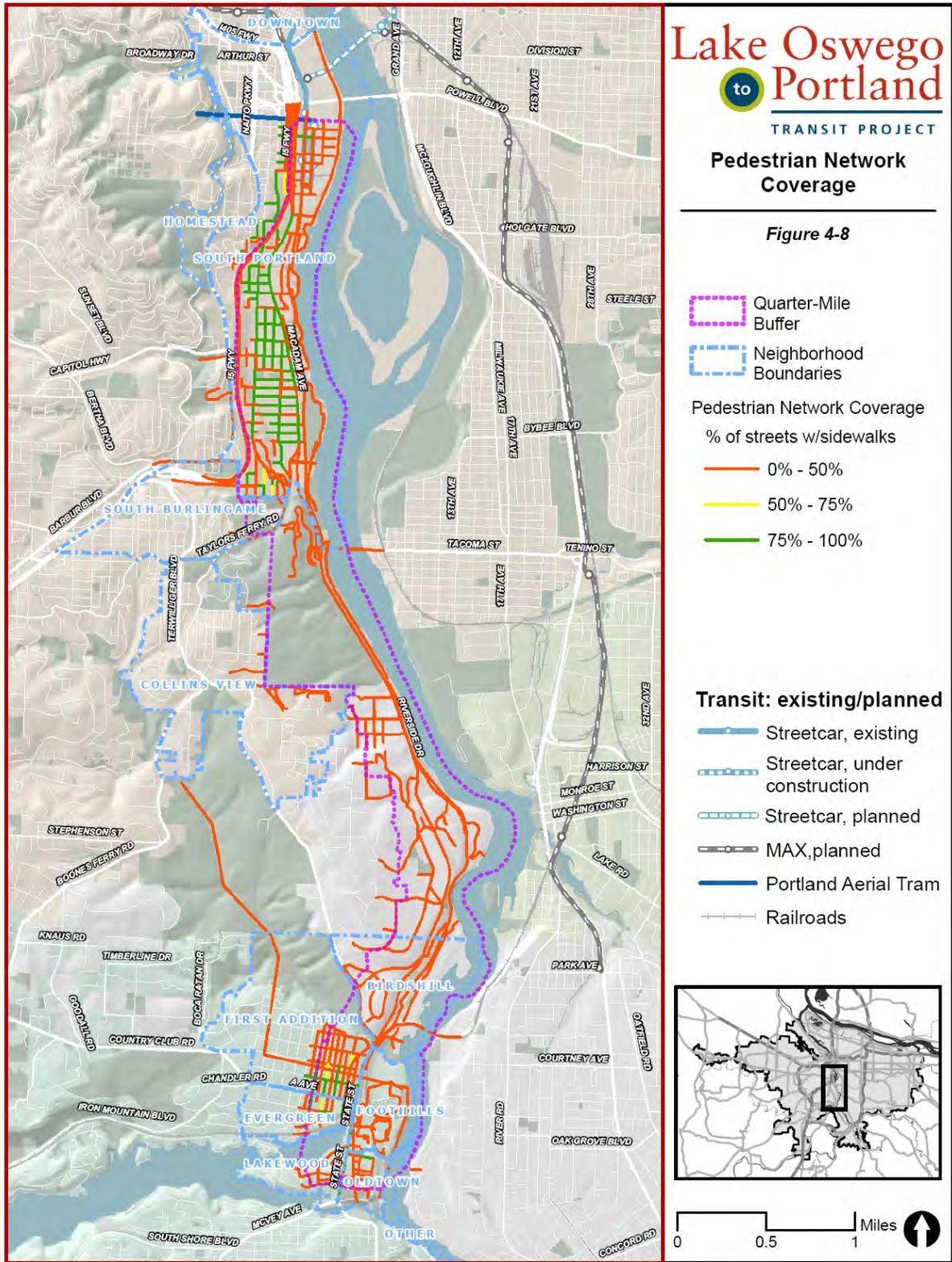


FIGURE 4-7. STREET SEGMENT LENGTH



03.19.2010

FIGURE 4-8. PEDESTRIAN NETWORK COVERAGE

4.2.1 South Portland

The South Portland Neighborhood is generally bounded by I-405 to the north, the Willamette River to the east, SW 6th Avenue and SW Barbur Boulevard to the west and by the Sellwood Bridge to the south. The northern part of this neighborhood, South Waterfront, is one of Portland's newest neighborhoods, and contains many mixed-use commercial and residential buildings. It is a high-density development area with many condominiums and retail uses, including the eastern station of the Portland Aerial Tram and part of the Oregon Health Sciences University campus. The southern part of the neighborhood includes a commercial area surrounding Macadam Avenue, high-density residences along the Willamette River, and a primarily single-family residential neighborhood west of Macadam. The northern part of the South Portland neighborhood has a lower average street segment length than the southern part, which could indicate that accessibility is greater in the northern part. Similarly, the pedestrian network coverage and residential multi-modal access is greater in the northern part of South Portland than in the southern part. The South Portland neighborhood contains an above-average concentration of renter-occupied housing units, low-income residents, and residents of minority racial/ethnic status. This neighborhood contains the Portland French School, which is a privately-owned school that does not offer a state-sponsored free or reduced-lunch program. The portion of residents who identify as "Black Alone," "Asian Alone," and "Two or More Races," is higher in this neighborhood than in the region as a whole.

Community facilities include the Portland French School, Oregon Health Sciences University South Waterfront campus, Cottonwood Bay Park, Willamette Park, and Willamette Moorage Park. There are no libraries, fire stations, or civic buildings in this neighborhood.

The South Portland neighborhood contains many **urban amenities**. Amenities within one-quarter mile of the project area are listed below by type and number:

- Specialty Food Stores (2)
- Beer, Wine and Liquor Stores (1)
- Child Day Care Services (1)
- Department Stores Except Discount (1)
- Dry-Cleaning and Laundry Services (1)
- Family Clothing Stores (1)
- Fitness and Recreational Sports Centers (2)
- Full-service Restaurants (17)
- Limited-service Restaurants (1)
- Snack and Nonalcoholic Beverage Bars (2)
- Sporting Goods Stores (1)
- Supermarkets and Other Grocery Stores (2)
- Women's Clothing Stores (1)

There is one **affordable housing facility** in the South Portland neighborhood within one-quarter mile of the project area. It is the Kelly Duplex, located at 5531-5533 SW Kelly Avenue.

4.3 Segment 4 – Sellwood Bridge

Segment 4 lies partially within the South Burlingame neighborhood of the City of Portland. Part of the project alignment in this segment lies within an area of the City of Portland that is not designated as an official neighborhood, but that is adjacent to the Collins View neighborhood. Protected

population groups in Segment 4 are depicted geographically on Figures 4-10 and 4-11. Community facilities, urban amenities, and affordable housing facilities in Segment 4 are depicted on Figure 4-12.

4.3.1 South Burlingame

The South Burlingame neighborhood is in the southwest section of Portland. It is bordered by SW Barbur Boulevard to the north, I-5 to the west, and SW Taylors Ferry Road to the south and east. I-5 cuts through the northern part of the neighborhood, separating the Fulton Park area from the rest of South Burlingame. This neighborhood is largely low-density residential with commercial uses along Barbur Boulevard, and it has a low pedestrian network coverage. South Burlingame contains an above-average concentration of residents over 65, renter-occupied housing, and low-income residents.

Community facilities in this neighborhood include the Riverview Abbey (used as open space), and Portland Fire and Rescue at 451 SW Taylors Ferry Road.

There are no **urban amenities** or **affordable housing facilities** within one-quarter mile of the project alignment in the South Burlingame neighborhood.

4.3.2 Collins View

The Collins View neighborhood lies directly to the south of South Burlingame. It is bordered by SW Taylors Ferry Road to the north, SW 8th Avenue and SW Boones Ferry Road to the west, Lewis and Clark College to the south, and the Riverview Cemetery to the east. It is composed primarily of single-family residential developments with a small commercial center at SW Taylors Ferry Road and SW Terwilliger Road. Collins View is characterized by hilly terrain and a largely rural feel. This neighborhood is adjacent to the Tryon Creek State Park. Collins View has a low pedestrian network coverage and low residential multi-modal access. Collins View contains an above-average concentration of low-income residents and renter-occupied housing.

Lewis and Clark College is the only **community facility** in this neighborhood.

There are no **urban amenities** or **affordable housing facilities** within one-quarter mile of the project alignment in the Collins View neighborhood.

4.4 Segment 5 – Dunthorpe/Riverdale

Segment 5 includes an area of unincorporated Multnomah County known as Dunthorpe or Riverdale, and a neighborhood called Birdshill that includes portions of unincorporated Clackamas County and the City of Lake Oswego. Protected population groups in Segment 5 are depicted geographically on Figures 4-10 and 4-11. Community facilities, urban amenities, and affordable housing facilities in Segment 5 are depicted on Figure 4-12.

4.4.1 Dunthorpe/Riverdale

Though it is not an officially-designated neighborhood, the portion of unincorporated Multnomah County that is south of the Powers Marine Park and Riverview Cemetery and north of the county

boundary is commonly referred to as Dunthorpe or Riverdale. The Dunthorpe development was platted in the 1910s and developed by William S. Ladd, who developed many notable areas in Portland. Riverdale is the name of the school district in this area, which is administered separately from the Lake Oswego and Portland Public School districts. Dunthorpe/Riverdale contains low-density residential development and has no commercial or industrial areas. It has a high average street segment length and low pedestrian network coverage, but it also has high residential multi-modal access. Dunthorpe/Riverdale is one of the oldest bedroom communities of Portland. This neighborhood contains the Riverdale Grade School. No students in the school receive a free or reduced lunch.⁵ This area contains an above-average concentration of residents over 65.

Community facilities in Dunthorpe/Riverdale include the Riverdale Grade School, the Peter Kerr Property, and the Elk Rock Gardens of the Bishop's Close.

Dunthorpe/Riverdale does not contain any **urban amenities** or **affordable housing facilities**.

4.4.2 Birdshill

The Birdshill neighborhood lies to the northeast of the First Addition neighborhood in Lake Oswego. It is officially designated as a Clackamas County Community Planning Organization and a Lake Oswego Neighborhood Association, because it contains areas both outside and inside of the City of Lake Oswego. It is bounded by the county boundary to the north, the Willamette River to the east, SW Terwilliger Boulevard to the west, and the northern portion of Foothills Park to the south. The neighborhood boundary extends north of the City of Lake Oswego city limits. Birdshill has a high average street segment length and low pedestrian network coverage, but it has high residential multi-modal access. This area primarily includes low-density residential communities, with a few retail stores. Birdshill contains an above-average concentration of residents over 65.

Community facilities in Birdshill include Tryon Cove Park.

Birdshill does not contain any **urban amenities** or **affordable housing facilities**.

⁵ Conversation between Kathy Jacobsen, Assistant Superintendent for the Riverdale School District and the author on 10/20/09.

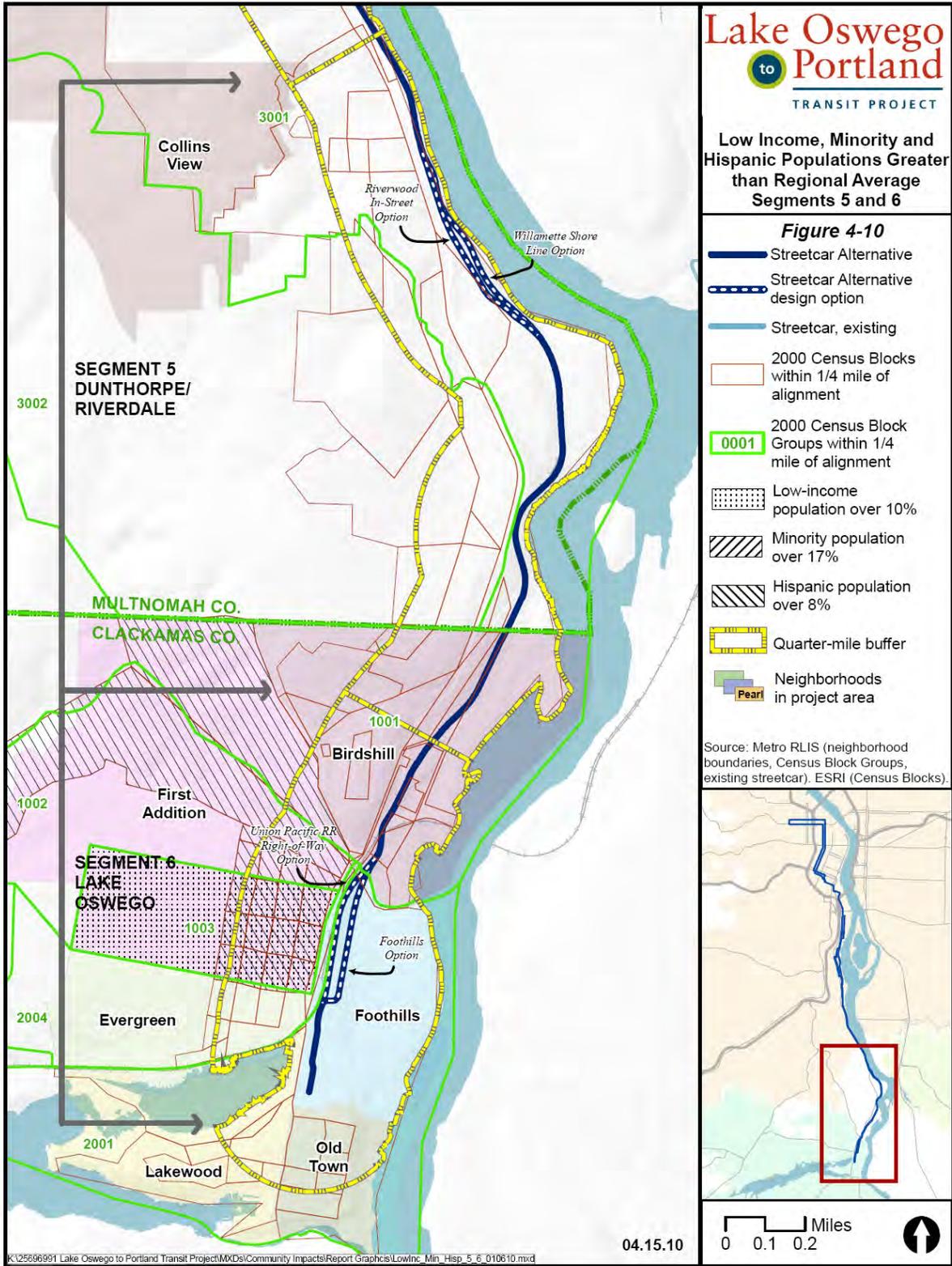


FIGURE 4-10. LOW-INCOME, MINORITY AND HISPANIC POPULATIONS GREATER THAN REGIONAL AVERAGE SEGMENTS 5 AND 6

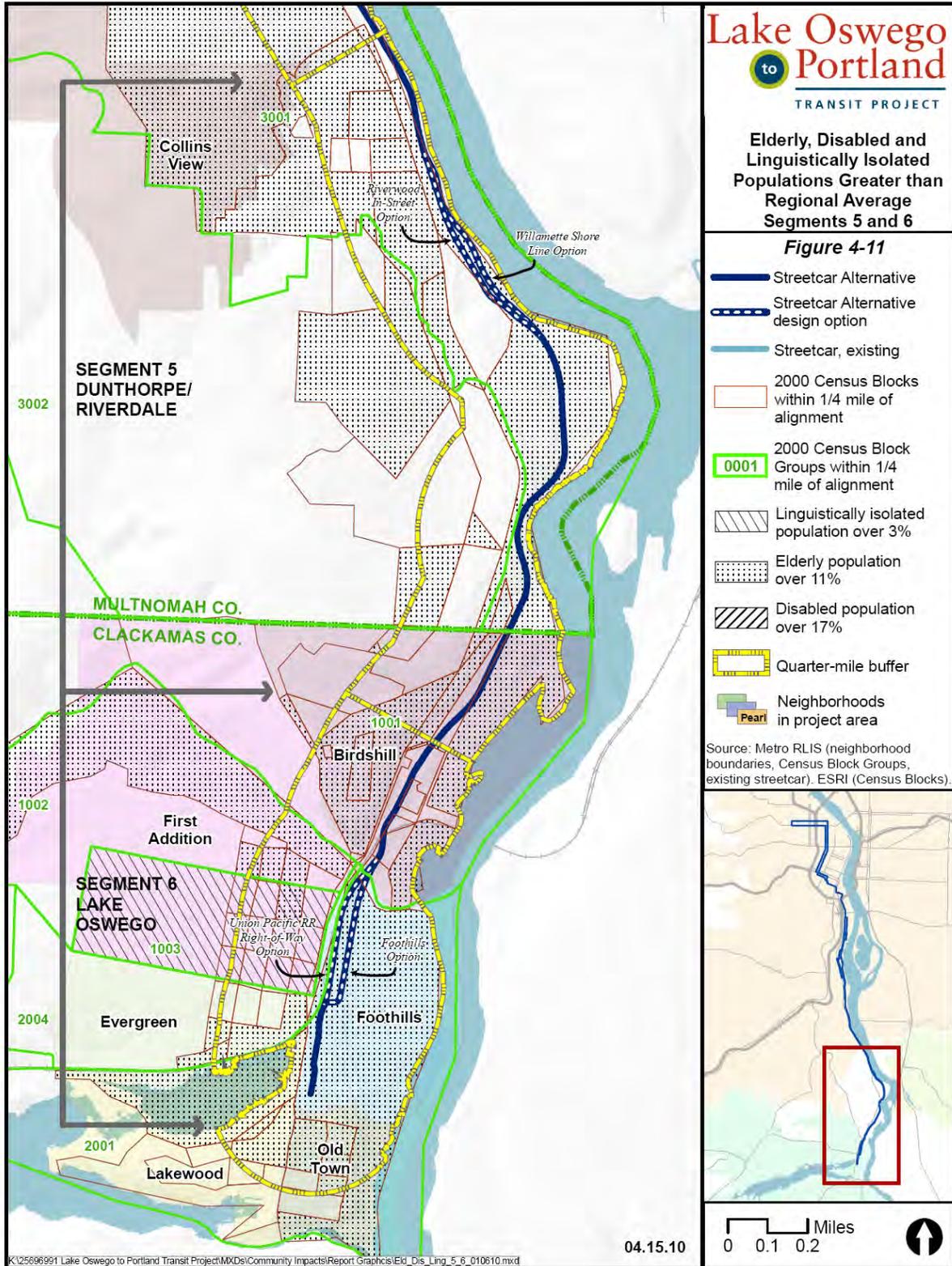


FIGURE 4-11. ELDERLY, DISABLED, AND LINGUISTICALLY ISOLATED POPULATIONS GREATER THAN REGIONAL AVERAGE SEGMENTS 5 AND 6

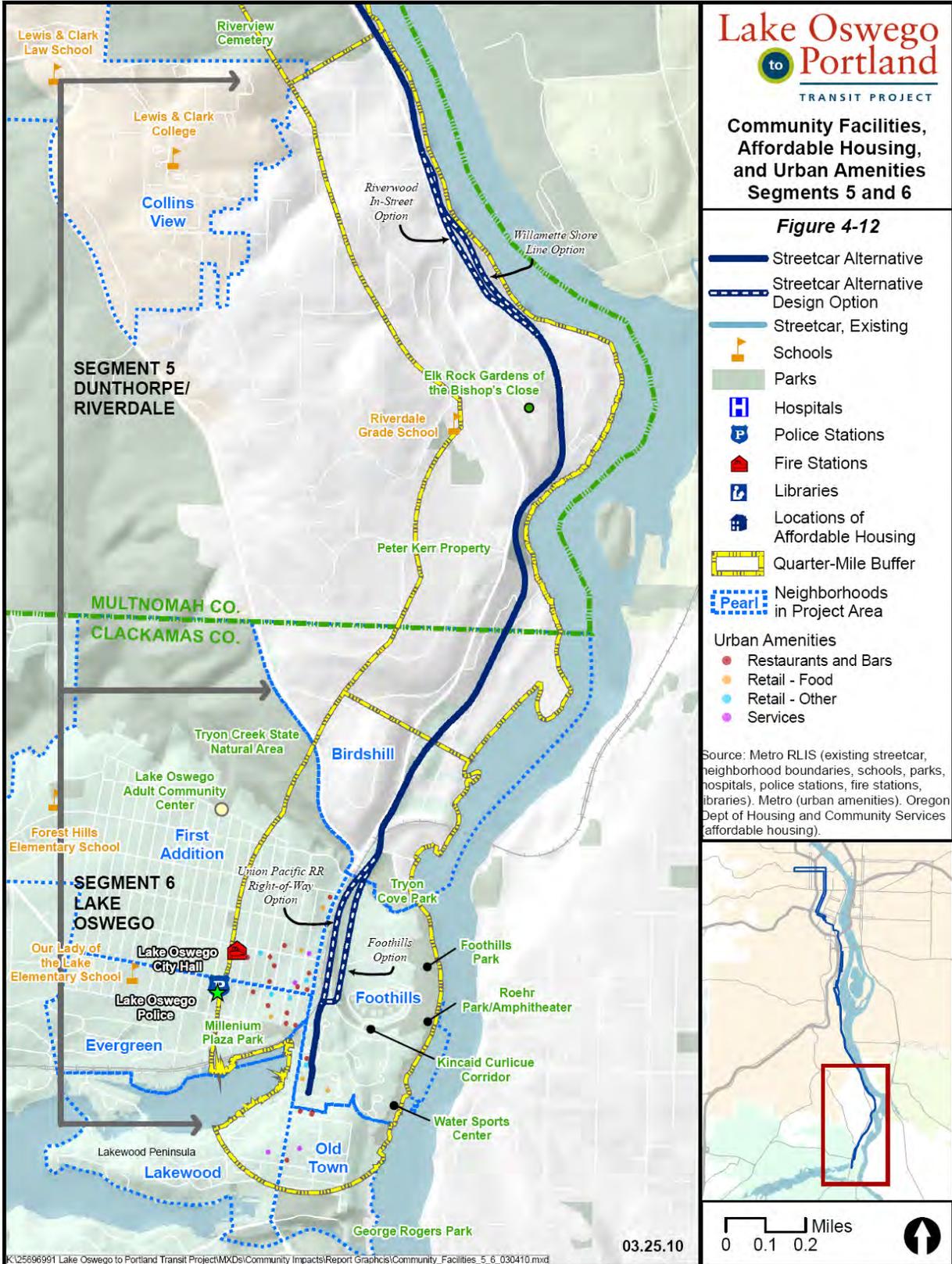


FIGURE 4-12. COMMUNITY FACILITIES, AFFORDABLE HOUSING AND URBAN AMENITIES SEGMENTS 5 AND 6

4.5 Segment 6 – Lake Oswego

Segment 6 is completely within the city limits of Lake Oswego and passes through several neighborhoods, including Birdshill, First Addition, Foothills, Old Town, Evergreen, and Lakewood.

4.5.1 Birdshill

The Birdshill neighborhood is discussed above in Section 4.4.2.

4.5.2 First Addition

First Addition contains several blocks of historic and newer homes that are within walking distance of Lake Oswego’s commercial core. The neighborhood was originally platted in 1888, and the development pattern is a traditional urban grid with alleys between houses. First Addition is bounded by State Street to the east, A Avenue to the south, the Clackamas County boundary to the north, and the edge of Tryon Creek State Park and Iron Mountain Boulevard to the west. The northern portion of this neighborhood includes the Tryon Creek State Park. The southern part of First Addition has a lower average street segment length (between 200-500 feet) than Birdshill or Dunthorpe/Riverdale within one-quarter mile of the project alignment. First Addition has a mix of residential multi-modal access throughout the neighborhood, but high pedestrian network coverage throughout. First Addition includes a vibrant commercial area in the blocks surrounding A Avenue, B Avenue, and C Avenue between State Street and 6th Street.

Community facilities in First Addition include the Lake Oswego Adult Community Center, Lake Oswego Fire Department, portions of the Tryon Creek State Natural Area, and Forest Hills Elementary School.

First Addition contains several **urban amenities** within one-quarter mile of the project alignment. These are listed below, by type and number:

- Beer, Wine, and Liquor Stores (1)
- Bars (3)
- Dry-Cleaning and Laundry Services (2)
- Full-service Restaurants (6)
- Retail Bakeries (1)
- Sporting Goods Stores (2)

First Addition does not contain any **affordable housing facilities**.

4.5.3 Foothills

The Foothills neighborhood lies to the east of First Addition. It is bounded by State Street to the west, the Willamette River to the east, Green Street to the south, and the edge of the Foothills development cul-de-sacs to the north. This neighborhood contains industrial uses adjacent to Foothills Park and multi-family housing and commercial uses along State Street. The Foothills neighborhood has a mix of street segment lengths, low residential multi-modal access, and low pedestrian network coverage. This neighborhood contains an above-average concentration of residents over 65.

Community facilities in the Foothills neighborhood include Foothills Park, Kincaid Curlicue Corridor, Roehr Park/Amphitheatre, and the Water Sports Center.

Foothills contains four **urban amenities** within one-quarter mile of the project alignment: one specialty food store; one full-service restaurant; one prerecorded tape, CD, and record store; and one supermarket or other grocery store.

The Foothills neighborhood does not contain any known **affordable housing units**.

4.5.4 Evergreen

The Evergreen Neighborhood is generally bordered by A Avenue to the north, Lakewood Bay to the south, State Street to the east, and Berwick Road to the west. Portions of the Evergreen neighborhood were originally developed along with First Addition in the early 1900s. However, the majority of the Evergreen neighborhood was developed in the 1940s and 1950s, and it became an officially recognized neighborhood within the City of Lake Oswego in 1976. The neighborhood today is primarily single-family residential, with a few multi-family residential parcels fronting Lakewood Bay, and commercial uses along A Avenue. Within one-quarter mile of the project alignment, street segment lengths are primarily between 200 to 500 feet in Evergreen. Pedestrian network coverage is mixed, and residential multi-modal coverage is low. The Evergreen neighborhood contains an above-average concentration of low-income residents.

Community facilities in the Evergreen neighborhood include the Lake Oswego City Hall, Millennium City Park, Lake Oswego Police Department, and Our Lady of the Lake School.

The Evergreen neighborhood contains several **urban amenities** within one-quarter mile of the project alignment. These include one specialty food store, five full-service restaurants, one men's clothing store, one supermarket or other grocery store, and three women's clothing stores.

The Evergreen neighborhood does not contain any **affordable housing units**.

4.5.5 Old Town

The Old Town neighborhood is the oldest settlement in the Lake Oswego area, and contains homes that date to the 1860s. It was originally platted in 1851 by Albert Durham; many of the streets in Old Town contain the names of the founding members of the community. It is a small area immediately to the south of the Foothills neighborhood. Within one-quarter mile of the project alignment, street segment lengths are typically less than 500 feet in Old Town. Old Town has low pedestrian network coverage and mixed residential multi-modal access. This neighborhood contains an above-average concentration of residents over 65.

Community facilities in Old Town include the George Rogers Park.

There are several **urban amenities** in Old Town within one-quarter mile of the project alignment. These include two fitness and recreational sports centers, three full-service restaurants, one limited-service restaurant, one snack and nonalcoholic beverage bar, and one women's clothing store.

The Old Town neighborhood does not contain any **affordable housing units**.

4.5.6 Lakewood

The Lakewood Neighborhood is located west of State Street and south of Lakewood Bay. Lakewood is located immediately to the west of the Old Town neighborhood. The Lakewood neighborhood contains single-family residential uses, with commercial uses along State Street. Within one-quarter mile of the project alignment, Lakewood has a mix of street segment lengths. Areas near State Street have high residential multi-modal access, but other areas are lower. Overall, Lakewood has low pedestrian network coverage. This neighborhood contains an above-average concentration of residents over 65.

There are no schools, parks, libraries, fire stations, or other **community facilities** in this neighborhood.

The Evergreen neighborhood contains one **urban amenity**, a child day care service. The Evergreen neighborhood does not contain any **affordable housing facilities**.

5. ENVIRONMENTAL CONSEQUENCES

This section provides detail on the effects that the project's alternatives and options would have on communities and neighborhoods. As indicated in Section 2, these effects are primarily defined as changes in neighborhood cohesion, neighborhood quality of life, and neighborhood mobility. Property acquisitions and displacements are considered to be a component of neighborhood cohesion. They are discussed in detail in Section 5.1, and summarized in Section 5.2.

5.1 Property Acquisitions and Displacements

In most locations of the corridor, the transit project has been routed to use public and available railroad right-of-way where they coincide with the travel markets that need to be served. In these locations, easements are typically obtained from the right-of-way owners, including cities, counties, the state and railroads.

TriMet has established policies and programs for transportation improvement projects that require the acquisition of right-of-way or other property interests. This can involve moving households and/or businesses. TriMet serves all property owners and occupants fairly and equitably in accordance with applicable federal and state laws. Since the transit project would involve federal funding, the project would comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Relocation Act) (42 USC Sec. 4601) and associated regulations contained in 40 CFR part 24. TriMet is empowered by the State of Oregon to acquire private property for public purposes.

The estimates of impacts to property due to this project identify where there is a potential for acquisition and/or displacement if part of a proposed transit facility (such as rails, station platforms, substations, relocated traffic lanes, sidewalks, or turn lanes) would physically touch a property, structure, or other improvement. A full acquisition would occur when the entire parcel is expected to be needed for project construction. A partial acquisition would occur when a portion of a property is needed, but when most of the parcel is left intact and the functional use of the parcel can still reasonably continue. Most of the property impacts from the transit alternatives involve partial acquisition of property.

Project alternatives or options are considered to have the potential for causing a full displacement if any one or more of the following circumstances occurs:

- Any building used for residential, social/recreational, institutional or business purposes lies in the path of a portion of the proposed transit facility or related improvements, such that the property could not continue to function in its current use.
- Vehicular access to a property would be completely and permanently eliminated and could not be restored by reconfiguring the access or building.

Construction activities would also result in short-term impacts to some parcels. If construction involves only a temporary use of land, TriMet could negotiate a temporary construction easement from the property owner. TriMet or the construction contractor may also need access to or use of additional properties for construction staging, including equipment storage, contractor offices or

other construction activities. These requirements are generally confirmed during final design of the alternative and are normally leased rather than permanently acquired.

The following is a summary of potentially affected parcels based on the concept design of the project. TriMet would work to further refine design during preliminary engineering in order to minimize impacts to properties. The potential right-of-way impacts associated with the alternatives are summarized below. A full list and detailed graphics depicting impacted properties is provided in the *LOPT Draft Environmental Impact Statement, Appendix G*.

5.1.1 No Build Alternative

There would be no displacements or relocations resulting from the No-Build Alternative.

5.1.2 Enhanced Bus Alternative

The Enhanced Bus Alternative would result in the purchase of property for the construction of a 300-space structured park-and-ride lot at the Oswego Village Shopping Center on Highway 43 in downtown Lake Oswego. Approximately one acre of right-of-way would be acquired; eight properties would be affected. Seven of the properties affected are currently in commercial use, and one is multi-family residential. One of the commercial properties would be fully acquired. However, that property is currently in use as a small parking lot adjacent to another commercial property, so it would not constitute a displacement of a business.

5.1.3 Streetcar Alternative

Table 5-1 provides a summary of impacted parcels and displacements from the Streetcar Alternative by project segment and design option. The sections that follow describe the anticipated displacements in greater detail.

**Table 5-1. Streetcar Alternative Property Acquisitions and Displacements*
by Type, Segment and Design Option**

Segment/ Option	Residential	Commercial	Public Institution	Industrial	Total
	Acquisitions (Displacements)	Acquisitions (Displacements)	Acquisitions (Displacements)	Acquisitions (Displacements)	Acquisitions (Displacements)
3 – Johns Landing					
Willamette Shore Line	1	6			7
Macadam In Street	3	14			17
Macadam Add Lane	6	19 (1)			25 (1)
5 – Dunthorpe					
Willamette Shore Line					
Riverwood In-Street	8 (1)				8 (1)
6 – Lake Oswego					
UPRR	2	9	9	1	21
Foothills	2	9	9	7 (5)	27 (5)
Minimum Total (assuming selection of Willamette Shore Line in Segment 3, Willamette Shore Line in Segment 5 and UPRR in Segment 6)					
	3 (0)	15 (0)	9 (0)	1 (0)	28 (0)
Maximum Total (assuming selection of Macadam Additional Lane in Segment 3, Riverwood in Segment 5, and Foothills in Segment 6)					
	16 (1)	28 (1)	9 (0)	7 (5)	60 (7)

Note: Table does not include 1 property owned by ODOT and two properties owned by UPRR. Use of these properties for Streetcar Alternative is not expected to require acquisition of the properties. ODOT may allow use of its property without acquisition and use of the UPRR property may be by permit.

*Displacements occur when an activity that has been occurring on a parcel of land can no longer occur there. A full acquisition does not result in a displacement when there are no buildings or other activities that would be interrupted by the acquisition.

5.1.3.1 Segment 1 – Downtown Portland

Construction of the Streetcar Alternative would not require new right-of-way in Segment 1. Therefore, there would be no property acquisitions or displacements in Segment 1.

5.1.3.2 Segment 2 – South Waterfront

The Streetcar Alternative in Segment 2 would be built within existing right-of-way. Therefore, it would not result in any property acquisitions or displacements.

5.1.3.3 Segment 3 – Johns Landing

The amount of right-of-way needed for construction of the Streetcar Alternative in Segment 3 would vary by design option. The Macadam Additional Lane Option would require the most right-of-way of all three options. The Macadam In-Street Option would require less right-of-way than the Macadam Additional Lane Option, but more than the Willamette Shore Line Option.

- **Willamette Shore Line Option.** The Willamette Shore Line Option would not result in any displacements. However, it would require use of less than half an acre of right-of-

- way; seven properties would be affected. Three of those properties are currently in commercial use, one is multi-family residential, and three are vacant.
- **Macadam In-Street Option.** The Macadam In-Street Option would not result in any displacements. However, it would require use of approximately two acres of right-of-way; 17 properties would be affected. Ten of those properties are currently in commercial use, three are multi-family residential, and four are vacant. In addition to these property acquisitions, the Macadam In-Street Option would use one property that is owned by ODOT and is currently in use as a storage facility for Willamette Shoreline Trolley operations.
 - **Macadam Additional Lane Option.** The Macadam Additional Lane Option would result in acquiring three and a half acres of right-of-way; 25 properties would be affected. Fifteen of those properties are currently in commercial use, six are multi-family residential, and four are vacant. One of the commercial properties would be fully acquired and the business operating on it would be displaced. That business is a commercial fueling station located at 6140 SW Macadam Avenue and is owned by Petrocard Systems, Inc. In addition to these property acquisitions, the Macadam Additional Lane Option would use one property that is owned by ODOT and is currently in use as a storage facility for Willamette Shoreline Trolley operations.

5.1.3.4 Segment 4 – Sellwood Bridge

Construction of the Streetcar Alternative would not require new right-of-way in Segment 4, under either the Willamette Shore Line Option or the New Interchange Option. Therefore, there would be no property acquisitions or displacements in Segment 4.

5.1.3.5 Segment 5 – Dunthorpe/Riverdale

The amount of right-of-way needed to construct the Streetcar Alternative in Segment 5 would differ by design option. The Willamette Shore Line Option would not require right-of-way acquisition, but the Riverwood In-Street Option would.

- **Willamette Shore Line Option.** There would be no property acquisitions or displacements resulting from the Willamette Shore Line Option in Segment 5.
- **Riverwood In-Street Option.** The Riverwood In-Street Design Option would result in acquiring approximately three-quarters of an acre of right-of-way; eight properties would be affected. Seven of those properties are currently in single-family residential use, and one is vacant. One of the single-family residential properties would be fully acquired and the residents would be displaced. This property is located at 10808 SW Riverwood Road.

5.1.3.6 Segment 6 – Lake Oswego

The amount of right-of-way needed to construct the Streetcar Alternative in Segment 6 would differ by design option. The Foothills Option would require acquiring substantially more right-of-way than the UPRR Right-of-Way Option.

- **UPRR Right-of-Way Option.** The UPRR Right-of-Way Option would require the acquisition of approximately three acres of right-of-way; 21 properties would be affected. Five of those properties are currently in public/semi-public use, nine are commercial,

three are utility, one is industrial, one is single-family residential, one is multi-family residential, and one is vacant. One of the commercial properties would be fully acquired. However, the property is currently in use as a small parking lot adjacent to another commercial property, so it would not constitute a displacement of a business. In addition to these property acquisitions, the UPRR Right-of-Way Option would require a lease or permit to use a portion of UPRR right-of-way. The exact disposition of UPRR property would be negotiated with UPRR. This use would not result in any displacement of existing use.

- **Foothills Option.** The Foothills Option would require the acquisition of approximately fifteen acres of right-of-way; 27 properties would be affected. Nine of those properties are currently in commercial use, seven are industrial, five are public/semi-public, three are utility, one is single-family residential, one is multi-family residential, and one is vacant. Seven of the industrial properties would be displaced, resulting in the displacement of five businesses operating on those properties. These properties are as follows: 801 N. State Street, currently in use as Public Storage – Self Storage; account number 182046 (no address available), currently part of the Public Storage-Self Storage complex; account number 182108 (no address available), currently part of the Public Storage-Self Storage complex; 99 Foothills Road, currently in use as All Purpose Design; 113 Foothills Road, currently in use as Skyline Northwest auto dealership; 101 Foothills Road, currently in use as Jeepers It’s Erickson’s auto dealership; and 100 Foothills Road, currently in use as Lakeshore Concrete.

5.2 Neighborhood Cohesion, Neighborhood Quality of Life, and Neighborhood Mobility

5.2.1 Direct Effects

5.2.1.1 No-Build Alternative

- **Neighborhood Cohesion and Quality of Life.** There would be no direct effects from the No-Build Alternative to the cohesion or quality of life within the neighborhoods in the LOPT project area.
- **Neighborhood Mobility.** Neighborhood mobility would decrease as a result of this alternative due to greater congestion in the area compared to the Enhanced Bus and Streetcar Alternatives. The No-Build Alternative would result in a higher regional level of vehicle miles traveled (VMT) than either of the build alternatives (63,030,900 VMT under the No-Build Alternative in 2035, versus 63,049,900 VMT under the Enhanced Bus Alternative or 63,022,900 VMT under the Streetcar Alternative). In addition, the following intersections in the LOPT project area would perform worse under the No-Build Alternative than under the build alternatives. More information is available in the *LOPT Transportation Technical Report*.
 - SW Macadam Avenue/SW Hamilton Court
 - SW Macadam Avenue/SW Pendleton Street
 - SW Macadam Avenue/SW Nebraska Street
 - SW Riverside Drive/Riverview Cemetery
 - SW Riverside Drive/SW Greenwood Road/SW Brayman Avenue
 - SW Riverside Drive/SW Briarwood Road

- N State Street/B Avenue
- N State Street/A Avenue
- N State Street/Foothills Road
- N/S State Street/North Shore Road

Both the overall increase in VMT and poorer performance of several intersections would lead to a decrease in neighborhood mobility for all neighborhoods in Segments 2-6.

5.2.1.2 Enhanced Bus Alternative

The primary effect that the Enhanced Bus Alternative would have on the corridor's neighborhoods, compared to the No-Build Alternative, would be the result of changes to the operation of bus service on Highway 43, between downtown Lake Oswego and downtown Portland. Effects to neighborhood cohesion, quality of life, and mobility are described below.

- **Neighborhood Cohesion.** The Enhanced Bus Alternative would have a limited effect on neighborhood cohesion in the LOPT project area because there are no anticipated visual impacts, land use impacts, changes to neighborhood boundaries or landmarks, or impacts to community facilities or urban amenities. Neighborhoods in the LOPT project area would remain similar to the way they are now. There would be low but no moderate to high visual impacts.
- **Neighborhood Quality of Life.** There would be no noise impacts, air quality impacts, impacts to parks or recreational facilities, or impacts to affordable housing units from the Enhanced Bus Alternative. Therefore, the Enhanced Bus Alternative would have no effect on neighborhood quality of life in the LOPT project area.
- **Neighborhood Mobility.** The Enhanced Bus Alternative would result in the removal of 13 of 26 bus stops served by Line 35 on Highway 43, between downtown Lake Oswego and SW Bancroft Street, leading to reduced travel times between the remaining 13 bus stops. Following is a list of bus stops that would be removed for the Enhanced Bus Alternative.⁶
 - SW Julia Street (South Portland neighborhood)
 - SW Flower Street (South Portland neighborhood)
 - SW Pendleton Street (South Portland neighborhood)
 - SW Carolina Street (South Portland neighborhood)
 - SW Nebraska Street (South Portland neighborhood)
 - SW Florida Street (South Portland neighborhood)
 - SW California Street (South Portland neighborhood)
 - SW Nevada Street (South Portland neighborhood)
 - SW Miles Street (South Portland neighborhood)
 - SW Radcliffe Road (Dunthorpe/Riverdale)
 - SW Riverdale Road (Dunthorpe/Riverdale)
 - SW Riverwood Road (Dunthorpe/Riverdale)
 - SW Palatine Hill Road (Dunthorpe/Riverdale)
 - SW Breyman Avenue (Dunthorpe/Riverdale)

⁶ For more detail, see the *Lake Oswego to Portland Transit Project Detailed Definition of Alternatives*.

- SW Greenwood Road (Dunthorpe/Riverdale)
- SW Midvale Road (Birdshill neighborhood)
- SW Elk Rock Road (Birdshill neighborhood)
- E Avenue (First Addition neighborhood)
- D Avenue (First Addition neighborhood)
- B Avenue and 2nd Street (First Addition neighborhood)
- Foothills (Foothills neighborhood)
- North Shore (Foothills neighborhood)

The removal of these bus stops would lead to a decrease in access to transit in South Portland neighborhood of Segment 3, in Dunthorpe/Riverdale and Birdshill in Segment 5, and in First Addition and Foothills in Segment 6. However, the frequency of Line 35 would increase to a bus every six minutes, compared to a bus every 15 minutes under the No Build Alternative. In general, for areas of the corridor's neighborhoods that would have access to the remaining 13 bus stops, transit access would be improved through reduced transit travel and wait times. However, some areas of the corridor's neighborhoods within Segments 3 (South Portland) and 5 (Dunthorpe/Riverdale) would experience longer walk distances and times to transit or the elimination of access to transit due to the removal of one or more of the bus stops. The Enhanced Bus Alternative would also create improved bicycle and pedestrian facilities near the park-and-ride lot in Segment 6.

5.2.1.3 Streetcar Alternative

The direct effects that the Streetcar Alternative would have on the corridor's neighborhoods, compared to the No-Build Alternative, would primarily be the result of: 1) construction and operation of an extension of the existing Portland Streetcar Line, from SW Bancroft Street to downtown Lake Oswego; 2) the elimination of Line 35 bus service, generally on Highway 43, between Lake Oswego and downtown Portland; and 3) localized changes to traffic, bicycle and pedestrian facilities. Following is a description of how the Streetcar Alternative would affect the cohesion, quality of life and mobility of the corridor's neighborhoods.

- **Neighborhood Cohesion.** The Streetcar Alternative would not alter established community landmarks or neighborhood boundaries in any segment in the LOPT project area. The Streetcar Alternative would also not result in any direct effects to community facilities, urban amenities, or affordable housing units. However, private property displacements and changes in the visual environment could affect community cohesion in neighborhoods throughout the LOPT project area. These effects are described by segment below. Additional information on the visual impacts of the project is provided in the *LOPT Visual Resources Technical Report*.
 - **Segment 1.** The Streetcar Alternative would not directly affect neighborhood cohesion in the NW District, Pearl District, Old Town/Chinatown, or Downtown neighborhoods. This is because there would be no changes to established community boundaries, no direct impacts to community facilities or urban amenities, no anticipated change in land uses resulting from the alternative, and no significant change in the visual environment. Neighborhood cohesion in these areas would remain the same as it is today.
 - **Segment 2.** The Streetcar Alternative would not directly affect neighborhood cohesion in the northern part of the South Portland neighborhood in Segment 2. This is because there

- would be no changes to established community boundaries, no significant direct land use impacts, and no significant change in the visual environment. The Streetcar Alternative would result in five property acquisitions in Segment 2. However, these acquisitions would not represent a change to neighborhood cohesion because they are a small percentage of the entire neighborhood, and none of these acquisitions would result in a displacement. Therefore, neighborhood cohesion in the South Waterfront area of the South Portland neighborhood would remain the same as it is today.
- **Segment 3.** The Streetcar Alternative would not result in impacts to community boundaries, significant direct land use impacts, or direct impacts to community facilities or urban amenities in Segment 3. However, each design option within this segment would result in a visual impact; these are discussed in greater detail below. Additionally, each design option would result in property acquisitions, and the Macadam Additional Lane Option would result in a displacement. The combination of visual effects and property acquisitions would lead to a moderate direct effect on neighborhood cohesion in South Portland from all three design options. Because the Macadam Additional Lane Option would result in a displacement, it would have a larger effect on neighborhood cohesion than the other two design options.
 - **Willamette Shore Line Option.** The following components of the Willamette Shore Line Option, when combined, would represent a moderate visual impact in this segment: the addition of two new stations, including retaining walls and fencing; widening and improvements to SW Boundary Street; modifications to an existing carport and parking lot; removal of Jones Trestle; vegetation removal in various locations including in Willamette Park; new pedestrian improvements and crossings. The Willamette Shore Line Option would result in 7 property acquisitions, but no displacement.
 - **Macadam In-Street Option.** The following components of the Macadam In-Street Option, when combined, would represent a moderate visual impact in this segment: retaining walls associated with the new stations, widening of SW Landing Drive, modifications to parking lots along SW Macadam Avenue, reconfiguration of SW Boundary Street, intersection improvements at SW Macadam Avenue and SW Boundary Street, widening of SW Macadam Avenue at SW Carolina Street, reconfiguration of SW Carolina Street, vegetation removal, and new pedestrian improvements and crossings. The Macadam In-Street Option would result in 17 property acquisitions, but no displacements.
 - **Macadam Add Lane Option.** The elements of the Streetcar Alternative that contribute to a moderate visual impact in this segment from the Macadam Add Lane Option are the same as those for the Macadam In-Street Option. The Macadam Add Lane Option would result in 24 property acquisitions and one commercial displacement.
 - **Segment 4.** The Streetcar Alternative would not directly affect neighborhood cohesion in the Collins View neighborhood, the South Burlingame neighborhood, or the northern part of the Dunthorpe/Riverdale area. This is because there would be no changes to established community boundaries, no significant direct land use impacts, and no significant change in the visual environment. Neighborhood cohesion in this area would

remain the same as it is today. There would be no property acquisitions or displacements in Segment 4.

- **Willamette Shore Line Option.** Impacts from the Willamette Shore Line Option are described above, and are equal to those from the New Interchange option.
 - **New Interchange Option.** Impacts from the New Interchange Option are described above, and are equal to those from the Willamette Shore Line option.
- **Segment 5.** The Streetcar Alternative would directly affect neighborhood cohesion in the Dunthorpe/Riverdale area and Birdshill neighborhood within Segment 5. There would be no impacts to community boundaries, no significant direct land use impacts, and no direct impacts to community facilities or urban amenities. However, both design options within this segment would result in a visual change; these are discussed in greater detail below. Additionally, the Riverwood In-Street Option would result in property acquisitions and one displacement.
- **Willamette Shore Line Option.** The following components of the Willamette Shore Line Option, when combined, would represent a moderate visual impact in this segment: new retaining walls and fences associated with the station; new overcrossing at SW Briarwood Road; reconfiguration of several driveways; replacement of trestles, and removal of vegetation.
 - **Riverwood In-Street Option.** In addition to the components listed as contributing to a visual impact for the Willamette Shore Line Option, the Riverwood In-Street Option would include the following: closing the intersection of SW Riverwood Road and SW Riverside Drive; widening SW Riverwood Road with significant regrading; and the removal of buildings and vegetation. These changes would represent a moderate to high visual impact. The Riverwood Option would result in eight property acquisitions and one residential displacement. Because the Foothills Option would include property impacts and a higher visual impact, it would represent a greater degree of change to neighborhood cohesion than the Willamette Shore Line Option.
- **Segment 6.** The Streetcar Alternative would directly affect neighborhood cohesion in the Birdshill, First Addition, and Foothills neighborhoods within Segment 6. There would be no impacts to community boundaries, no significant direct land use impacts, and no direct impacts to community facilities or urban amenities. However, both design options within this segment would result in a visual change and property acquisitions; these are discussed in greater detail below.
- **UPRR Right-of-Way Option.** The following components of the UPRR Right-of-Way Option, when combined, would represent a moderate visual impact in this segment: new retaining walls, a pedestrian and bike connection at SW Fielding Road, a new freight undercrossing, a trestle over Tryon Creek, stations, a stairway connection from SW B Avenue, new surface parking lots and the new parking structure, roadway widening and reconfiguration, Stampher Road at-grade crossing, UPRR track shifted 15 feet west, intersection improvements, parking

and driveway relocation, and vegetation removal. The UPRR Right-of-Way Option would result in 18 property acquisitions, but no displacements.

- **Foothills Option.** In addition to the components listed as contributing to a moderate visual impact for the UPRR Right-of-Way Option, the Foothills Option would include realignment and reconfiguration of SW Foothills Road and building removal. The Foothills Option would result in 26 property acquisitions and seven industrial displacements. Because the Foothills Option would include displacements and more property acquisitions than the UPRR Right-of-Way Option, it would cause a higher degree of change to neighborhood cohesion than the UPRR Right-of-Way Option.
- **Neighborhood Quality of Life.** The Streetcar Alternative would not result in any impacts to air quality or affordable housing units in the LOPT project area. However, there would be noise impacts and parks and recreation impacts in some segments of the project; these would directly affect neighborhood quality of life in some neighborhoods. These impacts are discussed in greater detail below by segment. Additional detail on noise impacts is provided in the *LOPT Environmental Noise and Vibration Technical Report*.
 - **Segment 1.** There would be no noise impacts or impacts to parks and recreational facilities from the Streetcar Alternative in Segment 1. Therefore, the quality of life in the NW District, Pearl District, Old Town/Chinatown, and Downtown neighborhoods would not change as a result of this project.
 - **Segment 2.** There would be no noise impacts or impacts to parks and recreational facilities from the Streetcar Alternative in Segment 2. Therefore, the quality of life in the northern portion of the South Portland neighborhood would not change as a result of this project.
 - **Segment 3.** Noise impacts and parks and recreation impacts from the Streetcar Alternative would differ by design option. These are detailed below.
 - **Willamette Shore Line Option.** The Willamette Shore Line Option would result in moderate noise impacts to eight residences adjacent to the Willamette Shore Line right-of-way in the South Portland neighborhood. This option would require use of 0.7 acres of Willamette Park to install sidewalks and the station at SW Nebraska Avenue, but this would not change the function of Willamette Park within the community, or impact any major features in the park. More information on impacts to Willamette Park is available in the *LOPT Parks and Recreation Technical Report*. Additionally, access to Willamette Park via transit would improve. If the noise impacts are not mitigated, they could represent a moderate impact to the quality of life within portions of the South Portland neighborhood.
 - **Macadam In-Street Option.** The Macadam In-Street Option would not result in any noise impacts. This option would require use of 0.5 acres of Willamette Park to install sidewalks and the station at SW Nebraska Avenue, but this would not change the function of Willamette Park within the community, or impact any major features in the park. Additionally, access to Willamette Park via transit would improve. Therefore, the quality of life in the South Portland neighborhood would not substantially change as a result of this option.

community facility would not be changed; therefore, this option would have minimal effects on the quality of life in the Foothills neighborhood.

- **Foothills Option.** The Foothills option would impact 0.37 acre of the Kincaid Curlicue Corridor. Similar to the UPRR Right-of-Way option, this would not impact the trail function of the corridor, and it would remain in use as a community facility as it does today. Therefore, this option would have minimal effects on the quality of life in the Foothills neighborhood.
- **Neighborhood Mobility.** The Streetcar Alternative would have an effect on neighborhood mobility in all segments of the project area, through the reduction in transit travel times, change in access to transit, change in traffic operations, and change in bicycle and pedestrian facilities. The total travel time in the year 2035 from Portland State University to downtown Lake Oswego using transit would be 38-41 minutes under the Streetcar Alternative. The range in times is due to the design options in Segment 3; this is discussed in further detail below. In comparison, the total travel time for the same trip under the Enhanced Bus Alternative would be 49 minutes in 2035, and it would be 55 minutes under the No-Build Alternative. Further information regarding changes in transit travel times is provided in the *LOPT Transportation Technical Report*. Details of the changes in neighborhood mobility by segment are given below.
 - **Segment 1.** The Streetcar Alternative would improve neighborhood mobility by improving transit travel times in Segment 1. It would not affect traffic operations, access to transit, or bicycle and pedestrian facilities in the NW District, Pearl District, Old Town/Chinatown, or Downtown neighborhoods.
 - **Segment 2.** The Streetcar Alternative would improve neighborhood mobility by improving transit travel times in Segment 2. It would not affect traffic operations, access to transit, or bicycle and pedestrian facilities in the northern part of the South Portland neighborhood.
 - **Segment 3.** The Streetcar Alternative would decrease transit travel times in all three design options within Segment 3. Selection of the Willamette Shore Line Option would result in a trip time from Portland to Lake Oswego that is three minutes shorter than the it would be under either of the Macadam options. However, all three options would result in a substantial decrease in transit time over the No-Build Alternative. The Streetcar Alternative would also result in a decrease in access to transit. There are currently 9 bus stops in each direction along SW Macadam Avenue. Existing stops are located in the following places: SW Macadam Avenue/SW Hamilton Court, SW Macadam Avenue/SW Julia Street, SW Macadam Avenue/SW Boundary Street, SW Macadam Avenue/SW Flower Street, SW Macadam Avenue/SW Pendleton Street, SW Macadam Avenue/SW Nebraska Street, SW Macadam Avenue/SW Florida Street (NB) and SW Macadam Avenue/SW California Street (SB), and SW Macadam Avenue/SW Nebraska Street. Implementation of the Streetcar Alternative, in any option, would reduce the number of stations to 5, at the following locations: SW Hamilton Court, SW Boundary Street, SW Pendleton Street, SW Carolina Street, and SW Nevada Street. Existing and proposed bus stops in Segments 2, 3 and 4 are shown on Figure 5-1. Overall, given that the existing bus stops are closely spaced and that there would still be five stations within this segment, the change in access to transit would not represent a major decrease in neighborhood mobility. The decrease in travel times from the Streetcar Alternative would result in an improvement in neighborhood mobility. The Streetcar Alternative in Segment 3 would

not affect bicycle or pedestrian facilities in the South Portland neighborhood. Impacts from the Streetcar Alternative to traffic operations in this segment differ by design option and are discussed below.

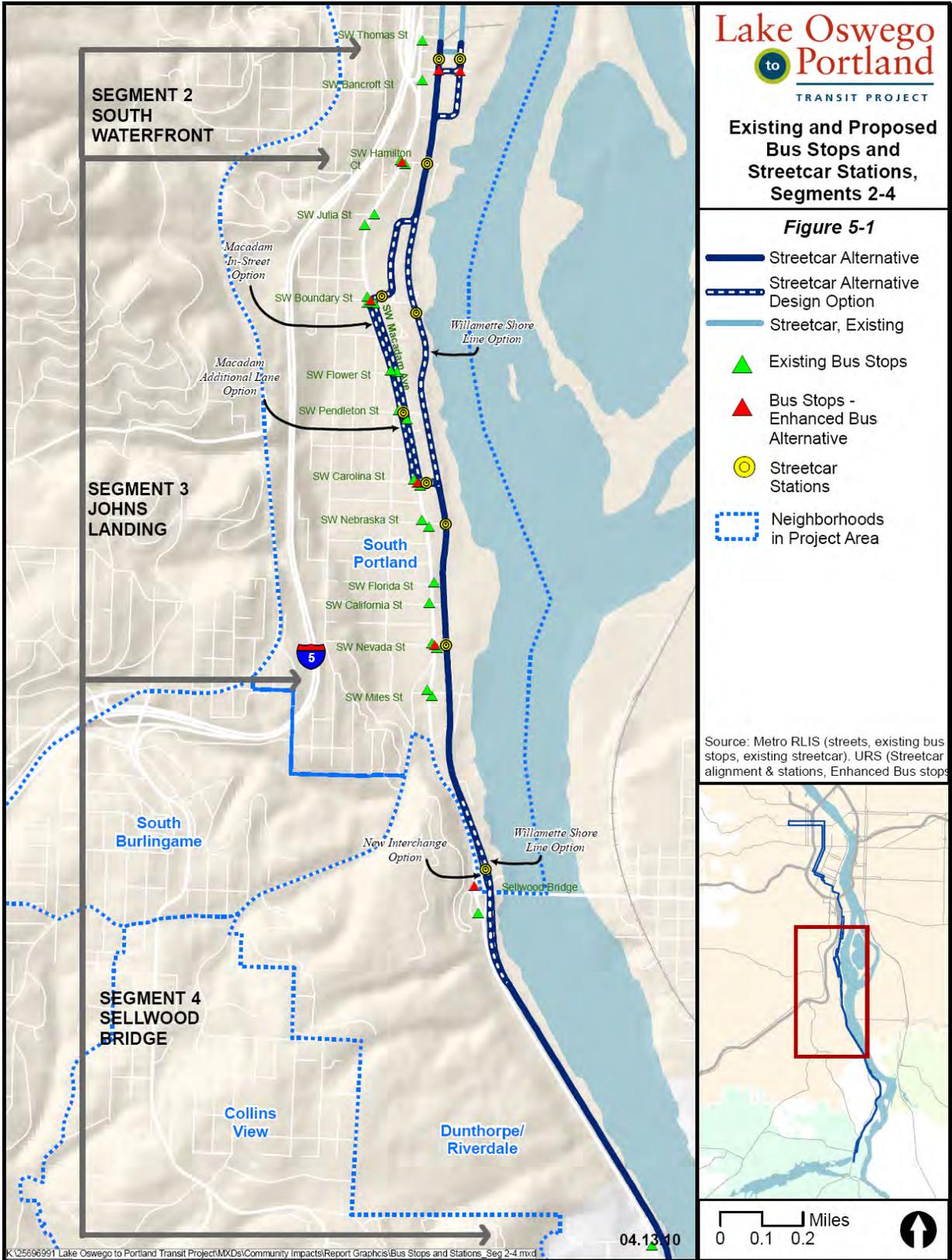


FIGURE 5-1. EXISTING AND PROPOSED BUS STOPS AND STREETCAR STATIONS, SEGMENTS 2-4

- **Willamette Shore Line Option.** The Willamette Shore Line Option would not affect traffic operations in the South Portland neighborhood.
 - **Macadam In-Street Option.** The Macadam In-Street Option would require the installation of a new traffic signal at SW Macadam Avenue and SW Carolina Street. This intersection would not meet performance standards, and therefore would contribute to congestion in the area. The intersection is expected to have a volume to capacity (v/c) ratio of 1.26 in 2035, which is substantially higher than the standard of 0.99. In addition, the Macadam In-Street and Macadam Additional Lane Options would result in the greater likelihood for unauthorized parking⁷ in the South Portland neighborhood, in the neighborhoods to the north of SW Macadam Avenue between SW Boundary Street and SW Nebraska Street, which would result in a decrease in neighborhood mobility. The Macadam In-Street Option would not affect bicycle or pedestrian facilities in the South Portland area. The combination of unauthorized parking and traffic congestion would result in a moderate impact to neighborhood mobility in the South Portland neighborhood.
 - **Macadam Additional Lane Option.** Impacts to traffic operations are the same for the Macadam Additional Lane Option as they are for the Macadam In-Street Option.
- **Segment 4.** The Streetcar Alternative would improve neighborhood mobility by decreasing transit travel times in Segment 4. It would eliminate the bus stop in this segment at SW Macadam Avenue/SW Miles Court, and would reduce the overall number of bus stops in this area from two to one. It would not affect traffic operations or bicycle and pedestrian facilities in the northern part of the Dunthorpe/Riverdale area. Overall, the Streetcar Alternative would result in an improvement to neighborhood mobility in this area. These impacts are the same for both the Willamette Shore Line and the New Interchange design options.
 - **Segment 5.** The Streetcar Alternative would improve neighborhood mobility by decreasing transit travel times in Segment 5. However, it would also reduce access to transit in this segment. There are currently six southbound bus stops and five northbound bus stops in this segment, at the following locations: SW Riverside Drive/SW Radcliffe Court (southbound only), SW Riverside Drive/SW Riverwood Road, SW Riverside Drive/SW Palatine Hill Road, SW Riverside Drive/SW Military Road, and SW Riverside Drive/SW Breyman Avenue. The Streetcar Alternative would provide one station in this area, at SW Riverside Drive, south of the intersection with SW Military Road. Existing and proposed stops and stations are shown on Figure 5-2.
 - **Willamette Shore Line Option.** This option would have no effect on bicycle and pedestrian facilities in the Dunthorpe/Riverdale area.
 - **Riverwood In-Street Option.** The Riverwood In-Street Option would provide improved bicycle and pedestrian facilities along Riverwood Drive; this would improve neighborhood mobility in the Dunthorpe/Riverdale area to a greater extent than the Willamette Shore Line Option.

⁷ Unauthorized parking is what occurs when users of a transit system park on neighborhood streets adjacent to stations, due to lack of available parking spots at the station itself.

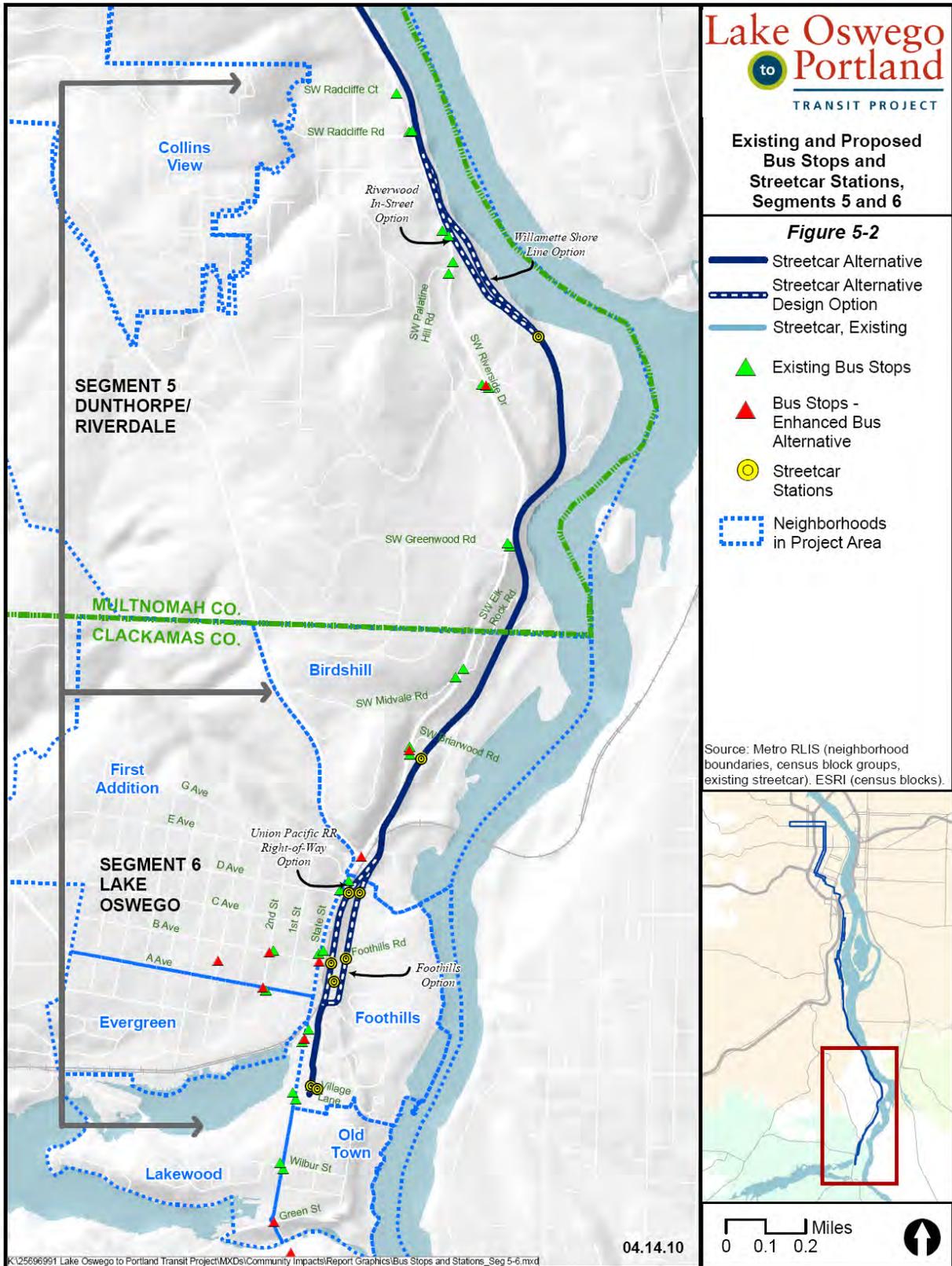


FIGURE 5-2. EXISTING AND PROPOSED BUS STOPS AND STREETCAR STATIONS, SEGMENTS 5 AND 6

- **Segment 6.** The impacts to neighborhood mobility in Segment 6 are the same for both the UPRR Right-of-Way Option and the Foothills Option. The Streetcar Alternative would reduce transit travel times in Segment 6, for both design options. The Streetcar Alternative would result in increased congestion at two intersections as a result of traffic generated from the park-and-ride lot. These intersections are S. State Street/Middlecrest Road/Wilbur Street, and S. State Street/McVey Avenue/Green Street; these intersections are on the border of the Old Town and Lakewood neighborhoods. The S. State Street/Middlecrest Road/Wilbur Street intersection would function at a v/c ratio of 1.32 in 2035; this would be equal to the intersection's performance in the Enhanced Bus Alternative, but slightly worse than in the No-Build Alternative (the intersection would have a v/c ratio of 1.3 in the No-Build Alternative). All three alternatives would result in the intersection functioning above the performance standard of 1.10. The S. State Street/McVey Avenue/Green Street intersection would function at a v/c ratio of 1.17 under the Streetcar Alternative in 2035; this is equal to its performance under the Enhanced Bus Alternative and slightly worse than its performance in the No-Build Alternative (the intersection would have a v/c ratio of 1.15 in the No-Build Alternative). All three alternatives would result in the intersection functioning above the performance standard of 1.10. There are currently five bus stops in each direction along OR 43 in this segment. These are located at SW Riverside Drive/SW Briarwood Road, N. State Street/D Avenue, N. State Street/B Avenue, N. State Street/Foothills Rd, and N. State Street/Village Lane. The Streetcar Alternative would reduce the number of stations in this area to three, at SW Briarwood Road, B Avenue, and the terminus north of Village Lane. The reduction in access to transit would affect the Foothills neighborhood, but not in a substantial way. Riders who currently use the bus stop at S State Street and Foothills Drive would only have to walk an additional 0.1 mile north to reach the terminus Streetcar station. It would also reduce access to transit in the First Addition and Evergreen neighborhoods of this segment by limiting those neighborhoods to two stations, compared to the seven bus stops that they are currently served, through the removal of the transit center at A Avenue and 4th Street. This would require residents of First Addition and Evergreen who live west of 4th Street to either walk further or take a short bus ride to the streetcar station at B Avenue, in order to reach downtown Portland. Both design options of the Streetcar Alternative in this section would include a new bicycle and pedestrian crossing underneath the UPRR rail line at Foothills Road. This would improve neighborhood mobility in the Foothills neighborhood.

5.2.2 Indirect Effects

5.2.2.1 No-Build Alternative

There would be no anticipated indirect effects to neighborhood cohesion, neighborhood quality of life, or neighborhood mobility resulting from the No-Build Alternative.

5.2.2.2 Enhanced Bus Alternative

There would be no anticipated indirect effects to neighborhood cohesion, neighborhood quality of life, or neighborhood mobility resulting from the Enhanced Bus Alternative.

5.2.2.3 Streetcar Alternative

- **Neighborhood Cohesion.** The Streetcar Alternative could result in indirect effects to community cohesion within neighborhoods, primarily related to the potential for redevelopment in Segments 3, 4, and 6 of the LOPT project. These impacts are discussed in further detail below. Further information on indirect land use effects is provided in the *LOPT Land Use and Planning Technical Report*.
 - **Segment 1.** There would be no indirect impacts to neighborhood cohesion from the Streetcar Alternative in Segment 1.
 - **Segment 2.** There could be an increased potential for redevelopment in Segment 2 from the Streetcar Alternative. This is because of the large amount of available developable land in the corridor, and the low ratio of land values to improvement values. The Streetcar Alternative could lead indirectly lead to a significant change in land uses in the southern end of the South Waterfront area, which would lead to a change in neighborhood cohesion.
 - **Segment 3.** There could be an increased potential for redevelopment in Segment 3 from both the Macadam Additional Lane and the Macadam In-Street Options. This is due to the amount of available developable land in the corridor, and the low ratio of land values to improvement values. The Streetcar Alternative could indirectly cause a redevelopment of land uses along SW Macadam Avenue in the South Portland neighborhood, and this would cause a change in neighborhood cohesion. There would likely be more redevelopment under the Macadam In-Street and Macadam Additional Lane Options than under the Willamette Shore Line Option because the locations of the streetcar stations along SW Macadam Avenue are closer to areas of developable land.
 - **Segment 4.** Indirect impacts of the Streetcar Alternative could include encouraging the redevelopment of the commercial properties on the north end of Segment 4. Some of those properties are within two blocks of the Nevada Station, increasing the attractiveness of the property in the same way as described in the discussion of Segment 3 impacts. Existing development on the properties uses less than 25 percent of allowed floor area and has a value less than the value of the land it occupies. These indicate that owners could substantially increase return on investment by redeveloping the properties, making redevelopment more likely.
 - **Segment 5.** There would be no indirect impacts to neighborhood cohesion from the Streetcar Alternative in Segment 5.
 - **Segment 6.** Under both options, the Streetcar Alternatives could likely result in more land development, redevelopment to more intense uses, and redevelopment sooner in the B Avenue and Lake Oswego Transit Station areas than under the No-Build Alternative. There is a large amount of capacity for redevelopment in Segment 6. This redevelopment could indirectly cause a change in neighborhood cohesion in the Foothills neighborhood.
- **Neighborhood Quality of Life.** The Streetcar Alternative would not result in indirect effects to quality of life in any neighborhoods in the LOPT project area.
- **Neighborhood Mobility.** The Streetcar Alternative would not result in indirect effects to mobility in any neighborhoods in the LOPT project area.

5.2.3 Cumulative Effects

Because all of the above analysis is based on the region's adopted land use and development plans and policies and on the transportation projects included in the financially-constrained list of the current Regional Transportation plan (RTP)⁸, there would be no cumulative impacts to communities and neighborhoods.

5.3 Environmental Justice and Other Protected Populations

The U.S. DOT has provided the following definition of Environmental Justice:

The term environmental justice was created by people concerned that everyone within the United States deserves equal protection under the country's laws. Executive Order 12898, issued in 1994, responded to this concern by organizing and explaining in detail the Federal government's commitment to promote environmental justice. Each Federal agency was directed to review its procedures and to make environmental justice part of its mission by identifying and addressing the impacts of all of its programs, policies, and activities on minority populations and low-income populations. The U.S. Department of Transportation (DOT) issued DOT Order to Address Environmental Justice in Minority Populations and Low-Income Populations in 1997. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have been working with their state and local transportation partners to make sure that the principles of environmental justice are integrated into every aspect of their transportation mission.

According to the U.S. DOT, the principals of Environmental Justice are to:

- Ensure the full and fair participation by all potential affected communities in the transportation decision-making process.
- Avoid, mitigate, or minimize disproportionately high and adverse human health and environmental impacts, including social and economic impacts, on minority and low-income populations.
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.”⁹

The Age Discrimination Act of 1975 prohibits discrimination on the basis of age in programs receiving Federal financial assistance. Therefore, this section includes a discussion on whether or not the impacts from each alternative would represent a disproportionate effect on elderly populations. Because there were no significant concentrations of disabled populations found within the corridor, disabled populations are not addressed here.

As discussed in Chapter 4, Affected Environment, the data in Tables 4-1 and 4-2 show that significant concentrations of minority populations, low-income populations, and persons over 65 exist within neighborhoods in the project area. To summarize:

- Low-income persons reside in the Old Town/Chinatown, Downtown Portland, South Portland, South Burlingame, Collins View, and Evergreen neighborhoods. These neighborhoods are within Segments 1, 2, 3, and 6.
- Persons of minority racial/ethnic status reside in the South Portland neighborhood. This is in Segment 3.

⁸ See the Lake Oswego to Portland Transit Project *Draft Environmental Impact Statement*, section 2.2.1.

⁹ <http://www.fhwa.dot.gov/environment/ejustice/case/caseintro.htm>

- Persons over 65 reside in the majority of neighborhoods within this corridor, including Northwest District, Pearl District, Old Town/Chinatown, Downtown Portland, South Burlingame, Dunthorpe/Riverdale, Birds Hill, Foothills, Old Town, and Lakewood. These neighborhoods are within Segments 1, 2, 3, 4, 5, and 6.
- None of the neighborhoods in the project area contain a higher than average percentage of disabled persons.

However, it is important to note that while significant populations of low-income persons, minority persons, and persons over 65 may exist within neighborhoods in the LOPT project area, they may not live within *close proximity* to the LOPT project. Many of the neighborhoods in the project area extend far beyond the LOPT project. Therefore, a secondary population analysis was done, limited to a buffer of one-quarter mile beyond the LOPT project alignments to analyze disproportionate effects from the LOPT project. Because there are no anticipated adverse impacts to neighborhood cohesion, neighborhood quality of life, or neighborhood mobility in Segment 1, the secondary analysis of protected populations was limited to Segments 2 through 6.

This secondary population analysis is presented in Appendix A. The results are as follows:

- A significant concentration of low-income persons within one-quarter mile of the LOPT project is in the South Portland neighborhood within Segment 3. The quarter-mile buffer is shown on Figures 4-1, 4-2, 4-4, 4-5, 4-10, and 4-11.
- Significant concentrations of persons over 65 within one-quarter mile of the LOPT project are in the South Portland, South Burlingame, Birdshill, First Addition, Foothills, Old Town, Evergreen, and Lakewood neighborhoods. These are within Segments 3, 5 and 6.

The low-income population in Evergreen and the minority population in South Portland are not within one-quarter mile of the LOPT project, and therefore would not be expected to experience disproportionate impacts from the project.

5.3.1 Environmental Justice Effects and Effects to Other Protected Populations from the No Build Alternative

The No Build Alternative would not result in any effects to neighborhood cohesion, neighborhood quality of life, neighborhood mobility, or property acquisitions. Therefore, there would be no direct, indirect, or cumulative Environmental Justice effects or effects to other protected populations from the No Build Alternative.

5.3.2 Environmental Justice Effects and Effects to Other Protected Populations from the Enhanced Bus Alternative

- **Neighborhood Cohesion.** The Enhanced Bus Alternative is not expected to result in a change to neighborhood cohesion. Therefore, it would not result in a disproportionate burden to minority or low-income populations or persons over 65.
- **Neighborhood Quality of Life.** The Enhanced Bus Alternative would not result in any adverse effects to neighborhood quality of life. Therefore, it would not result in a disproportionate burden to minority or low income populations or persons over 65.
- **Neighborhood Mobility.** The Enhanced Bus Alternative would improve transit access, therefore providing a benefit to minority and low-income populations throughout the area. However, it would also reduce access to transit in Segment 3, 5, and 6. This would affect low-income persons

living in Segment 3. However, because the stops would still be located within ¼ mile of each other, access to transit would still be considered good, and this would not represent a disproportionate impact.

- **Property Acquisitions and Displacements.** The Enhanced Bus Alternative would result in eight property acquisitions of commercial and multi-family residential properties in Segment 6. However, these are located in an area where there is not a significant concentration of minority or low-income populations, and therefore would not represent a disproportionate impact. However, these acquisitions could represent a disproportionate impact to persons over 65.

5.3.3 Environmental Justice Effects and Effects to Other Protected Populations from the Streetcar Alternative

- **Neighborhood Cohesion.** The Streetcar Alternative could have an effect on neighborhood cohesion in Segments 3, 5, and 6. Consistent with adopted land use plans in the study area, existing land uses in Segment 3 would be expected to change. While there may be impacts to protected populations from these land use changes, these impacts were approved by the community through the adoption of their planning documents, and these changes would not cause disproportionate adverse impacts to minority or low-income residents in the South Portland neighborhood. A change to neighborhood cohesion in Segment 6 could also result from visual changes caused by the Streetcar Alternative in the corridor. However, the visual changes are not likely to disproportionately affect the low-income population in the Evergreen neighborhood, because although that population exists within the neighborhood, it is not immediately adjacent to the proposed improvements. Changes to neighborhood cohesion in Segments 5 and 6 could occur from moderate to high visual changes and could disproportionately affect persons over 65 in those segments. Mitigation for these potential impacts to protected populations would primarily take the form of continued public involvement, to ensure that persons over 65 in the neighborhood have the ability to provide input on the mitigation for visual impacts.
- **Neighborhood Quality of Life.** The Streetcar Alternative would result in an effect to neighborhood quality of life based on the moderate to high noise impacts in Segments 3, 4, and 5.
 - **Segment 3.** The noise impacts in Segment 3 have the potential to disproportionately affect persons over 65 and low-income persons in the South Portland neighborhood. Mitigation for noise impacts is discussed in the *LOPT Environmental Noise and Vibration Technical Report*. These mitigation strategies would be developed in close coordination with the community.
 - **Segment 4.** There are no protected populations in Segment 4. Therefore, the noise impact would not represent a disproportionate impact to low-income or minority residents, or persons over 65.
 - **Segment 5.** Projected noise impacts in Segment 5 could affect residents over 65. However, the noise impacts that have been identified as severe could be mitigated, and would not represent a disproportionate impact if mitigated.
 - **Segment 6.** Noise impacts in Segment 6 would primarily be to commercial and industrial land uses near the alignment. These commercial and industrial land uses include grocery stores and public storage facilities that are not specifically used by persons over 65 more than persons of other ages (in other words, these are not

businesses that target persons over 65.) Therefore, the noise impacts would not be disproportionate to persons over 65.

- **Neighborhood Mobility.** The Streetcar Alternative would provide a benefit to minority and low-income populations throughout the area by decreasing transit travel times and by providing an overall improvement in traffic operations. For example, under the Streetcar Alternative, it would take approximately 38 minutes to travel from Portland State University to Lake Oswego using transit. That same trip would take 49 minutes in the Enhanced Bus Alternative, and 55 minutes under the No-Build Alternative. As discussed above, the small decrease in access to transit from the Streetcar Alternative in Segment 3 is not substantial enough to be considered an impact. However, the decrease in access to transit in Segments 4 and 5 could disproportionately impact persons over 65 in the Dunthorpe/Riverdale area. People who currently use the bus stop at SW Radcliffe Court and SW Riverside Drive in this area would have to walk an additional 0.7 miles south to reach the station at SW Riverwood Road or one mile north to reach the station at the Sellwood Bridge. People who currently use the station at SW Greenwood Road and SW Riverside Drive would have to walk an additional 0.6 miles north to reach the station at SW Riverwood Road, or 0.6 miles south to reach the station at SW Briarwood Road. These distances may be difficult for persons over 65 with limited mobility to traverse.
- **Property Acquisitions and Displacements.** The Streetcar Alternative would result in property acquisitions in Segments 3, 5, and 6.
 - **Segment 3.** The Streetcar Alternative in Segment 3 would result right-of-way acquisition from 7 to 25 properties, depending on the design option selected. However, all except one of these properties are along the east side of SW Macadam Avenue and the low-income population in South Portland is only along the west side of SW Macadam Avenue, so the vast majority of these acquisitions would not impact that population. Therefore, this would not represent a disproportionate burden to low-income people. However, these acquisitions could represent a disproportionate impact to the population of persons over 65 in the South Portland area. This impact would occur to a greater degree in the Macadam Additional Lane Option than in the other two design options.
 - **Segment 5.** The Streetcar Alternative, Riverwood In-Street Option would result in right-of-way acquisition from eight properties in Segment 5. One of these acquisitions would result in a displacement of a residence building. Because this is a singular displacement, it would not constitute a disproportionate impact to residents over 65 in the Dunthorpe/Riverdale area. The remaining 7 acquisitions are small and would not impact the use of the property. Therefore, those 7 acquisitions would not represent a disproportionate impact to residents over 65 in the Dunthorpe/Riverdale area.
 - **Segment 6.** The Streetcar Alternative would result in 21 to 27 property acquisitions in Segment 6, depending on the design option chosen. Seven of the 27 acquisitions in the Foothills Option are considered displacements (five property owners would be displaced). These displacements are to industrial properties that are not specifically used by persons over 65 more than persons of other ages (in other words, these are not businesses that target persons over 65.) Therefore, the displacements would not be disproportionate to persons over 65. The remaining acquisitions would primarily affect commercial, industrial, and institutional properties. These businesses do not

specifically target persons over 65. Therefore, the acquisition of property from these businesses would not disproportionately affect persons over 65.

Table 5-2. Summary of Effects on Neighborhoods by Alternative

Effect on Neighborhoods	No Build Alternative	Enhanced Bus Alternative	Streetcar Alternative
Cohesion			
Change to established community boundaries or landmarks	No Effects	No Effects	No Effects
Impacts to community facilities or urban amenities	No Effects	No Effects	No Effects
Change in land use	No Effects	No Effects	<ul style="list-style-type: none"> - Increased potential for redevelopment in Segment 2 (both options) - Increased potential for redevelopment in Segment 3 (Macadam options only) - Increased potential for redevelopment in the northern end of Segment 4 - Increased potential for redevelopment in Segment 6
Change in visual environment	No Effects	-No moderate or high visual impacts	<ul style="list-style-type: none"> - Moderate visual impact in Segment 3 (all design options) - Moderate visual impact in Segment 5, Willamette Shore Line Option - Moderate-high degree of visual impact in Segment 5, Riverwood Option - Moderate visual impact in Segment 6 (both options)
Quality of Life			
Noise impacts	No Effects	No Effects	<ul style="list-style-type: none"> - Moderate noise impacts in Segment 3 (WSL option only) - Moderate noise impacts in Segment 4 (both options) - Moderate to severe noise impacts in Segment 5 (both options)
Air quality impacts	No Effects	No Effects	No Effects
Impacts to parks and recreational facilities	No Effects	- Improved transit access to parks	<ul style="list-style-type: none"> - Improved transit access to Willamette Park (Segment 3) - Acquisition of 0.5 to 0.7 acre of Willamette Park in Segment 3; but this would not change the function of the park within the community, or impact any major features within the park - Improved pedestrian access to Powers Marine Park (Segment 4) - Acquisition of 0.37-0.54 acre of the Kincaid Curlicue Corridor in Segment 6, but this would not impact the function of the trail
Impacts to affordable housing units	No Effects	No Effects	No Effects
Mobility			
Traffic	<ul style="list-style-type: none"> - Increased VMT - Increased congestion at several intersections 	No Effects	<ul style="list-style-type: none"> - Improvement to traffic operations in Segments 1-5 - Potential for unauthorized parking in Segment 3 (Macadam options only) - Congestion in Segment 6 (both options)
Transit Travel Times	No Effects	- Decrease in transit travel times in all segments	- Decrease in transit travel times in all segments
Access to Transit	No Effects	<ul style="list-style-type: none"> - Decrease in access to transit in Segment 3 - Decrease in access to transit in Segment 5 -Decrease in access to transit in Segment 6 	<ul style="list-style-type: none"> - Small decrease in access to transit in Segments 3 and 4 - Large decrease in access to transit in Segment 5
Change in bicycle and pedestrian facilities	No Effects	- Improved facilities associated with the park-and-ride facility	<ul style="list-style-type: none"> - New bicycle/pedestrian overcrossing in Segment 4 - Improvements to sidewalks and bicycle lanes in Segment 5 (Riverwood In-Street Option only) - New bicycle and pedestrian connection under UPRR rail line in Segment 6 (both options)

Table 5-2. Summary of Effects on Neighborhoods by Alternative

Property Acquisitions/ Displacements			
Residential	None	- 1 residential acquisition in Segment 6	- Maximum 16 acquisitions (assuming Macadam Add-Lane and Riverwood options are chosen) - 1 residential displacement in Segment 5, if Riverwood option is chosen
Commercial	None	- 7 commercial acquisitions in Segment 6	- Maximum 28 acquisitions (assuming Macadam Add-Lane is chosen) - 1 commercial displacement in Segment 3 under Macadam Add-Lane
Public/Institution	None	None	- Maximum 9 acquisitions
Industrial	None	None	- Maximum 7 acquisitions, assuming Foothills option is chosen - 5 displacements in Segment 6 under the Foothills option
Environmental Justice Effects; Effects to Persons Over 65 and Disabled Persons			
Disproportionate impacts to neighborhood cohesion	None	- No disproportionate adverse effects	- No disproportionate adverse effects to minority or low-income populations - Potential disproportionate adverse effect to persons over 65 in Segments 5 and 6 (due to moderate visual impacts)
Disproportionate impacts to neighborhood quality of life	None	- No disproportionate adverse effects	- No disproportionate adverse effects to minority or low-income populations - Potential disproportionate adverse effect to persons over 65 in Segment 3 (due to noise impacts)
Disproportionate impacts to neighborhood mobility	None	- No disproportionate adverse effects	- No disproportionate adverse effects to minority or low-income populations - Decrease in access to transit in Segments 4 and 5 would potentially disproportionately affect persons over 65
Disproportionate numbers of property acquisitions and displacements	None	- Potential disproportionate effect to persons over 65 in Segment 6	- No disproportionate adverse effects to minority or low-income populations - No disproportionate adverse effects to persons over 65

6. POTENTIAL MITIGATION MEASURES

6.1 Neighborhood Cohesion, Quality of Life, and Mobility

Mitigation measures for the community and neighborhood impacts discussed above would include continued public involvement within all of the communities in the LOPT project area. The most prominent impact to communities and neighborhoods is an improvement in neighborhood mobility. This is generally considered a beneficial impact, and would not require mitigation. Mitigation for visual impacts and noise impacts are discussed within the sections of this DEIS that are specific to those disciplines. Each of these mitigation strategies would be discussed with the community throughout the public involvement process in order to ensure that they incorporate concerns of residences and businesses in the project area.

The following mitigation measures would lessen adverse impacts to businesses and residences during construction of the project:

- Inform and update police, fire and emergency service providers of the construction activities that could affect emergency vehicles;
- Provide clear signage and warnings for temporary closures during construction;
- Coordinate with other nearby construction projects so that delays and intense equipment usage periods do not overlap;
- Maintain a route for emergency vehicles at all times; and
- Spray water to control dust during construction.

6.2 Property Acquisitions and Displacements

Direct property acquisition and relocation impacts would be mitigated through financial compensation and technical assistance, regulated in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended (Uniform Relocation Act), and Oregon Revised Statutes.

The Uniform Relocation Act establishes a uniform policy for the fair and equitable treatment of people displaced as a direct result of programs or projects undertaken by a federal agency or with federal financial assistance, such as the LOPT project. The primary purposes of the Uniform Relocation Act are to ensure that people will not suffer disproportionate injuries as a result of programs and projects designed for the benefit of the public as a whole and to minimize the hardship of directly displaced people.

TriMet's policies for implementation of the Uniform Relocation Act are outlined in their publication "Acquisition and Relocation Assistance for Transportation Projects" (the publication can be found at <http://trimet.org/pdfs/publications/acquisition-relocation.pdf>). This also includes federal and state guidance on displacements and programs to assist businesses and residents in relocating, in addition to compensation.

The LOPT project alternatives have been developed to minimize impacts to the extent practicable. The majority of the Streetcar Alternative lies within existing publicly-owned right-of-way. Where displacements are unavoidable, owners of property needed for a TriMet project would be offered "just compensation" for the required property or property interest. "Just compensation" is the estimated value of all the land and improvements within the needed area. If only a part of the

property would be acquired, “just compensation” would also include any measurable loss in value to the remaining property due to the partial acquisition.

For businesses or residents that must be relocated, relocation assistance would be provided. TriMet policy requires that no family or individual occupying any dwelling unit must vacate until finding or being offered comparable replacement housing. All replacement housing that is offered would be fair housing open to all persons regardless of race, color, sex or national origin. Any individual or family displaced by a TriMet project may be eligible to receive a payment for the expenses of moving personal property, with conditions.

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APPENDIX A: POPULATION ANALYSIS

The population data presented in Tables 4-1 and 4-2 are aggregations of block group data from the Census 2000, Summary Files 1 and 3. The methodology to determine demographics at the neighborhood levels was as follows:

- 1) Determine which Census 2000 block groups intersected or were within each neighborhood boundary, as defined by RLIS¹⁰
- 2) Determine the percentage of the block group that lays within the neighborhood boundary
- 3) Multiply the Census 2000 data for each block group by the percentage of the block group that is within the neighborhood boundary
- 4) Total the data obtained in Step 3 for each neighborhood to obtain neighborhood-level data.

Table A-1 below provides the detail of the Census 2000 data and the percentage of each block group within each neighborhood boundary.

¹⁰ The Dunthorpe/Riverdale neighborhood does not have an official neighborhood boundary. In this case, the portions of Census Tract 59, Block Group 2 and Census Tract 60.02, Block Group 1 that are outside of the Collins View neighborhood were used to approximate the neighborhood boundary.

Table A-1: Population, Households, Age, Tenure, and Racial/Ethnic Demographics by Census Block Group and Neighborhood

Neighborhood	Census 2000 Block Group	Pct of Block Group Within Neighborhood	Total Population	Total Households	White Alone	Black Alone	American Indian/Alaska Native Alone	Asian Alone	Two or More Races	Hispanic	Minority	Persons over 65	Renters
NORTHWEST DISTRICT	410050201001	0.14%	2042 <i>2.95</i>	777 <i>1.12</i>	1952 <i>2.82</i>	8 <i>0.01</i>	21 <i>0.03</i>	27 <i>0.04</i>	28 <i>0.04</i>	38 <i>0.05</i>	121 <i>0.17</i>	345 <i>0.50</i>	50 <i>0.07</i>
	410050201002	0.40%	1039 <i>4.19</i>	454 <i>1.83</i>	987 <i>3.98</i>	4 <i>0.02</i>	2 <i>0.01</i>	21 <i>0.08</i>	21 <i>0.08</i>	23 <i>0.09</i>	65 <i>0.26</i>	161 <i>0.65</i>	136 <i>0.55</i>
	410050201003	77.89%	797 <i>620.80</i>	396 <i>308.45</i>	727 <i>566.27</i>	6 <i>4.67</i>	6 <i>4.67</i>	10 <i>7.79</i>	26 <i>20.25</i>	66 <i>51.41</i>	114 <i>88.80</i>	84 <i>65.43</i>	228 <i>177.59</i>
	410050205021	99.96%	1968 <i>1967.23</i>	697 <i>696.73</i>	1848 <i>1847.28</i>	22 <i>21.99</i>	8 <i>8.00</i>	46 <i>45.98</i>	38 <i>37.99</i>	33 <i>32.99</i>	147 <i>146.94</i>	262 <i>261.90</i>	96 <i>95.96</i>
	410050205032	100.00%	1012 <i>1012.00</i>	441 <i>441.00</i>	959 <i>959.00</i>	6 <i>6.00</i>	1 <i>1.00</i>	13 <i>13.00</i>	18 <i>18.00</i>	14 <i>14.00</i>	59 <i>59.00</i>	217 <i>217.00</i>	152 <i>152.00</i>
	410050212001	55.26%	2317 <i>1280.45</i>	1207 <i>667.03</i>	2153 <i>1189.82</i>	16 <i>8.84</i>	16 <i>8.84</i>	34 <i>18.79</i>	63 <i>34.82</i>	82 <i>45.32</i>	199 <i>109.97</i>	1044 <i>576.95</i>	785 <i>433.82</i>
	410050213002	0.02%	2103 <i>0.42</i>	822 <i>0.17</i>	1973 <i>0.40</i>	10 <i>0.00</i>	13 <i>0.00</i>	36 <i>0.01</i>	38 <i>0.01</i>	62 <i>0.01</i>	159 <i>0.03</i>	289 <i>0.06</i>	138 <i>0.03</i>
	410050213003	95.13%	1064 <i>1012.14</i>	419 <i>398.58</i>	964 <i>917.01</i>	5 <i>4.76</i>	12 <i>11.42</i>	15 <i>14.27</i>	39 <i>37.10</i>	74 <i>70.39</i>	139 <i>132.22</i>	74 <i>70.39</i>	125 <i>118.91</i>
	410050217001	100.00%	2313 <i>2313.00</i>	953 <i>953.00</i>	2146 <i>2146.00</i>	6 <i>6.00</i>	8 <i>8.00</i>	54 <i>54.00</i>	62 <i>62.00</i>	77 <i>77.00</i>	196 <i>196.00</i>	470 <i>470.00</i>	200 <i>200.00</i>
	410510001001	99.96%	614 <i>613.77</i>	282 <i>281.89</i>	541 <i>540.80</i>	8 <i>8.00</i>	3 <i>3.00</i>	27 <i>26.99</i>	22 <i>21.99</i>	23 <i>22.99</i>	84 <i>83.97</i>	68 <i>67.97</i>	110 <i>109.96</i>
	410510021001	94.90%	502 <i>476.38</i>	251 <i>238.19</i>	392 <i>371.99</i>	50 <i>47.45</i>	22 <i>20.88</i>	0 <i>0.00</i>	27 <i>25.62</i>	26 <i>24.67</i>	120 <i>113.87</i>	32 <i>30.37</i>	246 <i>233.44</i>
	410510043001	99.97%	1005 <i>1004.74</i>	400 <i>399.90</i>	909 <i>908.76</i>	14 <i>14.00</i>	15 <i>15.00</i>	21 <i>20.99</i>	23 <i>22.99</i>	33 <i>32.99</i>	110 <i>109.97</i>	85 <i>84.98</i>	89 <i>88.98</i>
	410510046011	0.03%	1667 <i>0.53</i>	800 <i>0.25</i>	1581 <i>0.50</i>	7 <i>0.00</i>	1 <i>0.00</i>	48 <i>0.02</i>	23 <i>0.01</i>	14 <i>0.00</i>	94 <i>0.03</i>	269 <i>0.08</i>	143 <i>0.05</i>
	Total within Neighborhood		10,309	4,388	9,455	122	81	202	281	372	1,041	1,846	1,611
	PEARL DISTRICT	410050202001	0.81%	2791 <i>22.57</i>	1361 <i>11.01</i>	2589 <i>20.94</i>	13 <i>0.11</i>	7 <i>0.06</i>	119 <i>0.96</i>	48 <i>0.39</i>	42 <i>0.34</i>	231 <i>1.87</i>	405 <i>3.28</i>
410050202004		71.69%	791 <i>567.11</i>	368 <i>263.84</i>	750 <i>537.71</i>	2 <i>1.43</i>	5 <i>3.58</i>	12 <i>8.60</i>	17 <i>12.19</i>	16 <i>11.47</i>	47 <i>33.70</i>	120 <i>86.03</i>	120 <i>86.03</i>

Table A-1: Population, Households, Age, Tenure, and Racial/Ethnic Demographics by Census Block Group and Neighborhood

Neighborhood	Census 2000 Block Group	Pct of Block Group Within Neighborhood	Total Population	Total Households	White Alone	Black Alone	American Indian/ Alaska Native Alone	Asian Alone	Two or More Races	Hispanic	Minority	Persons over 65	Renters
	410050212001	44.71%	2317	1207	2153	16	16	34	63	82	199	1044	785
			<i>1035.87</i>	<i>539.62</i>	<i>962.55</i>	<i>7.15</i>	<i>7.15</i>	<i>15.20</i>	<i>28.17</i>	<i>36.66</i>	<i>88.97</i>	<i>466.74</i>	<i>350.95</i>
	410510022021	36.67%	207	118	125	50	6	8	6	21	92	6	109
			<i>75.90</i>	<i>43.27</i>	<i>45.83</i>	<i>18.33</i>	<i>2.20</i>	<i>2.93</i>	<i>2.20</i>	<i>7.70</i>	<i>33.73</i>	<i>2.20</i>	<i>39.97</i>
	410510046012	0.01%	1313	697	1229	5	4	44	23	35	109	224	295
		<i>0.09</i>	<i>0.05</i>	<i>0.08</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.02</i>	<i>0.02</i>
410510046021	0.01%	940	436	894	3	2	22	15	19	59	129	114	
		<i>0.13</i>	<i>0.06</i>	<i>0.12</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.02</i>	<i>0.02</i>
Total within Neighborhood			1,702	858	1,567	27	13	28	43	56	158	558	482
OLD TOWN/ CHINATOWN	410050202001	0.14%	2791	1361	2589	13	7	119	48	42	231	405	660
			<i>3.87</i>	<i>1.89</i>	<i>3.59</i>	<i>0.02</i>	<i>0.01</i>	<i>0.17</i>	<i>0.07</i>	<i>0.06</i>	<i>0.32</i>	<i>0.56</i>	<i>0.92</i>
	410050202004	27.82%	791	368	750	2	5	12	17	16	47	120	120
			<i>220.06</i>	<i>102.38</i>	<i>208.65</i>	<i>0.56</i>	<i>1.39</i>	<i>3.34</i>	<i>4.73</i>	<i>4.45</i>	<i>13.08</i>	<i>33.38</i>	<i>33.38</i>
	410510011021	1.42%	1352	676	1149	15	17	115	42	49	234	116	404
			<i>19.25</i>	<i>9.62</i>	<i>16.36</i>	<i>0.21</i>	<i>0.24</i>	<i>1.64</i>	<i>0.60</i>	<i>0.70</i>	<i>3.33</i>	<i>1.65</i>	<i>5.75</i>
410510022021	63.04%	207	118	125	50	6	8	6	21	92	6	109	
		<i>130.49</i>	<i>74.38</i>	<i>78.80</i>	<i>31.52</i>	<i>3.78</i>	<i>5.04</i>	<i>3.78</i>	<i>13.24</i>	<i>57.99</i>	<i>3.78</i>	<i>68.71</i>	
410510046022	24.87%	924	385	890	4	2	13	10	13	43	131	29	
		<i>229.83</i>	<i>95.76</i>	<i>221.38</i>	<i>0.99</i>	<i>0.50</i>	<i>3.23</i>	<i>2.49</i>	<i>3.23</i>	<i>10.70</i>	<i>32.58</i>	<i>7.21</i>	
Total within Neighborhood			603	284	529	33	6	13	12	22	85	72	116
DOWNTOWN	410050212001	0.03%	2317	1207	2153	16	16	34	63	82	199	1044	785
			<i>0.63</i>	<i>0.33</i>	<i>0.59</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.02</i>	<i>0.02</i>	<i>0.05</i>	<i>0.29</i>	<i>0.21</i>
	410510022021	0.06%	207	118	125	50	6	8	6	21	92	6	109
			<i>0.12</i>	<i>0.07</i>	<i>0.07</i>	<i>0.03</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.05</i>	<i>0.00</i>	<i>0.06</i>
	410510046012	30.17%	1313	697	1229	5	4	44	23	35	109	224	295
			<i>396.10</i>	<i>210.27</i>	<i>370.76</i>	<i>1.51</i>	<i>1.21</i>	<i>13.27</i>	<i>6.94</i>	<i>10.56</i>	<i>32.88</i>	<i>67.57</i>	<i>88.99</i>
	410510046021	99.99%	940	436	894	3	2	22	15	19	59	129	114
		<i>939.87</i>	<i>435.94</i>	<i>893.88</i>	<i>3.00</i>	<i>2.00</i>	<i>22.00</i>	<i>15.00</i>	<i>19.00</i>	<i>58.99</i>	<i>128.98</i>	<i>113.98</i>	
410510046022	67.03%	924	385	890	4	2	13	10	13	43	131	29	
		<i>619.32</i>	<i>258.05</i>	<i>596.53</i>	<i>2.68</i>	<i>1.34</i>	<i>8.71</i>	<i>6.70</i>	<i>8.71</i>	<i>28.82</i>	<i>87.80</i>	<i>19.44</i>	
410510047003	100.00%	1154	774	1014	35	15	40	35	47	170	39	735	

Table A-1: Population, Households, Age, Tenure, and Racial/Ethnic Demographics by Census Block Group and Neighborhood

Neighborhood	Census 2000 Block Group	Pct of Block Group Within Neighborhood	Total Population	Total Households	White Alone	Black Alone	American Indian/Alaska Native Alone	Asian Alone	Two or More Races	Hispanic	Minority	Persons over 65	Renters
			<i>1154.00</i>	<i>774.00</i>	<i>1014.00</i>	<i>35.00</i>	<i>15.00</i>	<i>40.00</i>	<i>35.00</i>	<i>47.00</i>	<i>170.00</i>	<i>39.00</i>	<i>735.00</i>
	410510048001	17.16%	1169	803	1013	28	26	55	36	28	173	71	676
			<i>200.58</i>	<i>137.78</i>	<i>173.81</i>	<i>4.80</i>	<i>4.46</i>	<i>9.44</i>	<i>6.18</i>	<i>4.80</i>	<i>29.68</i>	<i>12.18</i>	<i>115.99</i>
	410510048002	100.00%	1553	1211	1356	34	11	68	39	81	227	147	1140
			<i>1553.00</i>	<i>1211.00</i>	<i>1356.00</i>	<i>34.00</i>	<i>11.00</i>	<i>68.00</i>	<i>39.00</i>	<i>81.00</i>	<i>227.00</i>	<i>147.00</i>	<i>1140.00</i>
	410510049001	100.00%	1071	731	947	22	18	35	26	67	155	267	694
			<i>1071.00</i>	<i>731.00</i>	<i>947.00</i>	<i>22.00</i>	<i>18.00</i>	<i>35.00</i>	<i>26.00</i>	<i>67.00</i>	<i>155.00</i>	<i>267.00</i>	<i>694.00</i>
	410510049002	50.15%	1967	1425	1677	96	31	60	60	102	339	101	1367
			<i>986.43</i>	<i>714.62</i>	<i>841.00</i>	<i>48.14</i>	<i>15.55</i>	<i>30.09</i>	<i>30.09</i>	<i>51.15</i>	<i>170.00</i>	<i>50.65</i>	<i>685.53</i>
	410510050001	100.00%	690	495	607	14	3	28	26	24	96	16	385
			<i>690.00</i>	<i>495.00</i>	<i>607.00</i>	<i>14.00</i>	<i>3.00</i>	<i>28.00</i>	<i>26.00</i>	<i>24.00</i>	<i>96.00</i>	<i>16.00</i>	<i>385.00</i>
	410510051001	0.03%	1549	1023	1314	72	26	52	49	82	276	48	829
			<i>0.44</i>	<i>0.29</i>	<i>0.38</i>	<i>0.02</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.02</i>	<i>0.08</i>	<i>0.01</i>	<i>0.24</i>
	410510051002	1.78%	2063	870	1560	210	92	43	90	139	562	119	762
			<i>36.72</i>	<i>15.48</i>	<i>27.76</i>	<i>3.74</i>	<i>1.64</i>	<i>0.77</i>	<i>1.60</i>	<i>2.47</i>	<i>10.00</i>	<i>2.12</i>	<i>13.56</i>
	410510052001	0.29%	1636	1209	1305	114	37	74	56	114	373	163	1203
			<i>4.79</i>	<i>3.54</i>	<i>3.82</i>	<i>0.33</i>		<i>0.22</i>	<i>0.16</i>	<i>0.33</i>	<i>1.09</i>	<i>0.48</i>	<i>3.53</i>
Total within Neighborhood			7,653	4,987	6,833	169	73	256	193	316	980	819	3,996
	410510049002	48.09%	1967	1425	1677	96	31	60	60	102	339	101	1367
			<i>945.85</i>	<i>685.23</i>	<i>806.40</i>	<i>46.16</i>	<i>14.91</i>	<i>28.85</i>	<i>28.85</i>	<i>49.05</i>	<i>163.01</i>	<i>48.57</i>	<i>657.34</i>
	410510051001	0.10%	1549	1023	1314	72	26	52	49	82	276	48	829
			<i>1.56</i>	<i>1.03</i>	<i>1.32</i>	<i>0.07</i>	<i>0.03</i>	<i>0.05</i>	<i>0.05</i>	<i>0.08</i>	<i>0.28</i>	<i>0.05</i>	<i>0.83</i>
	410510051002	3.46%	2063	870	1560	210	92	43	90	139	562	119	762
			<i>71.32</i>	<i>30.07</i>	<i>53.93</i>	<i>7.26</i>	<i>3.18</i>	<i>1.49</i>	<i>3.11</i>	<i>4.81</i>	<i>19.43</i>	<i>4.11</i>	<i>26.34</i>
SOUTH PORTLAND	410510052001	3.31%	1636	1209	1305	114	37	74	56	114	373	163	1203
			<i>54.07</i>	<i>39.96</i>	<i>43.13</i>	<i>3.77</i>	<i>1.22</i>	<i>2.45</i>	<i>1.85</i>	<i>3.77</i>	<i>12.33</i>	<i>5.39</i>	<i>39.76</i>
	410510052002	12.96%	2242	1646	1974	62	15	108	54	98	332	376	1484
			<i>290.63</i>	<i>213.37</i>	<i>255.89</i>	<i>8.04</i>	<i>1.94</i>	<i>14.00</i>	<i>7.00</i>	<i>12.70</i>	<i>43.04</i>	<i>48.74</i>	<i>192.37</i>
	410510053001	0.27%	685	538	511	83	15	22	29	47	193	44	537
			<i>1.88</i>	<i>1.47</i>	<i>1.40</i>	<i>0.23</i>	<i>0.04</i>	<i>0.06</i>	<i>0.08</i>	<i>0.13</i>	<i>0.53</i>	<i>0.12</i>	<i>1.47</i>
	410510053002	89.75%	1349	868	1054	88	11	99	63	62	319	294	837

Table A-1: Population, Households, Age, Tenure, and Racial/Ethnic Demographics by Census Block Group and Neighborhood

Neighborhood	Census 2000 Block Group	Pct of Block Group Within Neighborhood	Total Population	Total Households	White Alone	Black Alone	American Indian/Alaska Native Alone	Asian Alone	Two or More Races	Hispanic	Minority	Persons over 65	Renters
			<i>1210.71</i>	<i>779.02</i>	<i>945.95</i>	<i>78.98</i>	<i>9.87</i>	<i>88.85</i>	<i>56.54</i>	<i>55.64</i>	<i>286.30</i>	<i>263.86</i>	<i>751.20</i>
	410510053002	0.08%	1349	868	1054	88	11	99	63	62	319	294	837
			<i>1.04</i>	<i>0.67</i>	<i>0.82</i>	<i>0.07</i>	<i>0.01</i>	<i>0.08</i>	<i>0.05</i>	<i>0.05</i>	<i>0.25</i>	<i>0.23</i>	<i>0.65</i>
	410510055001	99.33%	2080	1380	1674	67	32	169	99	114	462	97	1210
			<i>2066.06</i>	<i>1370.75</i>	<i>1662.78</i>	<i>66.55</i>	<i>31.79</i>	<i>167.87</i>	<i>98.34</i>	<i>113.24</i>	<i>458.90</i>	<i>96.35</i>	<i>1201.89</i>
	410510056002	100.00%	1178	719	827	30	14	223	67	57	386	99	712
			<i>1178.00</i>	<i>719.00</i>	<i>827.00</i>	<i>30.00</i>	<i>14.00</i>	<i>223.00</i>	<i>67.00</i>	<i>57.00</i>	<i>386.00</i>	<i>99.00</i>	<i>712.00</i>
	410510056003	8.61%	974	476	628	42	4	203	60	63	376	23	473
			<i>83.85</i>	<i>40.98</i>	<i>54.07</i>	<i>3.62</i>	<i>0.34</i>	<i>17.48</i>	<i>5.17</i>	<i>5.42</i>	<i>32.37</i>	<i>1.98</i>	<i>40.72</i>
	410510058001	99.86%	832	431	761	8	3	36	16	22	82	119	175
			<i>830.87</i>	<i>430.41</i>	<i>759.97</i>	<i>7.99</i>	<i>3.00</i>	<i>35.95</i>	<i>15.98</i>	<i>21.97</i>	<i>81.89</i>	<i>118.84</i>	<i>174.76</i>
	410510058001	0.03%	832	431	761	8	3	36	16	22	82	119	175
			<i>0.22</i>	<i>0.11</i>	<i>0.20</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.00</i>	<i>0.01</i>	<i>0.02</i>	<i>0.03</i>	<i>0.05</i>
	410510058003	22.15%	638	353	544	2	2	67	16	23	111	30	297
			<i>141.32</i>	<i>78.19</i>	<i>120.50</i>	<i>0.44</i>	<i>0.44</i>	<i>14.84</i>	<i>3.54</i>	<i>5.09</i>	<i>24.59</i>	<i>6.65</i>	<i>65.79</i>
	410510059002	0.00%	855	491	791	3	2	23	29	19	76	75	256
			<i>0.03</i>	<i>0.02</i>	<i>0.03</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>
	410510059002	0.00%	855	491	791	3	2	23	29	19	76	75	256
			<i>0.03</i>	<i>0.02</i>	<i>0.03</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>
Total within Neighborhood			6,877	4,390	5,533	253	81	595	288	329	1,509	694	3,865
	410510056003	15.78%	974	476	628	42	4	203	60	63	376	23	473
			<i>153.70</i>	<i>75.12</i>	<i>99.10</i>	<i>6.63</i>	<i>0.63</i>	<i>32.03</i>	<i>9.47</i>	<i>9.94</i>	<i>59.34</i>	<i>3.63</i>	<i>74.64</i>
	410510057001	1.13%	2408	1684	2068	45	15	175	80	67	381	498	1276
			<i>27.16</i>	<i>19.00</i>	<i>23.33</i>	<i>0.51</i>	<i>0.17</i>	<i>1.97</i>	<i>0.90</i>	<i>0.76</i>	<i>4.30</i>	<i>5.62</i>	<i>14.39</i>
	410510058002	1.68%	1281	728	1093	12	7	116	41	29	200	332	441
			<i>21.50</i>	<i>12.22</i>	<i>18.35</i>	<i>0.20</i>	<i>0.12</i>	<i>1.95</i>	<i>0.69</i>	<i>0.49</i>	<i>3.36</i>	<i>5.57</i>	<i>7.40</i>
SOUTH BURLINGAME	410510058003	77.72%	638	353	544	2	2	67	16	23	111	30	297
			<i>495.87</i>	<i>274.36</i>	<i>422.81</i>	<i>1.55</i>	<i>1.55</i>	<i>52.07</i>	<i>12.44</i>	<i>17.88</i>	<i>86.27</i>	<i>23.32</i>	<i>230.84</i>
	410510058003	0.07%	638	353	544	2	2	67	16	23	111	30	297
			<i>0.42</i>	<i>0.23</i>	<i>0.36</i>	<i>0.00</i>	<i>0.00</i>	<i>0.04</i>	<i>0.01</i>	<i>0.02</i>	<i>0.07</i>	<i>0.02</i>	<i>0.19</i>
	410510059001	99.38%	1120	679	1029	17	5	41	21	28	108	176	326

Table A-1: Population, Households, Age, Tenure, and Racial/Ethnic Demographics by Census Block Group and Neighborhood

Neighborhood	Census 2000 Block Group	Pct of Block Group Within Neighborhood	Total Population	Total Households	White Alone	Black Alone	American Indian/Alaska Native Alone	Asian Alone	Two or More Races	Hispanic	Minority	Persons over 65	Renters
			<i>1113.10</i>	<i>674.81</i>	<i>1022.66</i>	<i>16.90</i>	<i>4.97</i>	<i>40.75</i>	<i>20.87</i>	<i>27.83</i>	<i>107.33</i>	<i>174.91</i>	<i>323.99</i>
	410510059003	0.40%	714	404	642	11	0	25	31	14	81	67	199
			<i>2.87</i>	<i>1.62</i>	<i>2.58</i>	<i>0.04</i>	<i>0.00</i>	<i>0.10</i>	<i>0.12</i>	<i>0.06</i>	<i>0.33</i>	<i>0.27</i>	<i>0.80</i>
	410510059004	1.16%	1188	680	969	51	11	75	48	89	266	44	531
			<i>13.83</i>	<i>7.92</i>	<i>11.28</i>	<i>0.59</i>	<i>0.13</i>	<i>0.87</i>	<i>0.56</i>	<i>1.04</i>	<i>3.10</i>	<i>0.51</i>	<i>6.18</i>
	410510060011	0.01%	754	428	684	16	5	26	14	31	91	54	219
			<i>0.09</i>	<i>0.05</i>	<i>0.08</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.03</i>
Total within Neighborhood			1,829	1,065	1,601	26	8	130	45	58	264	214	658
	410510058003	0.00%	638	353	544	2	2	67	16	23	111	30	297
			<i>0.03</i>	<i>0.01</i>	<i>0.02</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>
	410510059002	23.15%	855	491	791	3	2	23	29	19	76	75	256
			<i>197.93</i>	<i>113.67</i>	<i>183.11</i>	<i>0.69</i>	<i>0.46</i>	<i>5.32</i>	<i>6.71</i>	<i>4.40</i>	<i>17.59</i>	<i>17.36</i>	<i>59.26</i>
	410510059002	0.14%	855	491	791	3	2	23	29	19	76	75	256
			<i>1.23</i>	<i>0.71</i>	<i>1.14</i>	<i>0.00</i>	<i>0.00</i>	<i>0.03</i>	<i>0.04</i>	<i>0.03</i>	<i>0.11</i>	<i>0.11</i>	<i>0.37</i>
	410510060011	55.39%	754	428	684	16	5	26	14	31	91	54	219
			<i>417.63</i>	<i>237.06</i>	<i>378.86</i>	<i>8.86</i>	<i>2.77</i>	<i>14.40</i>	<i>7.75</i>	<i>17.17</i>	<i>50.40</i>	<i>29.91</i>	<i>121.30</i>
COLLINS VIEW	410510060012	0.44%	610	272	578	1	0	21	10	7	39	94	45
			<i>2.67</i>	<i>1.19</i>	<i>2.53</i>	<i>0.00</i>	<i>0.00</i>	<i>0.09</i>	<i>0.04</i>	<i>0.03</i>	<i>0.17</i>	<i>0.41</i>	<i>0.20</i>
	410510060021	18.80%	526	269	467	6	2	21	17	29	65	77	93
			<i>98.86</i>	<i>50.56</i>	<i>87.77</i>	<i>1.13</i>	<i>0.38</i>	<i>3.95</i>	<i>3.20</i>	<i>5.45</i>	<i>12.22</i>	<i>14.47</i>	<i>17.48</i>
	410510060021	0.21%	526	269	467	6	2	21	17	29	65	77	93
			<i>1.12</i>	<i>0.57</i>	<i>1.00</i>	<i>0.01</i>	<i>0.00</i>	<i>0.04</i>	<i>0.04</i>	<i>0.06</i>	<i>0.14</i>	<i>0.16</i>	<i>0.20</i>
	410510060022	0.46%	1404	628	1284	7	2	64	43	30	145	251	145
			<i>6.41</i>	<i>2.87</i>	<i>5.86</i>	<i>0.03</i>	<i>0.01</i>	<i>0.29</i>	<i>0.20</i>	<i>0.14</i>	<i>0.66</i>	<i>1.15</i>	<i>0.66</i>
Total within Neighborhood			726	407	660	11	4	24	18	27	81	64	199
	410510053002	0.08%	1349	868	1054	88	11	99	63	62	319	294	837
			<i>1.13</i>	<i>0.73</i>	<i>0.88</i>	<i>0.07</i>	<i>0.01</i>	<i>0.08</i>	<i>0.05</i>	<i>0.05</i>	<i>0.27</i>	<i>0.25</i>	<i>0.70</i>
DUNTHORPE/RIVERDALE [UNINCORPORATED MULTNOMAH COUNTY]	410510053002	0.08%	1349	868	1054	88	11	99	63	62	319	294	837
			<i>1.04</i>	<i>0.67</i>	<i>0.82</i>	<i>0.07</i>	<i>0.01</i>	<i>0.08</i>	<i>0.05</i>	<i>0.05</i>	<i>0.25</i>	<i>0.23</i>	<i>0.65</i>
	410510058001	0.04%	832	431	761	8	3	36	16	22	82	119	175
			<i>0.30</i>	<i>0.15</i>	<i>0.27</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.03</i>	<i>0.04</i>	<i>0.06</i>

Table A-1: Population, Households, Age, Tenure, and Racial/Ethnic Demographics by Census Block Group and Neighborhood

Neighborhood	Census 2000 Block Group	Pct of Block Group Within Neighborhood	Total Population	Total Households	White Alone	Black Alone	American Indian/Alaska Native Alone	Asian Alone	Two or More Races	Hispanic	Minority	Persons over 65	Renters
	410510058001	0.03%	832	431	761	8	3	36	16	22	82	119	175
			<i>0.22</i>	<i>0.11</i>	<i>0.20</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.00</i>	<i>0.01</i>	<i>0.02</i>	<i>0.03</i>	<i>0.05</i>
	410510058003	0.01%	638	353	544	2	2	67	16	23	111	30	297
			<i>0.04</i>	<i>0.02</i>	<i>0.03</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.00</i>	<i>0.02</i>
	410510058003	0.07%	638	353	544	2	2	67	16	23	111	30	297
			<i>0.42</i>	<i>0.23</i>	<i>0.36</i>	<i>0.00</i>	<i>0.00</i>	<i>0.04</i>	<i>0.01</i>	<i>0.02</i>	<i>0.07</i>	<i>0.02</i>	<i>0.19</i>
	410510059002	75.46%	855	491	791	3	2	23	29	19	76	75	256
			<i>645.16</i>	<i>370.49</i>	<i>596.86</i>	<i>2.26</i>	<i>1.51</i>	<i>17.36</i>	<i>21.88</i>	<i>14.34</i>	<i>57.35</i>	<i>56.59</i>	<i>193.17</i>
	410510059002	0.14%	855	491	791	3	2	23	29	19	76	75	256
			<i>1.23</i>	<i>0.71</i>	<i>1.14</i>	<i>0.00</i>	<i>0.00</i>	<i>0.03</i>	<i>0.04</i>	<i>0.03</i>	<i>0.11</i>	<i>0.11</i>	<i>0.37</i>
	410510059002	0.01%	855	491	791	3	2	23	29	19	76	75	256
			<i>0.12</i>	<i>0.07</i>	<i>0.11</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.04</i>
	410510060021	80.20%	526	269	467	6	2	21	17	29	65	77	93
			<i>421.83</i>	<i>215.73</i>	<i>374.51</i>	<i>4.81</i>	<i>1.60</i>	<i>16.84</i>	<i>13.63</i>	<i>23.26</i>	<i>52.13</i>	<i>61.75</i>	<i>74.58</i>
	410510060021	0.21%	526	269	467	6	2	21	17	29	65	77	93
			<i>1.12</i>	<i>0.57</i>	<i>1.00</i>	<i>0.01</i>	<i>0.00</i>	<i>0.04</i>	<i>0.04</i>	<i>0.06</i>	<i>0.14</i>	<i>0.16</i>	<i>0.20</i>
	410510060021	0.02%	526	269	467	6	2	21	17	29	65	77	93
			<i>0.12</i>	<i>0.06</i>	<i>0.10</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.02</i>	<i>0.02</i>
	410510060022	0.22%	1404	628	1284	7	2	64	43	30	145	251	145
			<i>3.10</i>	<i>1.38</i>	<i>2.83</i>	<i>0.02</i>	<i>0.00</i>	<i>0.14</i>	<i>0.09</i>	<i>0.07</i>	<i>0.32</i>	<i>0.55</i>	<i>0.32</i>
	410510062001	0.16%	913	425	863	5	3	18	18	17	61	122	65
			<i>1.50</i>	<i>0.70</i>	<i>1.42</i>	<i>0.01</i>	<i>0.00</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.10</i>	<i>0.20</i>	<i>0.11</i>
	410510062002	0.14%	813	372	736	6	10	31	27	17	86	104	46
			<i>1.11</i>	<i>0.51</i>	<i>1.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.04</i>	<i>0.04</i>	<i>0.02</i>	<i>0.12</i>	<i>0.14</i>	<i>0.06</i>
Total within Neighborhood			1,078	592	982	7	3	35	36	38	111	120	271
	410510059002	0.01%	855	491	791	3	2	23	29	19	76	75	256
			<i>0.12</i>	<i>0.07</i>	<i>0.11</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.04</i>
BIRDSHILL	410510060021	0.02%	526	269	467	6	2	21	17	29	65	77	93
			<i>0.12</i>	<i>0.06</i>	<i>0.10</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.02</i>	<i>0.02</i>
	410510062001	0.29%	913	425	863	5	3	18	18	17	61	122	65
			<i>2.63</i>	<i>1.22</i>	<i>2.48</i>	<i>0.01</i>	<i>0.01</i>	<i>0.05</i>	<i>0.05</i>	<i>0.05</i>	<i>0.18</i>	<i>0.35</i>	<i>0.19</i>

Table A-1: Population, Households, Age, Tenure, and Racial/Ethnic Demographics by Census Block Group and Neighborhood

Neighborhood	Census 2000 Block Group	Pct of Block Group Within Neighborhood	Total Population	Total Households	White Alone	Black Alone	American Indian/Alaska Native Alone	Asian Alone	Two or More Races	Hispanic	Minority	Persons over 65	Renters
	410510062002	27.46%	813	372	736	6	10	31	27	17	86	104	46
			<i>223.22</i>	<i>102.14</i>	<i>202.08</i>	<i>1.65</i>	<i>2.75</i>	<i>8.51</i>	<i>7.41</i>	<i>4.67</i>	<i>23.61</i>	<i>28.55</i>	<i>12.63</i>
	410510062002	0.14%	813	372	736	6	10	31	27	17	86	104	46
			<i>1.11</i>	<i>0.51</i>	<i>1.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.04</i>	<i>0.04</i>	<i>0.02</i>	<i>0.12</i>	<i>0.14</i>	<i>0.06</i>
	410510062003	0.07%	947	412	854	13	7	23	30	22	100	99	115
		<i>0.71</i>	<i>0.31</i>	<i>0.64</i>	<i>0.01</i>	<i>0.01</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.07</i>	<i>0.07</i>	<i>0.09</i>	
410510063003	0.21%	1183	513	1075	1	4	48	40	44	136	85	128	
		<i>2.54</i>	<i>1.10</i>	<i>2.31</i>	<i>0.00</i>	<i>0.01</i>	<i>0.10</i>	<i>0.09</i>	<i>0.09</i>	<i>0.29</i>	<i>0.18</i>	<i>0.27</i>	
410510064021	0.10%	2922	1102	2686	17	4	113	80	55	261	336	107	
		<i>3.05</i>	<i>1.15</i>	<i>2.80</i>	<i>0.02</i>	<i>0.00</i>	<i>0.12</i>	<i>0.08</i>	<i>0.06</i>	<i>0.27</i>	<i>0.35</i>	<i>0.11</i>	
Total within Neighborhood			233	107	212	2	3	9	8	5	25	30	13
FIRST ADDITION	410510062002	10.90%	813	372	736	6	10	31	27	17	86	104	46
			<i>88.62</i>	<i>40.55</i>	<i>80.22</i>	<i>0.65</i>	<i>1.09</i>	<i>3.38</i>	<i>2.94</i>	<i>1.85</i>	<i>9.37</i>	<i>11.34</i>	<i>5.01</i>
	410510062003	87.82%	947	412	854	13	7	23	30	22	100	99	115
			<i>831.68</i>	<i>361.83</i>	<i>750.00</i>	<i>11.42</i>	<i>6.15</i>	<i>20.20</i>	<i>26.35</i>	<i>19.32</i>	<i>87.82</i>	<i>86.94</i>	<i>101.00</i>
	410510063001	99.98%	2083	600	1884	33	10	68	65	38	221	192	102
		<i>2082.66</i>	<i>599.90</i>	<i>1883.69</i>	<i>32.99</i>	<i>10.00</i>	<i>67.99</i>	<i>64.99</i>	<i>37.99</i>	<i>220.96</i>	<i>191.97</i>	<i>101.98</i>	
410510063003	0.37%	1183	513	1075	1	4	48	40	44	136	85	128	
		<i>4.42</i>	<i>1.92</i>	<i>4.02</i>	<i>0.00</i>	<i>0.01</i>	<i>0.18</i>	<i>0.15</i>	<i>0.16</i>	<i>0.51</i>	<i>0.32</i>	<i>0.48</i>	
Total within Neighborhood			3,007	1,004	2,718	45	17	92	94	59	319	291	208
EVERGREEN	410510063003	66.47%	1183	513	1075	1	4	48	40	44	136	85	128
			<i>786.39</i>	<i>341.01</i>	<i>714.60</i>	<i>0.66</i>	<i>2.66</i>	<i>31.91</i>	<i>26.59</i>	<i>29.25</i>	<i>90.41</i>	<i>56.50</i>	<i>85.09</i>
	410510064021	1.45%	2922	1102	2686	17	4	113	80	55	261	336	107
		<i>42.43</i>	<i>16.00</i>	<i>39.01</i>	<i>0.25</i>	<i>0.06</i>	<i>1.64</i>	<i>1.16</i>	<i>0.80</i>	<i>3.79</i>	<i>4.88</i>	<i>1.55</i>	
Total within Neighborhood			829	357	754	1	3	34	28	30	94	61	87
FOOTHILLS	410510062002	0.05%	813	372	736	6	10	31	27	17	86	104	46
			<i>0.38</i>	<i>0.17</i>	<i>0.34</i>	<i>0.00</i>	<i>0.00</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.04</i>	<i>0.05</i>	<i>0.02</i>
	410510063003	3.33%	1183	513	1075	1	4	48	40	44	136	85	128
			<i>39.43</i>	<i>17.10</i>	<i>35.83</i>	<i>0.03</i>	<i>0.13</i>	<i>1.60</i>	<i>1.33</i>	<i>1.47</i>	<i>4.53</i>	<i>2.83</i>	<i>4.27</i>
410510064021	13.96%	2922	1102	2686	17	4	113	80	55	261	336	107	
		<i>407.77</i>	<i>153.78</i>	<i>374.83</i>	<i>2.37</i>	<i>0.56</i>	<i>15.77</i>	<i>11.16</i>	<i>7.68</i>	<i>36.42</i>	<i>46.89</i>	<i>14.93</i>	

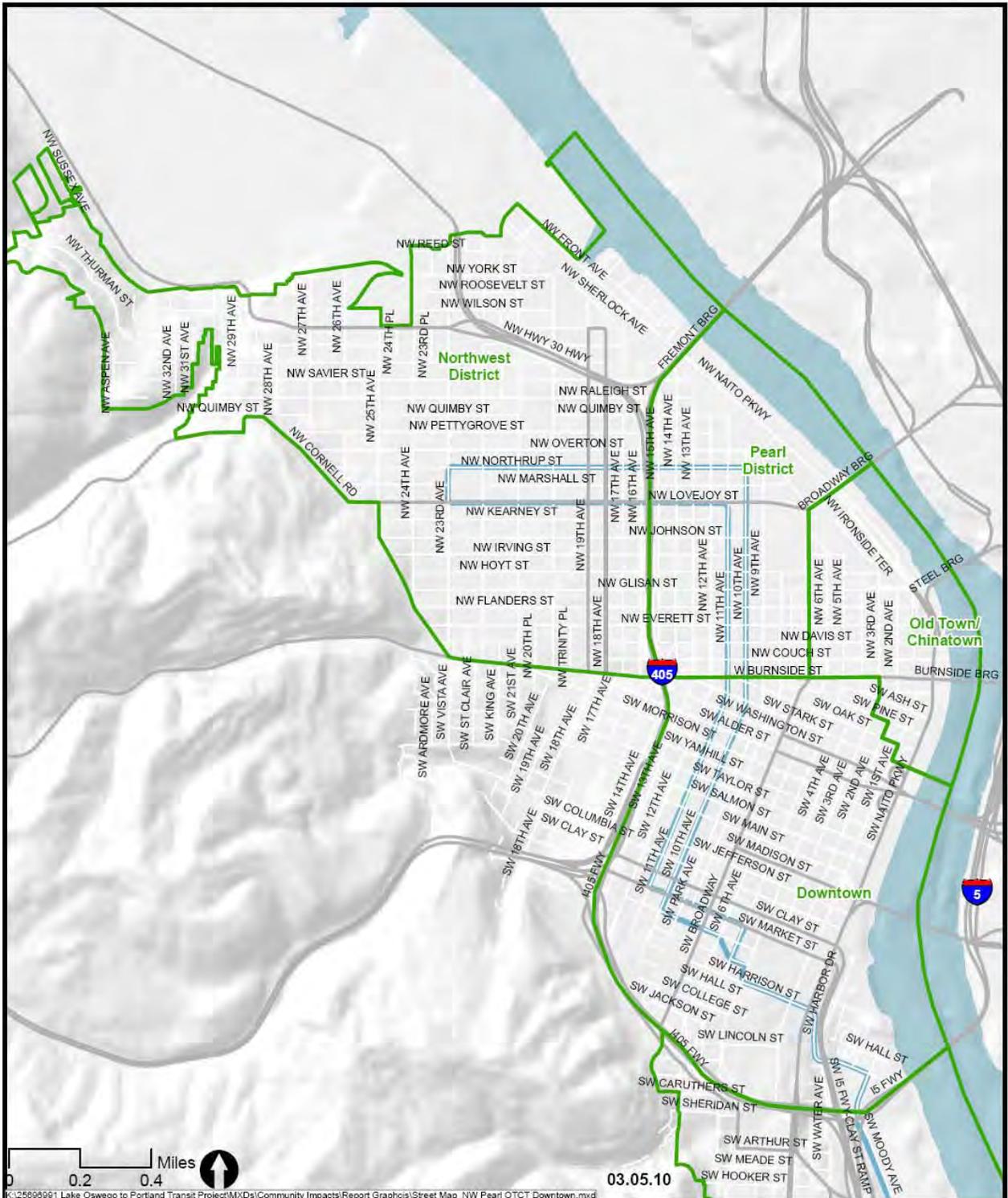
Table A-1: Population, Households, Age, Tenure, and Racial/Ethnic Demographics by Census Block Group and Neighborhood

Neighborhood	Census 2000 Block Group	Pct of Block Group Within Neighborhood	Total Population	Total Households	White Alone	Black Alone	American Indian/Alaska Native Alone	Asian Alone	Two or More Races	Hispanic	Minority	Persons over 65	Renters
Total within Neighborhood			448	171	411	2	1	17	13	9	41	50	19
LAKEWOOD	410510063003	0.06%	1183 <i>0.71</i>	513 <i>0.31</i>	1075 <i>0.64</i>	1 <i>0.00</i>	4 <i>0.00</i>	48 <i>0.03</i>	40 <i>0.02</i>	44 <i>0.03</i>	136 <i>0.08</i>	85 <i>0.05</i>	128 <i>0.08</i>
	410510064021	15.70%	2922 <i>458.72</i>	1102 <i>173.00</i>	2686 <i>421.67</i>	17 <i>2.67</i>	4 <i>0.63</i>	113 <i>17.74</i>	80 <i>12.56</i>	55 <i>8.63</i>	261 <i>40.97</i>	336 <i>52.75</i>	107 <i>16.80</i>
	410510065021	0.04%	2144 <i>0.90</i>	1054 <i>0.44</i>	1762 <i>0.74</i>	67 <i>0.03</i>	35 <i>0.01</i>	91 <i>0.04</i>	90 <i>0.04</i>	149 <i>0.06</i>	435 <i>0.18</i>	143 <i>0.06</i>	614 <i>0.26</i>
Total within Neighborhood			460	174	423	3	1	18	13	9	41	53	17
OLDTOWN	410510064021	6.92%	2922 <i>202.26</i>	1102 <i>76.28</i>	2686 <i>185.93</i>	17 <i>1.18</i>	4 <i>0.28</i>	113 <i>7.82</i>	80 <i>5.54</i>	55 <i>3.81</i>	261 <i>18.07</i>	336 <i>23.26</i>	107 <i>7.41</i>
	410510065021	0.01%	2144 <i>0.28</i>	1054 <i>0.14</i>	1762 <i>0.23</i>	67 <i>0.01</i>	35 <i>0.00</i>	91 <i>0.01</i>	90 <i>0.01</i>	149 <i>0.02</i>	435 <i>0.06</i>	143 <i>0.02</i>	614 <i>0.08</i>
Total within Neighborhood			203	76	186	1	0	8	6	4	18	23	7

APPENDIX B: NEIGHBORHOOD STREET MAPS

**LOPT Neighborhood Street Map:
NW District, Pearl District,
Old Town/Chinatown, Downtown**
Figure B-1

- Neighborhood Boundary
- Major Arterial/Freeway
- Existing Streetcar Line



**LOPT Neighborhood Street Map:
South Portland (North)**

Figure B-2

-  Streetcar Alternative
-  Streetcar Alternative Design Option
-  Neighborhood Boundary
-  Major Arterial/Freeway
-  Existing Streetcar Line

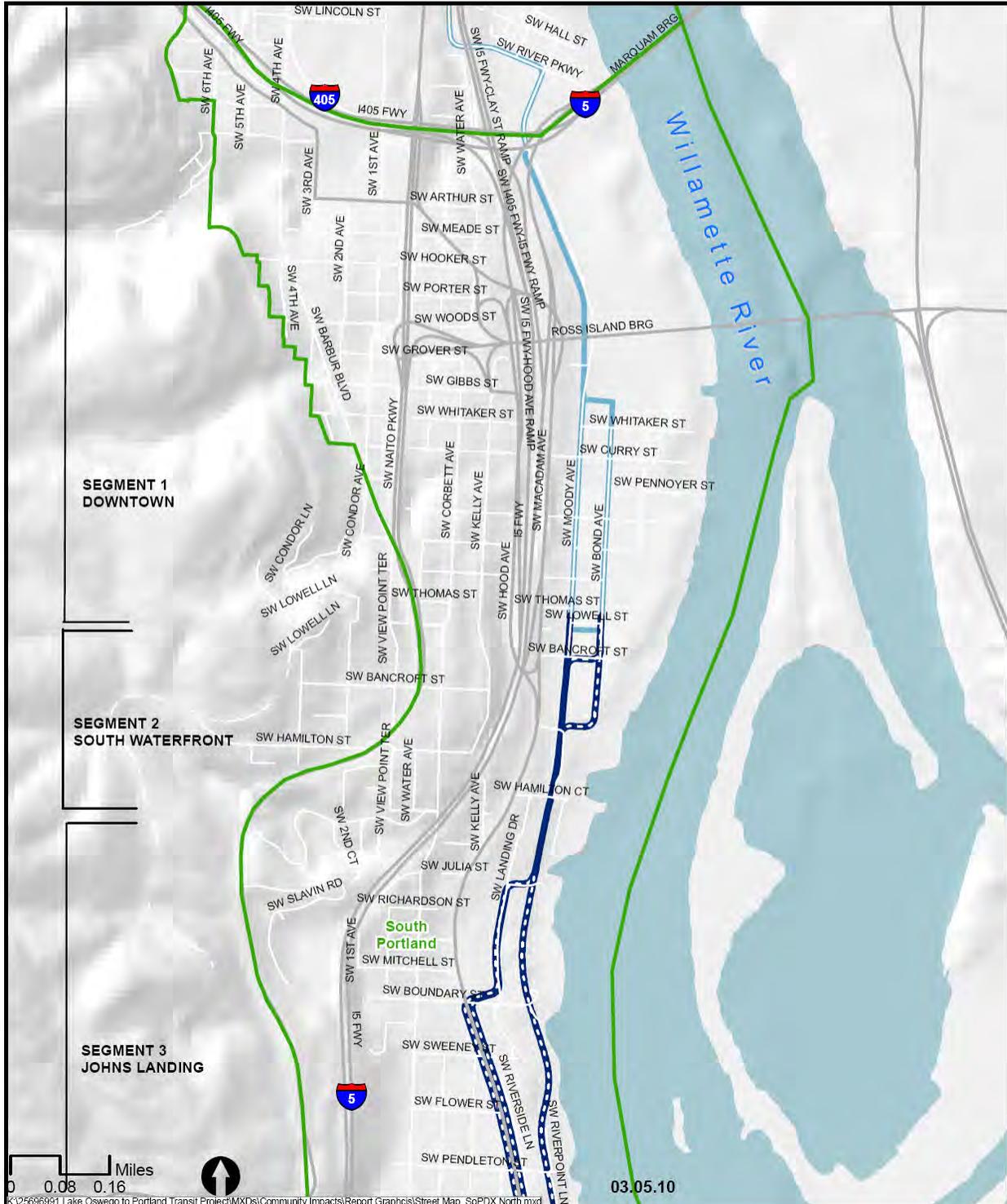


Figure B-5

-  Streetcar Alternative
-  Streetcar Alternative Design Option
-  Neighborhood Boundary
-  Major Arterial/Freeway

