

Lake Oswego to Portland Transit Project

Parklands and Recreation Areas Technical Report

November, 2010

TriMet and Metro

Mara Krinke, David Evans and Associates, Inc.

Alex Dupey, AICP, David Evans and Associates, Inc.

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 3.6 on parklands and recreation areas and wildlife and waterfowl refuges in 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, 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 wayright of way would be used exclusively of 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. Table 1-1 provides a summary of the transit capital improvements associated with the No-Build Alternative and Table 1-2 summarizes the operating characteristics of the alternatives. 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.

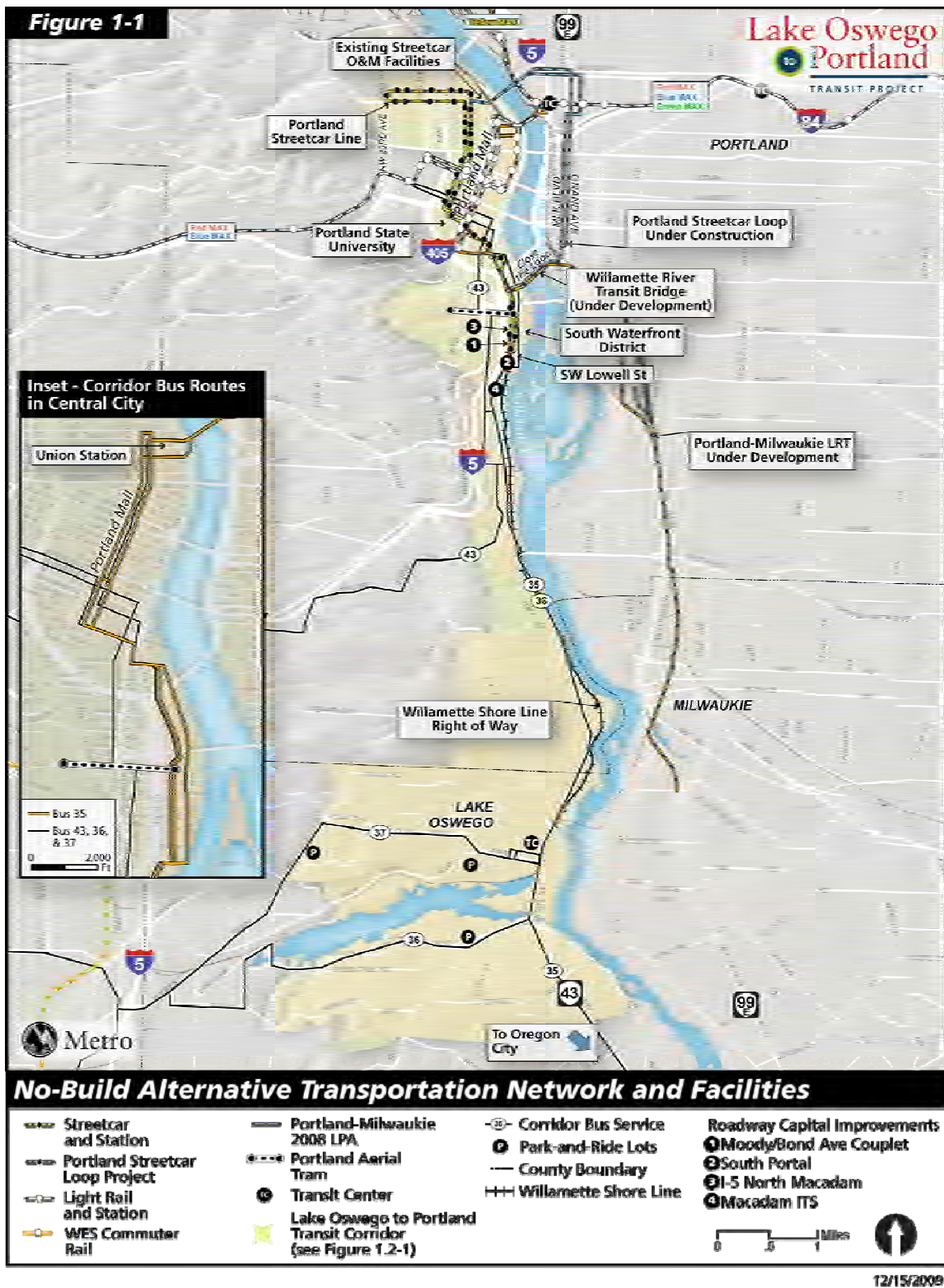


Figure 1-1 No-Build Alternative Transportation Network and Facilities

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

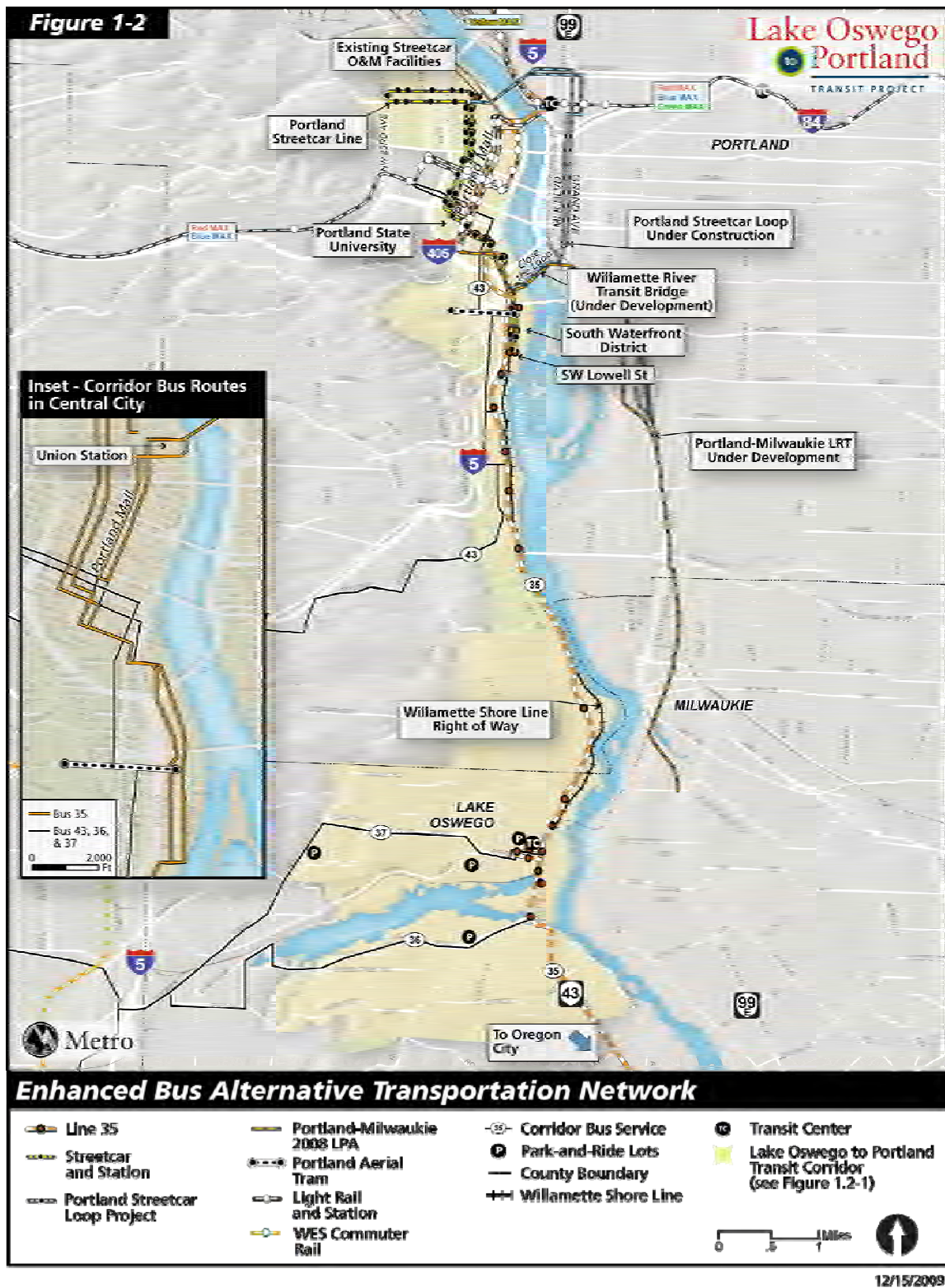


Figure 1-2 Enhanced Bus Alternative Transportation Network

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.

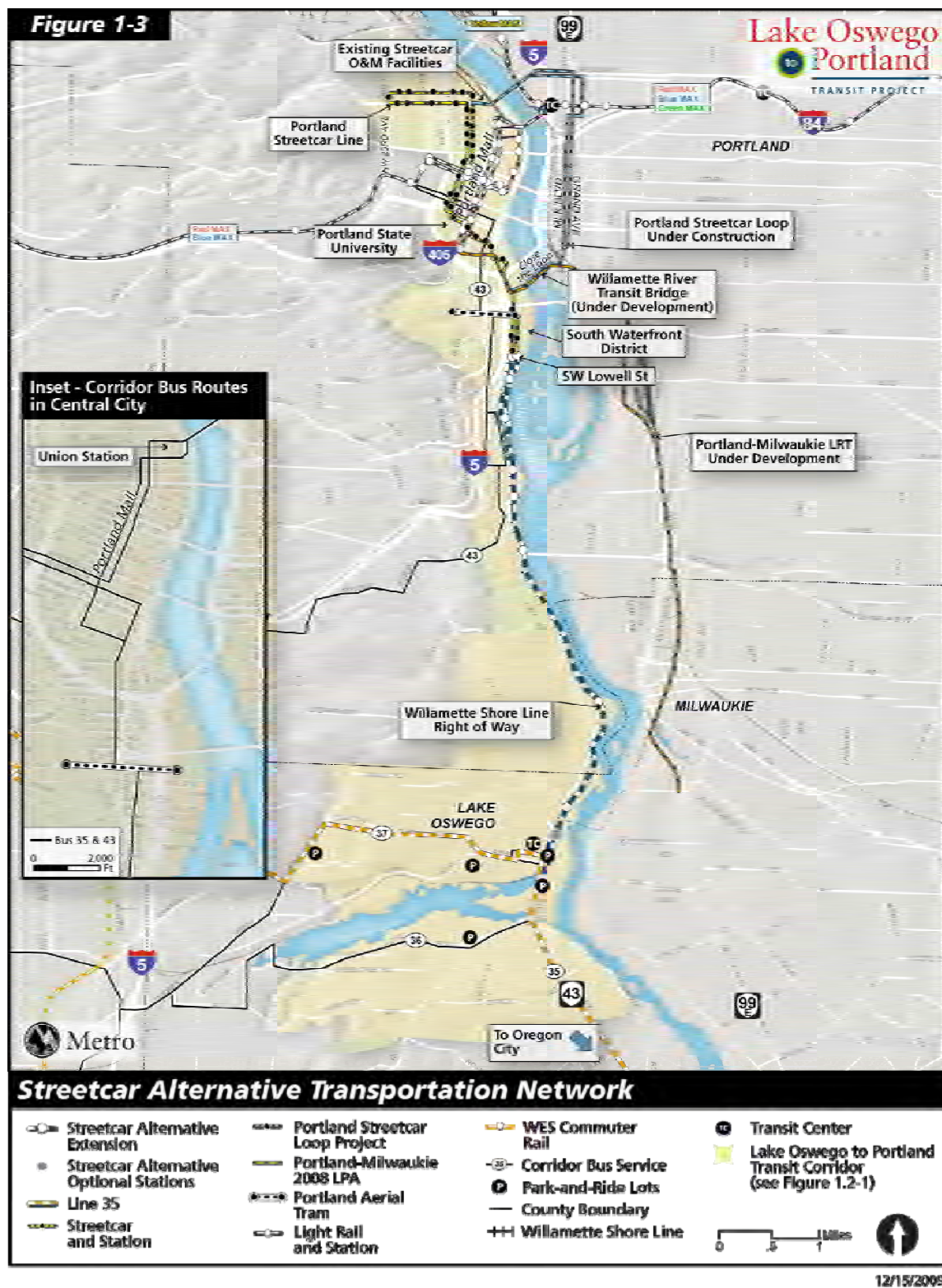


Figure 1-3 Streetcar Alternative Transportation Network

- **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.

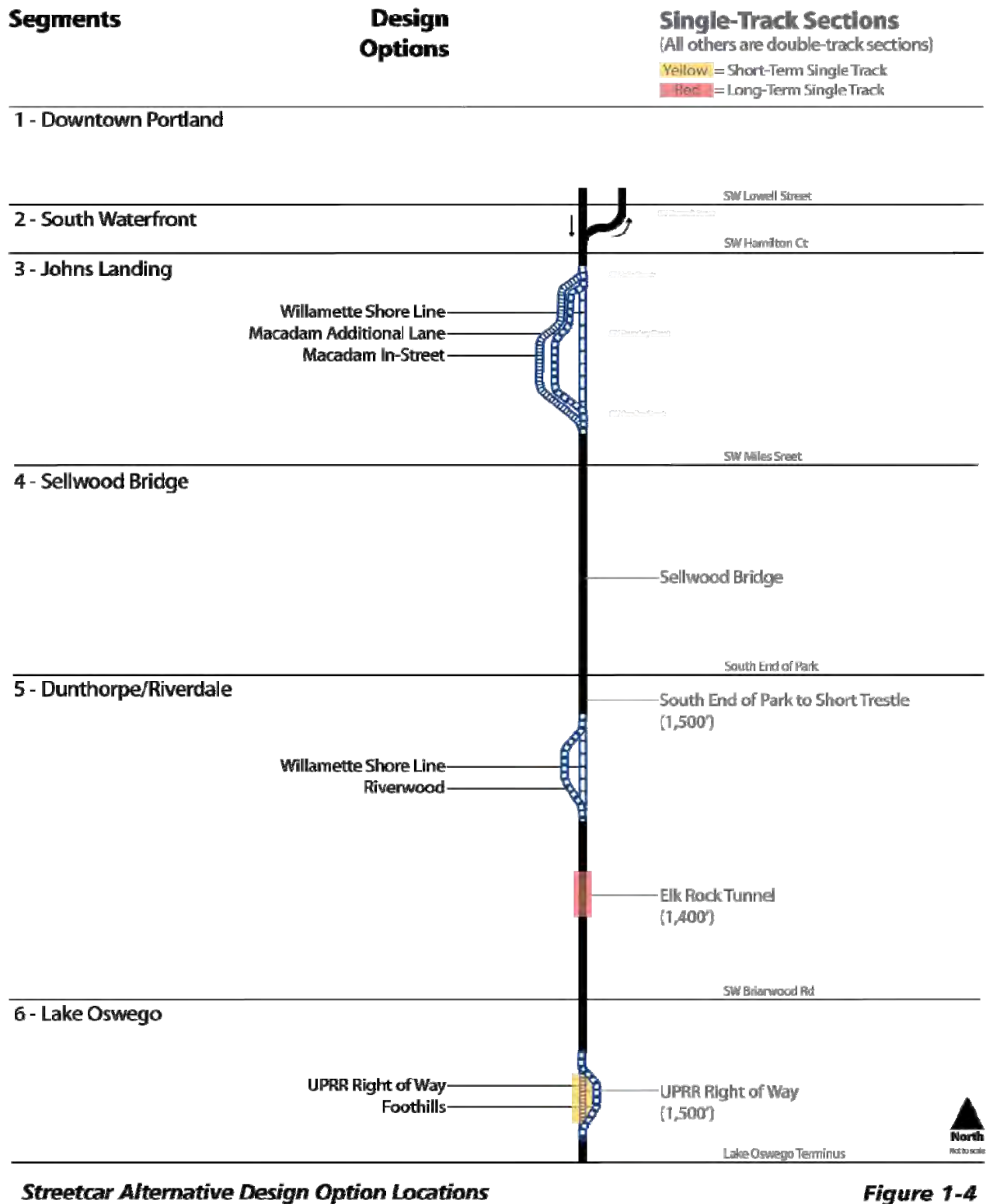


Figure 1-4 Streetcar Alternative Design Option Locations

- 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.

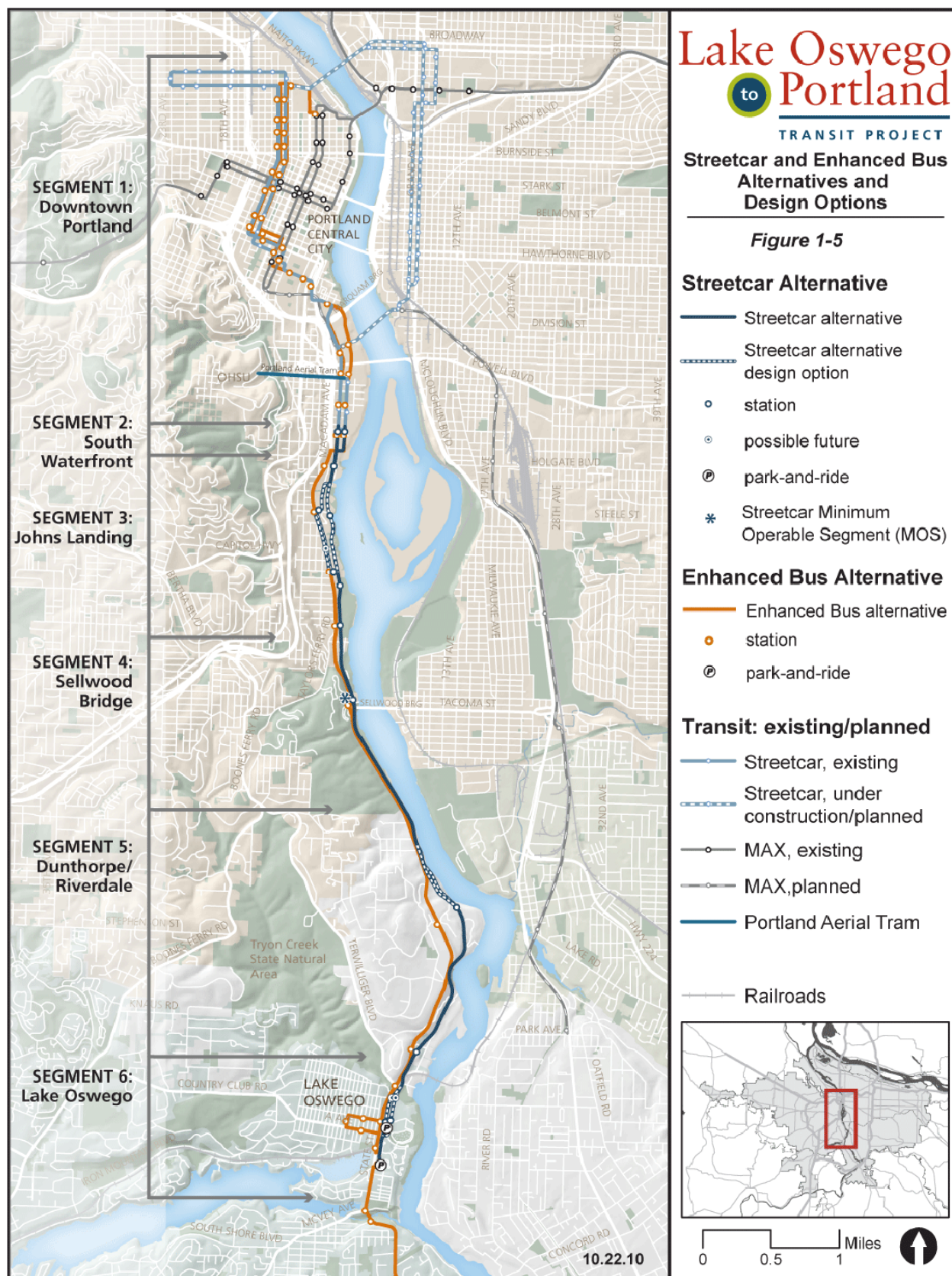


FIGURE 1-5 STREETCAR AND ENHANCED BUS ALTERNATIVES AND DESIGN OPTIONS

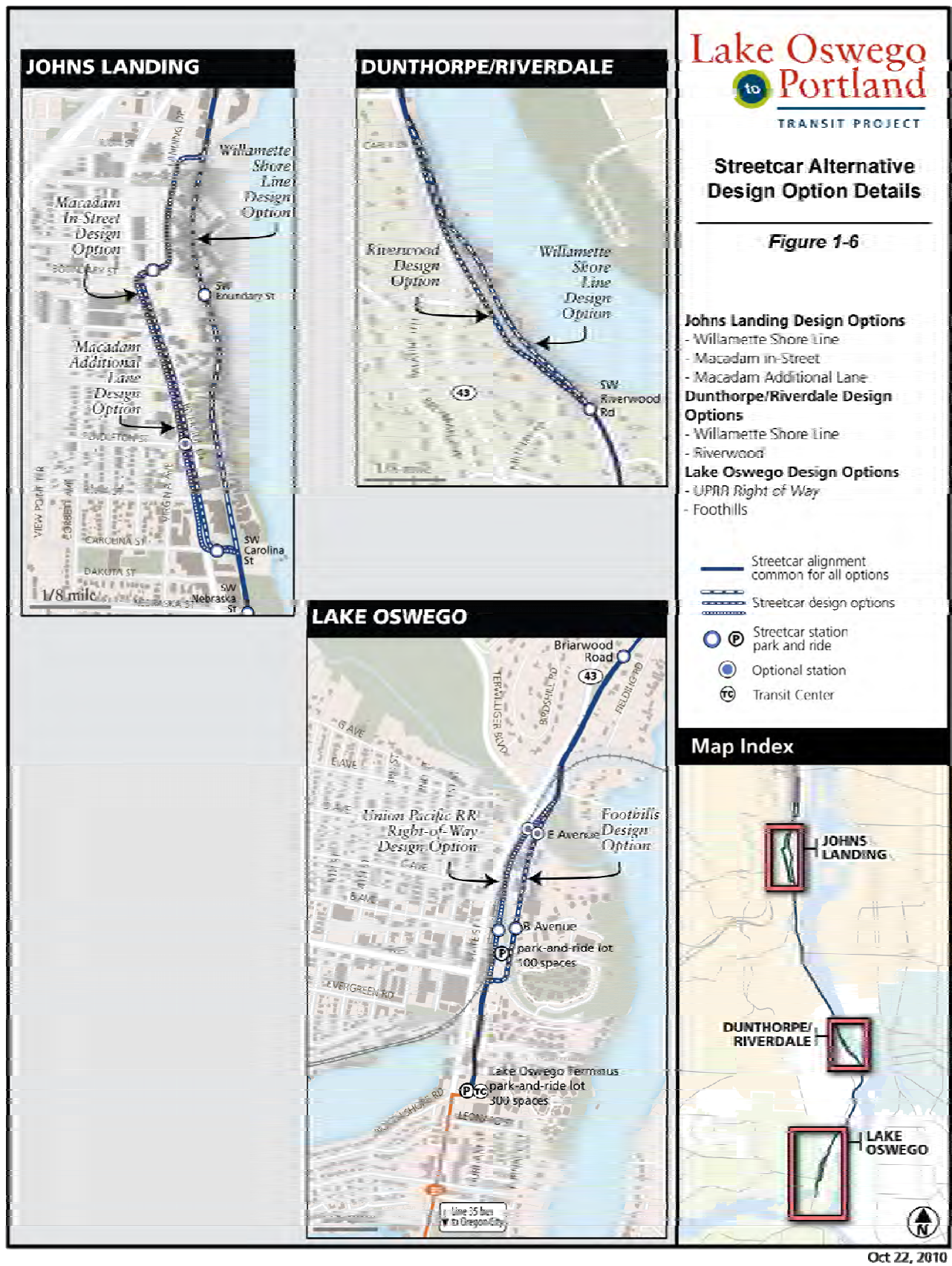


FIGURE 1-6 STREETCAR ALTERNATIVE DESIGN OPTIONS DETAILS

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 Design Option*** would locate the new streetcar alignment generally adjacent to Highway 43, north 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 and service from its current southern terminus at SW Lowell Street to the Lake Oswego Terminus Station, expanding the streetcar length from 4 miles to 9.9 to 10 miles (depending on design options). For average weekday peak periods in 2035, the round-trip running time of the existing Portland Streetcar line would increase from 68 minutes under the No-Build Alternative (between NW 23rd Avenue and SW Lowell Street) to 104 or 110 minutes under the Streetcar Alternative, between NW 23rd Avenue and downtown Lake Oswego), reflecting the addition of approximately 5.9 to 6.0 miles of one-way streetcar track miles and 10 new streetcar stations.

2. EVALUATION METHODS

This chapter describes the analysis methods used to develop the analysis contained in this Technical Report. The purpose of this chapter is to identify the approach for data collection, impacts analysis, and mitigation that the Lake Oswego to Portland Transit Project used for parks, recreational resources, and Section 4(f), 6(f), and state recreation grant resources. The analysis has been developed to comply with the National Environmental Policy Act (NEPA), applicable state parklands policy legislation, and local and state parks and recreation planning policies and standards.

Federal requirements protecting publicly owned parks, recreation, and wildlife preserve lands apply to all transportation projects that utilize federal funding. These requirements, known as Section 4(f), were addressed in the analysis of the potential impacts of the project alternatives on parklands in the vicinity of the study alternatives. The draft Section 4(f) evaluation was prepared and documented in the *Draft Section 4(f) Report* appended to the DEIS (Appendix E of the DEIS). After selection of the Locally Preferred Alternative, an updated Section 4(f) Statement will be prepared in conjunction with the Final Environmental Impact Statement (FEIS). A final Section 4(f) Statement will be prepared prior to issuance of the Record of Decision (ROD).

Historic and cultural resources are also protected by Section 4(f) regulations and are evaluated as part of the FEIS.

2.1 Related Laws and Regulations

Several federal and state regulations are associated with the park and recreational resources. Regarding all Section 4(f) resources, regulations that apply to historic, archaeological, and cultural resources are addressed in the reports developed for those resources. The extent to which laws and regulations are relevant to this project depends upon the specific resources encountered within the project area. This section outlines the federal, state, and local laws, regulations, and planning documents that apply to the protection of park and recreational resources.

2.1.1 Federal

A. Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (49 United States Code [USC] 303 et seq.), implementing regulations at 23 Code of Federal Regulations [CFR] 774.

The USDOT Act of 1966 (49 USC 303) includes regulations that prohibit the use of parklands for transportation projects except in very unusual circumstances. These regulations, known as Section 4(f), require that USDOT agencies (including the FTA):

...not approve the use of land from a significant publicly-owned park, recreation area or wildlife and waterfowl refuge or any significant historic site, unless there is no feasible and prudent alternative to the use of land from the property and the action includes all possible planning to minimize harm to the property resulting from the use.

“Use” can be permanent, temporary, or constructive, as defined below:

Permanent use includes acquisition and incorporation of the resource into the transportation facility. It includes fee simple and permanent easements use.

Temporary use occurs when a transportation project temporarily occupies any portion of the resource and results in an adverse condition. In order for a temporary use of Section 4(f) land not to be considered adverse, it must meet the following conditions:

- The duration of the occupancy must be less than the time needed for the construction of the project and there must not be a change in ownership;
- Both the nature and magnitude of the changes to Section 4(f) resources are minimal;
- There are no anticipated permanent adverse physical changes or interference with activities or purposes of the resource, on a temporary or permanent basis;
- The land is restored to the same or better condition; and
- There is a documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource, regarding the above condition.

Constructive, or indirect, use occurs when the proximity effects of the transportation project are so great that the use of the property is substantially impaired. Examples are provided in 23 CFR 77.135(p) and are discussed below:

- The projected noise level increase from the project substantially interferes with the use and enjoyment of a resource, protected by Section 4(f), such as enjoyment of a historic site where a quiet setting is a generally recognized feature or attribute of the site's significance.
- The proximity of the proposed project impairs the aesthetic quality of a resource, where aesthetic qualities are considered important contributing elements to the value of a resource, such as impairment to visual or aesthetic qualities that obstructs or eliminates the primary views of an architecturally significant historic building.
- The project results in a restriction of access to the Section 4(f) resource, which substantially diminishes the utility of a resource.
- A vibration impact from the operation of a project substantially impairs the use of a Section 4(f) resource, such as projected vibration levels from a rail transit project great enough to affect the structural integrity of a historic building.
- The ecological intrusion of the project substantially diminishes the value of wildlife habitat in a wildlife or waterfowl refuge adjacent to the project or substantially interferes with the access to a wildlife or waterfowl refuge.

B. Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, amended existing Section 4(f) legislation at Section 138 of Title 23 and Section 303 of Title 49, United States Code, to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This is the first substantive revision of Section 4(f) legislation since passage of the USDOT Act of 1966. This revision provides that once the USDOT determines that a transportation use of Section 4(f) property (after consideration of any impact avoidance, minimization, and mitigation or enhancement measures) results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete.

An analysis of the project alternatives will be conducted to identify potential impacts to Section 4(f) properties as outlined in 23 CFR 774.17. Section 4(f) properties may not be used for any transportation project receiving federal funds or approval from a USDOT agency, except where *de*

minimis impacts or use occurs or where no feasible or prudent alternative exists. Section 4(f) ensures that all possible planning has been done to minimize harm to those properties covered by the act.

C. Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965 (16 USC 4601-4 et seq.), and the LWCF Act of 1965 (PL 88-578, 78 Stat 897).

State and local governments often obtain grants through the LWCF Act to acquire or make improvements to parks and recreation areas. Section 6(f) of the LWCF Act of 1965 prohibits the conversion of property acquired or developed with these funds to a non-recreational purpose without the approval of the U.S. Department of Interior (DOI) National Park Service (NPS).

2.1.2 State of Oregon

A. Oregon Administrative Rule (OAR) 736-070-030, Community Opportunity Grant Program (COGP).

This regulation provides for Oregon Parks and Recreation Department (OPRD) allocation of revenue from recreational vehicle registration fees to counties for park and recreation sites and programs. The COGP provides funding on a project basis for the acquisition, development, rehabilitation, and planning of county park and recreation sites that provide camping facilities. Protection measures mimic Section 6(f) requirements, except they do not include NPS involvement.

B. OAR Chapter 736-Division 6.

This regulation provides for OPRD to allocate state lottery funds to local governments to finance the protection, repair, operation, and creation of state parks and public recreation areas through the Local Government Grant Program (LGGP). Protection measures mimic Section 6(f) requirements, except they do not include NPS involvement.

C. OAR Chapter 736-Division 7.

This regulation provides for OPRD to allocate recreational vehicle registration fees to counties for park and recreation sites and programs through the COGP. Protection measures mimic Section 6(f) requirements, except they do not include NPS involvement.

D. Oregon Statewide Planning Goals.

Oregon's Department of Land Conservation and Development (DLCD) also has specific planning goals that local jurisdictions must address in their comprehensive plans. In particular, Oregon Statewide Planning Goal 8 addresses recreational needs of citizens and visitors and provides for the siting of necessary recreational facilities. Oregon Statewide Planning Goal 15 addresses the Willamette River Greenway.

2.1.3 Local Jurisdictions

Parkland and recreation facilities in the project area are owned and managed by several entities. These entities include the City of Portland Parks and Recreation Bureau for Portland, the City of Lake Oswego Department of Parks and Recreation, and Clackamas County Parks. Metro also owns and manages public parks and open spaces within unincorporated Multnomah County and functions

as an open space provider for the overall Portland Metro area.² The cities of Portland and Lake Oswego and Clackamas and Multnomah counties continue to maintain general parks goals and policies within their comprehensive plans.

Resources consulted include Metro parks and facility plans, City of Portland and Multnomah County comprehensive plans and zoning maps, City of Portland Parks 2020 Vision, City of Lake Oswego comprehensive plans and zoning maps, and individual consultation with the City of Lake Oswego Department of Parks and Recreation, the City of Portland Parks and Recreation Bureau, and Metro (see Section 2.2 below).

2.2 Contacts, Coordination and Consultation

There are several agencies that regulate lands subject to Section 4(f) and Section 6(f) regulations. These agencies were contacted or consulted to identify publicly owned parklands, recreation areas, or wildlife and waterfowl refuges under their jurisdiction. This study also drew from the results of the historic, archaeological and cultural analysis to define resources that are regulated under Section 4(f). For properties on (or eligible for listing on) the National Register of Historic Places used or adversely affected by the any of the project alternatives, the impacts are addressed in the Section 4(f) evaluation.

The agencies with jurisdiction over Section 4(f) and/or Section 6(f) resources were identified and contacted. The project team arranged meetings with the official having jurisdiction over the property to discuss the significance of the property and probable effects. If the official determined that a site was not significant, documentation to that effect was requested and included in this report. Further consideration under Section 4(f) is not required for insignificant sites. For sites that are defined as significant, the Section 4(f) analysis was completed.

The following agencies were contacted for the parks and recreation analysis:

State Agencies:

- Oregon Parks and Recreation Department

Local Jurisdictions and Agencies:

- Metro Regional Parks and Greenspaces
- Portland Parks and Recreation Bureau
- City of Lake Oswego

The following agencies were not contacted, because there are no parks or wildlife areas in their jurisdictions:

Federal Agencies:

- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- U.S. Department of Interior
- U.S. Department of Interior National Park Service

² In 1994, Metro assumed management responsibility for the Multnomah County parks system. Ownership of these facilities was transferred to Metro on July 1, 1996.

State Agencies:

- Oregon Department of Land Conservation and Development
- Oregon Department of Fish and Wildlife
- Oregon Department of State Lands

Local Agencies:

- Clackamas County
- Clackamas County Parks and Recreation District
- Multnomah County

2.3 Data Collection for the Affected Environment

2.3.1 Project Area

The Lake Oswego to Portland Transit Project corridor is generally located between the South Waterfront area in the Portland Central City and the Lake Oswego Town Center. It encompasses the area west of the Willamette River and generally east of Highway 43 (OR 43). The project area is more specifically described in Section 1.

2.3.2 Inventory of Resources

Park and recreational resources were identified through contact with affected agencies, site visits, and review of map resources to identify any potential Section 4(f) and Section 6(f) properties in the vicinity of the study alternatives. Metro's regional park database in the Regional Land Information System (RLIS) was also consulted for parks identification and data. All data collection was closely coordinated with the historic and visual analyses conducted for this project to determine the relationship of any important historic resources to potentially affected park and recreational resources.

Project team members contacted local officials having jurisdiction over the recreational resources to obtain information about the character of the sites. Project staff contacted the OPRD, Metro, the Portland Parks and Recreation Bureau, and the Lake Oswego Department of Parks and Recreation to identify park and recreational sites that have received funds through LWCF, LGGP, or COGP and are subject to the protection procedures for each of these programs. The local official having jurisdiction over any park or recreational property was requested to provide information about the grant and the availability of potential replacement properties meeting the requirements of the respective regulations.

Identified park resources located within 400 feet of the alternatives were inventoried and mapped. The inventory describes type and size of the resource, types and levels of use, access to the resource, and unusual or significant characteristics of the resource.

Existing or planned parks or recreational resources located in the vicinity of the project are listed below, along with the owner(s) of the park or recreational resource.

- Willamette River Greenway Trail (City of Portland, City of Lake Oswego, private property)
- Lake Oswego to Portland Trail (planning stage, Metro)
- Cottonwood Bay (City of Portland)

- Willamette Park (City of Portland)
- Butterfly Park (City of Portland)
- Willamette Moorage Park (City of Portland)
- Powers Marine Park (City of Portland)
- Elk Rock Gardens of the Bishop's Close (Privately owned, Episcopal Diocese of Oregon)
- Peter Kerr Property (City of Portland)
- Elk Rock Island (City of Portland)
- Tryon Creek State Natural Area (State of Oregon)
- Tryon Cove Annex Park (City of Lake Oswego)
- Tryon Cove Park (City of Lake Oswego)
- Six tax lots adjacent to or near Tryon Cove Park (Ownership by City of Portland, Metro, and City of Lake Oswego, Tax lot numbers are: 21E02CB02200, 21E02CB02300 (Lake Oswego), 21E02CB02400 (Metro) and 21E02CB02700, 21E02CB00900, and 21E02CB02800 (Portland). Counting in summary tables as three resources to reflect ownership by three separate entities.)
- Foothills Park (City of Lake Oswego)
- Roehr Park (City of Lake Oswego)
- Kincaid Curlicue Corridor (City of Lake Oswego)
- Millennium Plaza Park (City of Lake Oswego)

Because no wildlife or waterfowl refuges were identified in the project area, the focus of the Section 4(f) efforts is on park, recreational, historic, and cultural resources; however, project documentation includes confirmation that no wildlife refuges would be affected by the project. Wetlands and other resources that may provide habitat to sensitive species but that are not managed as “wildlife refuges” as defined by Section 4(f) guidelines are addressed in the ecosystems technical report and corresponding section of the EIS.

To address impacts to historic resources under Section 4(f), including any required Section 4(f) evaluations, the analysis relies on the historical data developed separately for the historic and the archaeological and cultural resources analyses.

2.4 Impact Assessment Analysis Methods

All identified public parks, recreation areas, and historic sites were evaluated for positive and negative direct, indirect and cumulative effects resulting from the project alternatives. Analysis specific to Section 4(f) requirements included an evaluation of each applicable resource to determine whether there would be a “use” of the site by any of the study alternatives. The analysis of impacts to historic and cultural resources is evaluated in conjunction with the Section 106 analysis, presented in the *Historic, Archaeological and Cultural Resources Technical Report*.

According to 23 CFR 774.17, the “use” of a significant park or recreational land, or historic resource, subject to Section 4(f) provisions, occurs when:

- Land is permanently incorporated into a transportation facility.
- There is a temporary occupancy of land that is adverse in terms of the law’s preservationist purposes as determined in 23 CFR 774.13(d).
- There is a constructive use of land as determined by the criteria in 23 CFR 774.15. A constructive use could occur when the “proximity impacts” (such as noise, vibration, visual

quality, or access) are so severe that the Section 4(f) site's vital functions are substantially impaired. A constructive use requires that the value of the Section 4(f) site's prior significance and enjoyment be substantially reduced or lost, requiring close coordination with the official or officials having jurisdiction.

Although the recommendations of the official having jurisdiction over the Section 4(f) resource substantially informs the process of determining the importance of an impact, or the net effect or magnitude of effect, to a Section 4(f) resource, the ultimate determination will be made by USDOT (Federal Highway Administration (FHWA) and/or FTA). Also, the net adverse effect may be reduced, and potentially eliminated, through either minimization measures incorporated into the project description or adopted mitigation measures.

The plan and profile drawings of the study alternatives were used in conjunction with property boundary maps and GIS analysis for the identified resources to determine whether a use of any parkland is affected. To determine whether there would be a constructive use, the parks analysis was coordinated with the analyses of noise and vibration, traffic, parking, access, nonmotorized use, and the visual impacts. If a use or constructive use of identified parkland is required, potential avoidance or minimization opportunities are identified. If a conversion of Section 6(f) lands had been required for the project alternatives, avoidance alternatives would have been identified. However, this project found no conversions of land protected by Section 6(f), so avoidance alternatives were not needed.

The magnitude of adverse effects to parks, recreational (such as trails), and/or historic resources will be determined by evaluating the degree to which the proposed alternatives impact the resources and the related changes in access and enjoyment of the resources. The opinion of the federal, state, or local official having jurisdiction over ownership and management of the resource is an important consideration. The ultimate determination of magnitude will be made by USDOT (FHWA and/or FTA). Factors to consider typically include:

- The size of the use relative to the overall size of the resource.
- The type of occupancy; for example, shaving an edge of a property rather than dividing it.
- The effect of removing compared to altering the context surrounding a structure or use area.
- The rate of occupancy of unused or highly used portions of the resource.

Determining whether or not an alternative is feasible and prudent relative to Section 4(f) requirements is a threshold test in itself. An alternative is feasible if it is technically possible to design and build that alternative from an engineering and design standpoint. An alternative may be rejected as not being prudent for any of the following reasons:

- It does not meet the project purpose or need.
- It involves extraordinary operational or safety problems.
- There are unique problems or truly unusual factors present with it.
- It results in unacceptable and severe adverse social, economic or other environmental impacts.
- It would cause extraordinary community disruption.
- It has additional construction costs of an extraordinary magnitude.
- There is an accumulation of factors that collectively, rather than individually, have adverse effects that present unique problems or reach extraordinary magnitudes.

The extent and manner in which impacts to properties subject to the preservationist provisions of Section 4(f)/6(f), LGGP, and/or COGP are identified, evaluated, and reported for this project vary by extent and type of impact. However, under the requirements of Section 6(f), if any portion of a recreational resource has received LWCF grant support, then, unless the mapping associated with the grant explicitly identifies a limited area of the resource, a conversion of any portion of the entire recreational resource is considered a conversion.

2.5 Mitigation Measures

The Section 4(f) regulations are very specific regarding the order in which steps must be taken before the use or constructive use of a Section 4(f) property is authorized. If a use or constructive use of parkland is identified, alternatives to avoid the use of the Section 4(f) resource must be developed and examined. If no reasonable alternative can be identified, then documentation showing that there is “no prudent or feasible alternative” must be prepared and approved by the DOI. If use of a Section 4(f) resource cannot be avoided for the selected alternative, then, during the FEIS phase, measures to minimize the use must be developed, evaluated, and coordinated with the agency with jurisdiction over the resource.

If a conversion of Section 6(f) lands is required, the land must be replaced with other recreational properties of at least equal fair market value and with reasonable equivalent usefulness and location.

2.6 Documentation

2.6.1 Draft Section 4(f) Report and DEIS

The analysis methods, coordination, data collection, inventory of the existing environment, analysis of potential impacts (or use), and any avoidance recommendations related to Section 4(f) are included in Appendix E of the DEIS. The draft Section 4(f) evaluation focused on comparing the potential Section 4(f) impacts of the various alternatives. The analysis included data and analysis from the recreation, historic and cultural resources technical reports. Depending on the level of effect, one of two procedures of documentation will need to be prepared, as discussed below.

2.6.1.1 Section 4(f) *de minimis* Documentation

Recent revisions to Section 4(f) under Section 6009(a) of the SAFETEA-LU amended existing Section 4(f) procedures to simplify the processing and approval of projects that have only *de minimis* impacts. The project team utilizes USDOT guidance and standards for assessing and documenting *de minimis* impacts. Although considered a stand-alone document, the draft Section 4(f) documentation is included in the DEIS as Appendix E. The final Section 4(f) analysis and documentation will be completed in conjunction with the FEIS.

2.6.1.2 Section 4(f) Evaluation

A full Section 4(f) evaluation (Evaluation) is required if the project alternatives would “use” land from a Section 4(f) resource and the *de minimis* standards do not apply. A Section 4(f) Evaluation must rigorously document the facts regarding the use or constructive use of all Section 4(f) resources. The project proposes that the impacts of the Lake Oswego to Portland Transit Project are *de minimis* uses of park and historic properties, and thus a full Section 4(f) Evaluation is not anticipated at this time. This conclusion will be revisited after public comment and selection of the Locally Preferred Alternative.

2.6.2 Section 6(f) and Other Regulatory Documentation

Should any of the proposed alternatives require conversion of a property that has received LWCF, COGP, or LGGP grants, the conversion and replacement review procedures pursuant to the applicable program will be implemented. These actions are not anticipated based on the designs completed for the DEIS.

If Section 6(f) requirements are triggered, replacement property associated with the affected resources is preferred, although properties serving the equivalent (or higher) recreational function, of at least equivalent fair market value, and located within the same general service area are usually acceptable. Each program’s procedures require the following documentation (if one property receives multiple grants, then typically one report suffices for documenting compliance with each program):

- Background
- Prerequisites for consideration of conversion
- Replacement property description (recreational value and fair market value)
- Alternatives considered
- Environmental impacts of requested conversion
- Agencies consulted
- Attachments and appendices, including maps, photos, appraisals, and applicable land use actions

3. CONTACTS, COORDINATION AND CONSULTATION

This chapter includes a description of the coordination and consultation with local, state, and federal agencies. Relevant agency correspondence and documentation is included as Appendix A of this report.

3.1 Agencies Involved in Parks Ownership and Management

Park and recreational resources in the project area are managed by multiple entities, including: Portland Parks and Recreation, the Lake Oswego’s Department of Parks and Recreation, Metro, and the State of Oregon. Portland, Lake Oswego, Multnomah County, and Clackamas County maintain general park and recreational goals and policies within their comprehensive plans. This section briefly describes the agencies involved in parks ownership and management, including information about their jurisdiction and mission.

3.1.1 Portland Parks and Recreation

The City of Portland contains 12,591 acres of public parkland and open space. Portland Parks and Recreation (PP&R) owns and manages over 10,000 of these acres and is the region’s largest provider

of parks and recreation. These 10,000 acres include six public gardens, 25 community gardens, 35 community parks, five golf courses, 47 habitat parks, 98 neighborhood parks, 12 regional parks, 12 urban parks, and thousands of acres of urban forest. Metro and Oregon State Parks own the remaining public open spaces in the city.

Portland is also distinguished by its open space. Three quarters of city parklands are undeveloped as natural resource areas or undeveloped open space. These areas include Forest Park, Kelley Point, Powell Butte, and Oaks Bottom Wildlife Refuge.

Park planning in Portland is guided by the city's Parks 2020 Vision, its comprehensive master plan for parks and recreation. This plan presents the vision, guiding principles, issues, opportunities and recommendations for Portland's parks and recreation areas through 2020. It addresses parks, open spaces, natural areas and facilities, and identifies programs, partnerships and funding options.

PP&R also functions as a steward for many of the city's cultural resources. Portland's parks contain over 150 cultural resources that date between 1850 and 1965. In keeping with its mission, PP&R adopted a 2007 Cultural Resources Management Plan as a component of its 2006 Asset Management Plan. The Cultural Resources Management Plan was developed to systematize the long-term management and protection of the PP&R's cultural resources. Most importantly, it defines a process to classify and protect its cultural resources.

Formed by city ordinance in 2001, PP&R is overseen by a 14-member, non-administrative board, whose role is advisory to the PP&R Director, the Commissioner of Parks, and City Council. The board serves as an advocate for parks and recreation in city infrastructure and provides a forum for public involvement and decision making about major park policy issues.

3.1.2 City of Lake Oswego

Parks and recreational resources within the City of Lake Oswego are owned and managed by the Department of Parks and Recreation. The department manages over 600 acres of park and open space property and over 45 acres of recreation facilities including the Adult Community Center, Indoor Tennis Center, the 18-hole Golf Course and Practice Range, and the Charlie S. Brown Water Sports Center on the Willamette River. The department hosts an average of 1,800 recreation programs and 85 community events each year.

3.1.3 Metro

Metro is the regional government that serves residents in Clackamas, Multnomah and Washington counties, and the 25 cities in the Portland metropolitan area. Metro guides regional land use and transportation planning, and is responsible for maintaining the Portland-area urban growth boundary. Metro also manages a regional land acquisition program that includes several open spaces and park facilities in the region.

In 1995, through a voter-approved bond measure, Metro initiated a program to acquire open spaces, parks, and streams with regional water quality, wildlife habitat, and recreational value. In November 2006, through a second voter-approved bond measure, Metro initiated an additional land acquisition program. This second program aims to acquire between 3,500 and 4,500 acres in 27 specific target areas (which are in addition to the 8,175 acres of regional natural areas, trails and greenways in 266 separate property transactions that were acquired since 1995). These 27 target areas have been selected for their particular value in preserving wildlife and water quality, regional trails, and

greenways. Among the 27 target areas are Johnson Creek, the Willamette River Greenway, and the Springwater Corridor and include 76 miles of stream and river frontage, and six regional trails and greenway corridors. The acquisitions associated with the 2006 bond measure are underway.

3.1.4 State of Oregon

The mission of the State of Oregon Parks and Recreation Department (OPRD) is to provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations.

OPRD operates Oregon's state parks through a headquarters staff in Salem and field regions. It is also responsible for Oregon's Recreation Trails, the Ocean Shores Recreation Area, Scenic Waterways and the Willamette River Greenway. The department was created as a branch of the Highway Department in 1921. The 1989 Oregon Legislature created a separate Parks and Recreation Department, effective in 1990. Oregon's state parks are among the most popular in the United States: their combined day-use and camping attendance of 39.6 million visitors (2001) consistently ranks the system among the ten most visited in the nation.

OPRD's Heritage Programs Division, which includes the State Historic Preservation Office, Heritage Commission and the Oregon Commission on Historic Cemeteries, operates a number of cultural and historic preservation programs.

Department activities are funded primarily by state park user fees, Oregon Lottery dollars, and recreation vehicle license fees.

Grant funds for the COGP are to be used specifically for the acquisition, development, rehabilitation, and planning of county park and recreation areas that provide, or will provide in the future, camping facilities. None of the park or recreational resources in the project area provides camping facilities or has plans to do so in the future, and the restrictions related to the grant program do not apply to this project.

3.2 Federal Agency Coordination

No federal agency coordination has been conducted to date.

3.3 State Agency Coordination

The OPRD was contacted to determine the status of Section 6(f) properties in the project area. Willamette Park and the Willamette Marine Park received grants from the Land and Water Conservation Fund in 1980 and 1976, respectively. Willamette Park was granted funding to develop the boat ramp, and Willamette Marine Park was granted funds for acquisition. Willamette Park is adjacent to the planned alignment and is further discussed in Sections 4 and 5 of this report. Willamette Marine Park is not in the vicinity of the project.³

³ Multiple attempts to determine the location of the Willamette Marine Park were unsuccessful. The project team contacted OPRD to inquire and was not able to obtain a response. Research by the City of Portland conducted for the project team found no connection between any of the parks along the alignment and the "Willamette Marine Park" that received a grant in 1976.

3.4 Local Agency Coordination

Members of the project team met with parks department staff from the City of Portland and the City of Lake Oswego in March 2010 to discuss the park resources in the project area, and to determine whether the team's description of the features, activities, and attributes of the parks are accurate. The information obtained during these meetings is included in the parks descriptions in Chapter 4.

4. AFFECTED ENVIRONMENT

This chapter documents the existing environment of the project area as it relates to park and recreational resources. The park and recreational resources in each project segment are described below.

The Lake Oswego to Portland Transit Project area is rich in public parklands, recreation areas and historic sites. There are no wildlife or waterfowl refuges within the project area. Parks and recreation resources are identified below. Table 4-1 lists the park and recreation resources in the project area. The resources are listed from north to south. The table summarizes the location, ownership, and types of use at each park. Figure 4-1 shows the locations of the publicly-owned park and recreation resources in relation to the project.

In summary, there are 13 public parks and recreation areas in the vicinity of the project that qualify as section 4(f) resources and four resources that do not qualify as Section 4(f) resources. The other resources listed in Table 4-1 (i.e., the Peter Kerr Property and the six publicly-owned tax lots) were analyzed for their potential status as 4(f) resources and were determined not to qualify as Section 4(f) resources. The reasoning for this conclusion follows.

The Peter Kerr property is a natural area located on a steep bluff west of Elk Rock Island. It is owned by the City of Portland and listed in their inventory of natural places. It is not considered a Section 4(f) resource because it is not publically accessible.

The project researched six publicly-owned parcels that are located adjacent to or near Tryon Cove Park to determine if they were qualified as park or recreational facilities under Section 4(f). The six tax lots, located in Lake Oswego, are in ownership by the City of Portland, the City of Lake Oswego or Metro. These parcels are not Section 4(f) resources for the following reasons:

- The adopted Foothills District Refinement Plan does not list these parcels as part of Tryon Cove Park. A parks map published in April 2010 as the City of Lake Oswego shows five of the seven parcels as part of Tryon Cove Park, however, this map is not part of an adopted plan. To date, no Master Plan has been adopted for these parcels.
- The City of Portland owns three tax lots adjacent to Tryon Creek. These parcels are managed by the City's Bureau of Environmental Services and are used for riparian restoration, provision of riparian habitat and restoration for natural resources. The City of Portland has a wastewater treatment facility on the south side of Tryon Creek, adjacent to the subject properties. An above ground sewage pipe and sewage easement runs across these properties. Based on the current intergovernmental agreement (2003) regarding these parcels, the City of Portland is responsible for the management, operations and maintenance. Two of these properties are shown on the April 2010 City of Lake Oswego Parks Map as part of Tryon Cove Park.
- Metro purchased one tax lot in this area using public bonds for open spaces. There are currently no trails, signage, public access or adopted plan for this parcel. Based on the current intergovernmental agreement (2003) regarding this parcel, it is intended as open space, and the City of Lake Oswego may build a trail through the property, but formal use shall not begin until a Resource Management Plan has been adopted. No resource management plan for the parcel has been adopted to date.

- The City of Lake Oswego owns two parcels adjacent to Stampher Road and north of the other public properties. There are no trails, public facilities or signage for these properties. The City of Lake Oswego has not made formal plans for these parcels. Based on the current intergovernmental agreement (2003) regarding these parcels, these parcels were identified as surplus properties, subject to future development or sale by the city.

Two of the resources listed in Table 4-1, Willamette Park and the Tryon Creek State Natural Area, had improvements made with Section 6(f) or Land and Water Conservation funds (see Figure 4-1). There are no wildlife or waterfowl refuges and no known archeological sites in the project area. A Section 6(f) analysis was also conducted, and it was determined that while Willamette Park received 6(f) funds for the development of the boat ramp, the boat ramp would not be affected by the project and thus the project is not encumbered by the requirements of Section 6(f). The Tryon Creek State Natural Area received 6(f) funding but would not be affected by the project.

Table 4-1

Parks and Recreation Areas and Natural Areas in the Project Vicinity and their Section 4(f) and 6(f) Status

Name of Park or Recreation Area	Location	Adjacent to Project? ¹	Owner(s)/ Custodian(s)	Size / Type of Recreational Uses	4(f) Resource?	6(f) Resource?
Willamette River Greenway Trail	Trail along portions of the west side of the Willamette River	Yes	City of Portland, City of Lake Oswego, private property	Trail along parts of the west bank of Willamette River	Yes	No
Lake Oswego to Portland Trail	Planned alignment connecting Lake Oswego and Portland	Yes	To be determined	Planned trail	No ²	No
Cottonwood Bay	Near SW Hamilton Court and Willamette River	No	City of Portland	0.67 acres / Natural area	Yes	No
Willamette Park	North of the Sellwood Bridge near SW Nevada Avenue	Yes	City of Portland	26.85 acres / Boat ramp, picnic area, soccer field, tennis courts, paved and unpaved paths	Yes	Yes ³
Butterfly Park	7720 SW Macadam Avenue	No	City of Portland	1.07 acres / Natural area, paths	Yes	No
Willamette Moorage Park	South of Willamette Park	Yes	City of Portland	10.3 acres / Natural area, path	Yes	No
Powers Marine Park	Sellwood Bridge area south	Yes	City of Portland	13 acres / Natural areas, picnic areas, unpaved trails	Yes	No
Elk Rock Gardens of the Bishop's Close	Adjacent to Elk Rock	No	Episcopal Diocese of Oregon	13 acres / Gardens open to public daily	No	No
Peter Kerr Property	Adjacent to Elk Rock	Yes	City of Portland	3.3 acres / City owned parcel, open space, no public access	No	No
Elk Rock Island	East side of Willamette River	No	City of Portland	13.24 acres / Natural area, hiking trails	Yes	No
Tryon Creek State Natural Area	Boundary of Portland and Lake Oswego, west of Highway 43	No	State of Oregon	645 acres / Nature center, hiking and horse trails, bicycle path	Yes	Yes
Tryon Cove Park Annex	Near Stampher Road on river	Yes	City of Lake Oswego	0.5 acres / Picnic tables, boat ramp constructed	Yes	No
Tryon Cove Park	At mouth of Tryon Creek	Yes	City of Lake Oswego, Metro, City of Portland	Natural area with access to Willamette River	Yes	No
Six tax Lots north of Tryon Cove Park ⁴	North of Tryon Cove Park	Yes	City of Lake Oswego, Metro, City of Portland	4 acres / Open space, riparian habitat	No	No
Foothills Park	South of Tryon Cove Park, on Willamette River	No	City of Lake Oswego	9 acres / Trails, picnic area, grass amphitheater	Yes	No
Roehr Park	South of Foothills Park	No	City of Lake Oswego	7.5 acres / Amphitheater, paths, benches	Yes	No
Kincaid Curlicue Corridor	Trail linking existing trolley station and Foothills Park	Yes	City of Lake Oswego	3.6 acres / Walking and biking path	Yes	No
Millennium Plaza Park	200 First Street, Lake Oswego	No	City of Lake Oswego	Open space, fireplace, fountain	Yes	No

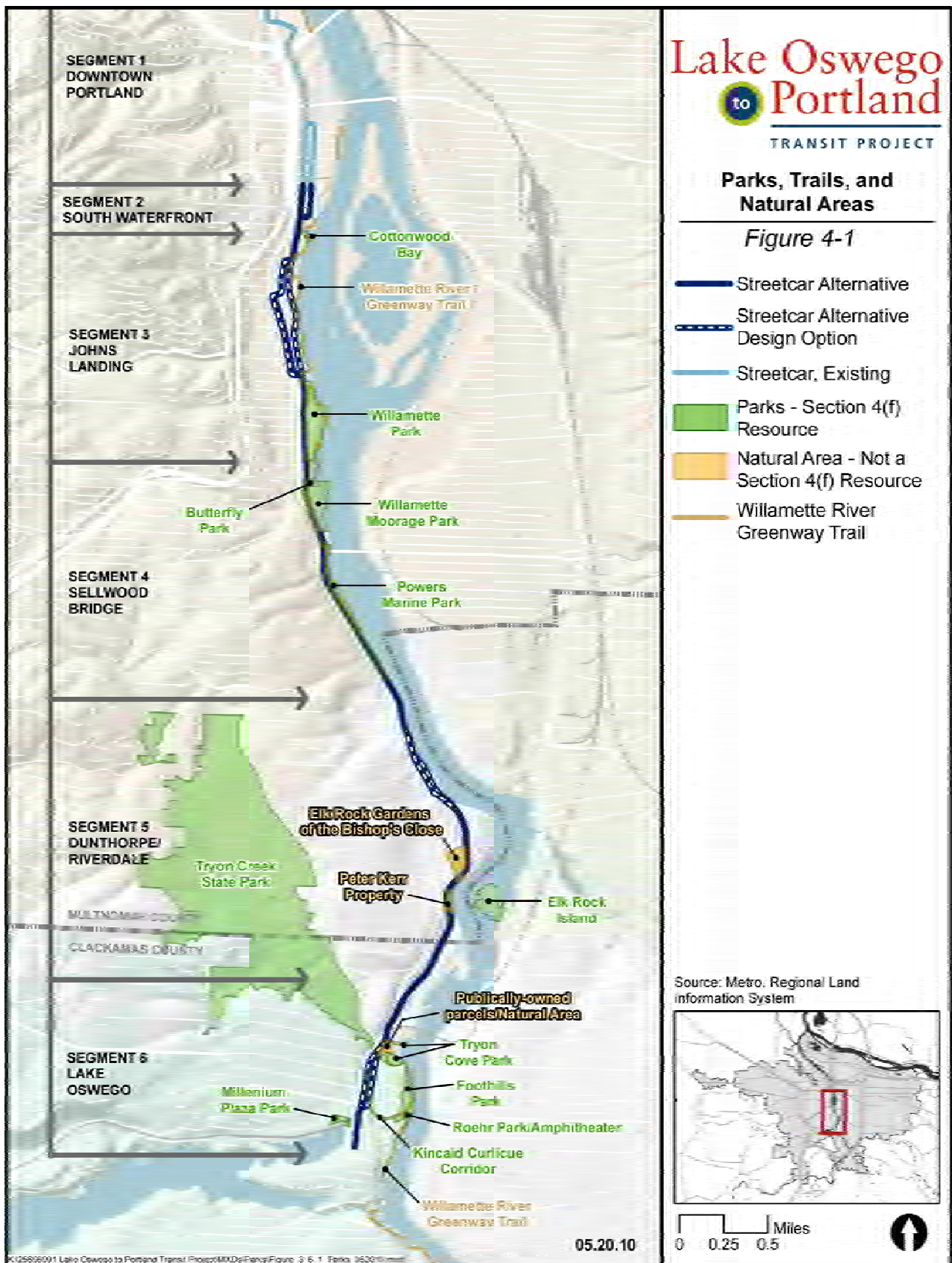
See Figure 4-1 for an illustration of these resources.

¹ All parks and recreation areas that would be located adjacent to an improvement would be adjacent to an improvement under the Streetcar Alternative – no park or recreation area would be adjacent to an improvement under the Enhanced Bus Alternative.

² The Lake Oswego to Portland Trail has been previously referred to as “Willamette Shoreline Trail.” The proposed trail is not a resource that would be protected by Section 4(f) because even though it is planned to be a public trail, no property is currently publicly owned for this purpose.

³ Section 6(f) funds were used for development of the boat ramp in Willamette Park.

⁴ Tax lot numbers are: 21E02CB02200, 21E02CB02300 (Lake Oswego), 21E02CB02400 (Metro) and 21E02CB02700, 21E02CB00900, and 21E02CB02800 (Portland).



4.1 Downtown Portland Segment

This segment reaches from downtown Portland to the South Waterfront, as shown on Figure 4-1. There is not a park or recreational resource in this segment.

4.2 South Waterfront Segment

This segment is in the South Waterfront area of Portland and includes parts of the Willamette River Greenway Trail (existing and planned) and would likely include the Lake Oswego to Portland Trail, once developed. There are no parks in this segment.

Table 4-2.
South Waterfront Segment: Park and Recreational Resources

Park/Resource	Jurisdiction	Type of Recreation
Willamette River Greenway Trail	City of Portland, City of Lake Oswego, private property	Non-motorized trail (partially complete)
Lake Oswego to Portland Trail	Metro. Planned	Planned trail

4.3 Johns Landing Segment

This segment is urbanized and includes parts of the Willamette River Greenway Trail (existing and planned) and would likely include the Lake Oswego to Portland Trail, once developed. The segment also includes two City of Portland parks, as described in Table 4-3.

Table 4-3.
Johns Landing Segment: Park and Recreational Resources

Park/Resource	Jurisdiction	Type of Recreation
Willamette River Greenway Trail	City of Portland, City of Lake Oswego, private property	Non-motorized trail (partially complete)
Lake Oswego to Portland Trail	Metro. Planned	Planned trail
Cottonwood Bay	City of Portland	Natural area, paths
Willamette Park	City of Portland	Outdoor recreation, boat dock and ramp, tennis courts, picnic area, paths, soccer field

4.3.1 The Willamette River Greenway Trail (City of Portland, City of Lake Oswego)

The Willamette River Greenway Trail⁴ was proposed in the City of Portland's Willamette Greenway Plan (1987). Various stages of the trail have been completed to date. The greenway trail is planned as a 41-mile pedestrian and bicycle trail, extending along both sides of the river as a combination of on-street and off-street paths. Many sections of the trail are complete, including large sections of the 40 Mile Loop, but there are significant remaining gaps.

⁴ This is different than the Willamette River Greenway, which is a land use designation, not a recreational resource. The Willamette River Greenway was originally established by the 1967 Oregon Legislature as a grant program for land acquisition to State Parks along the Willamette River from Eugene through Portland. The Greenway evolved from a state parks and recreation program in 1970 to a natural corridor program in 1972. Goals for the state program are to protect, conserve, restore, enhance and maintain the ecological, natural, scenic, historical, agricultural, economic, cultural and recreational qualities and resources along the Willamette River.

4.3.2 Lake Oswego to Portland Trail

The Lake Oswego to Portland Trail is a planned bicycle and pedestrian connection between the cities of Lake Oswego and Portland. A specific alignment for this trail has not been set. Past planning efforts included options for using the Willamette Shore Line right-of-way, possibly adjacent to streetcar as a “rails-with-trail” project.

4.3.3 Cottonwood Bay (City of Portland)

Cottonwood Bay is a 0.67-acre natural area located adjacent to the Willamette River, along SW Hamilton Court, off Landing Drive, south of the South Waterfront area. There are no recreational amenities at the natural area.

4.3.4 Willamette Park (City of Portland)

Willamette Park is located north of the Sellwood Bridge between the Willamette River and the streetcar right-of-way. It is a 26.85-acre park, acquired in 1929.

The amenities in the park include a dock, boat ramp, disabled access picnic area, disabled access restroom, dog off-leash area, paved and unpaved paths, picnic sites, playground, soccer field, and a lighted tennis court. The park is generally separated from the streetcar alignment by a row of mature trees. There is a road running parallel to the rail alignment directly behind the row of trees.

The Willamette Park Boat Ramp had improvements funded by LWCF in 1980.

4.4 Sellwood Bridge Segment

This segment reaches from south of Willamette Park to the south end of Powers Marine Park, as shown on Figure 4-1.

Table 4-4.
Sellwood Bridge Segment: Park and Recreational Resources

Park/Resource	Jurisdiction	Type of Recreation
Willamette River Greenway Trail	City of Portland, City of Lake Oswego, private property	Non-motorized trail (partially complete)
Lake Oswego to Portland Trail	Metro. Planned	Planned trail
Butterfly Park	City of Portland	Natural area, paths
Willamette Moorage Park	City of Portland	Boat docks, natural area
Powers Marine Park	City of Portland	Natural area, picnic area, paths

4.4.1 Butterfly Park (City of Portland)

Butterfly Park is a natural area located at 7720 SW Macadam Avenue. It is 1.07 acres in size and was acquired in 1984. The city’s description is as follows: “This small area of undeveloped Willamette River shoreline, along the Willamette Greenway, is a good example of the natural environment of the river. Many cottonwood trees grow in the wet soil, while different species of birds, insects, and native plants flourish in this nature sanctuary. The park was named ‘butterfly’ for its importance as a habitat for butterflies. An interpretive sign is located at the entrance to the park.”

4.4.2 Willamette Moorage Park (City of Portland)

The Willamette Moorage Park is a natural area south of the Macadam Bay Club and Willamette Park. There are no recreational amenities in Willamette Moorage Park.

4.4.3 Powers Marine Park (City of Portland)

Powers Marine Park is a 13-acre park located south of the Sellwood Bridge. It was acquired by the City of Portland in 1926 and includes natural areas, picnic areas and unpaved trails. The park was named after Ira Powers, owner of Powers Furniture Company, who lived in Dunthorpe. Around the time of the Depression, he and other real estate associates gave the land to the city for the extension of Terwilliger Boulevard past what is now Tryon Creek State Park, connecting Lake Oswego with where Lewis & Clark Law School now stands.

4.5 Dunthorpe/Riverdale Segment

This segment covers the area from the Sellwood Bridge to the northern boundary of Lake Oswego, as shown on Figure 4-1. The area is generally suburban in form and includes parts of the Willamette River Greenway Trail (existing and planned) and three PP&R resources, as described in Table 4-5.

Table 4-5.
Dunthorpe/Riverdale Segment: Park and Recreational Resources

Park/Resource	Jurisdiction	Type of Recreation
Elk Rock Gardens of the Bishop's Close	Private: Episcopal Diocese of Oregon	13 acres / Gardens open to public daily
Peter Kerr Property	City of Portland	Open space
Elk Rock Island	City of Portland	Natural area, hiking trails

Source: City of Portland, Elk Rock Gardens website.

4.5.1 Peter Kerr Property (City of Portland)

The Peter Kerr property is a 3.1-acre parcel located on the west bank of the Willamette River. The streetcar alignment passes directly below the parcel via the tunnel at Elk Rock.

4.5.2 Elk Rock Island

Elk Rock Island is accessed from the east side of the Willamette River in the City of Milwaukie. It is a 13.24-acre island connected to the mainland with a land bridge. The park includes natural areas and hiking trails.

The island represents part of an ancient volcano that erupted about 40 million years ago. The large, jagged rocks (Waverly Heights basalt) found throughout the island were formed by lava flows, and may be the oldest exposed rock in the Portland area. The island contains seven distinct habitats, including wetlands, forests and grasslands. A number of birds, including bald eagles and osprey, have been spotted in the area.

Elk Rock Island was part of the original donation land claim of Milwaukie pioneer Lot Whitcomb and was known as Lot Whitcomb Island during the 1860s. It went through six owners before Scottish grain exporter and Portland businessman Peter Kerr (1862-1957) acquired the property in 1910 from the Rock Island Club, which operated a dance hall on the island. He gave the island to the City of Portland in 1940 with the requirement that it be preserved in its natural state. As Kerr put it, "Preserve it as a pretty place for all to enjoy." On October 29, 1954, the Kerr family formally dedicated the park with a bronze plaque.

4.6 Lake Oswego Segment

This segment reaches from the northern boundary of Lake Oswego to the project's terminus, as shown on Figure 4-1. The area is urbanized and includes parts of the Willamette River Greenway Trail (existing and planned) and five City of Lake Oswego park resources, and is adjacent to the Tryon Creek State Natural Area, as described in Table 4-6.

Table 4-6.
Lake Oswego Segment: Park and Recreational Resources

Park/Resource	Jurisdiction	Type of Recreation
Tryon Creek State Natural Area	State of Oregon	645 acres / Natural area, walking paths, horse trails
Tryon Cove Park Annex	Lake Oswego	0.5 acres/ Picnic tables, water access for hand carry boats
Tryon Cove Park	Lake Oswego	Partially developed, boat ramp constructed
Six tax lots adjacent to or near Tryon Cove Park	City of Lake Oswego, Metro, City of Portland	Open space, riparian habitat, not open to public
Foothills Park	City of Lake Oswego	9 acres / Trails, picnic area, grass amphitheater
Roehr Park	City of Lake Oswego	Amphitheater, paths, benches
Kincaid Curlicue Corridor	City of Lake Oswego	3.6 acres / Path, connection to Foothills Park
Millennium Plaza Park	City of Lake Oswego	Open space, fireplace, fountain

Source: State of Oregon and City of Lake Oswego websites; City of Lake Oswego staff consultation (2010)

4.6.1 Tryon Creek State Park (State of Oregon)

Tryon Creek State Natural Area is a 645-acre natural day-use area located between Portland's metropolitan area and the city of Lake Oswego. The park has a nature center, eight miles of hiking trails, 3.5 miles of horse trails and a three-mile paved bicycle path. The park is located on the north side of SW Macadam Avenue/Highway 43, opposite the streetcar alignment.

4.6.2 Tryon Cove Park (City of Lake Oswego)

Tryon Cove Park was purchased in 2002 and is located on the Willamette River at the mouth of Tryon Creek. This property fills an important link between Tryon Creek State Park to the north and the City of Lake Oswego's riverfront properties to the south. A house and numerous structures have been removed from the property, and one structure remains. The City of Lake Oswego has plans to remove this remaining structure and to make minor improvements to allow for better access to the Willamette River, including plans to develop a bridge across Tryon Creek to connect Foothills Park and Tryon Cove Park. Funds have not been allocated for this project.

4.6.3 Six Tax Lots Adjacent to or Near Tryon Cove Park (City of Lake Oswego, City of Portland, Metro)

There are six publicly-owned parcels that are located adjacent to or near Tryon Cove Park (mapped as tax lots 21E02CB02200, 21E02CB02300 (Lake Oswego), 21E02CB02400 (Metro) and 21E02CB02700, 21E02CB00900, and 21E02CB02800 (Portland)). Five of the six parcels were purchased as part of the "Jarvis Property" acquisition in 2003 (the exception being City of Portland taxlot 21E02CB00900). The intent of the purchase was to preserve natural habitat, restore fish habitat in the Tryon Creek Watershed, and to provide public access to the Willamette River. The three taxlots owned and managed by the City of Portland Bureau of Environmental Services (BES) are maintained as natural areas. The Tryon Creek Confluence Habitat Project is currently underway to restore fish habitat on Tryon Creek. The Property includes an above ground sewage pipe and

sewage easement for the City of Portland Wastewater Plan located south of Tryon Creek. One taxlot is owned by Metro. Its intended use is as natural open space consistent with the Metro Greenspaces Master Plan. Based on the current Intergovernmental Agreement signed in 2003, formal use is not to begin until a Resource Management Plan has been adopted. The City of Lake Oswego owns two parcels adjacent to Stampher Road and north of the other public properties. There are no trails, public facilities or signage for these properties. The City of Lake Oswego has not made formal plans for these parcels, although does intend them for future park use. Based on the current intergovernmental agreement (2003) regarding these parcels, these parcels were identified as surplus properties, subject to future development or sale by the city. The city does intend for future park use on these properties. Additional information about these properties is available in a memo prepared during the DEIS process (*Tryon Cove Public Lands Background*, Metro, August 2010), and is available upon request.

4.6.4 Foothills Park (City of Lake Oswego)

Foothills Park is the site of a former chip plant on the Willamette River, just north of Roehr Park and the Oswego Pointe area. The park features walking paths, views, a picnic area, a stone fireplace, a pond and a grass amphitheater. The city acquired this nine-acre property in 2004 for a future park. In 2002 voters approved a bond measure, a portion of which is to fund development of this park. Initial improvements are intended to encourage public access to the site and the river. Improvements include pathways, open grass areas, event space, entry plaza, landscaping, natural area enhancements, river viewpoints, restrooms, water play area and climbing rock.

4.6.5 Kincaid Curlicue Corridor (City of Lake Oswego)

The Kincaid Curlicue Corridor is a multi-use paved trail linking Foothills Road near the existing trolley station and Foothills Park. The main recreational feature of the resource is the multi-use trail, which is used for walking and bicycling. There are two portions of the trail: an upper level that includes a paved trail with a switchback; and a lower portion that connects to Foothills Park. Foothills Road bisects these two sections. The Kincaid Curlicue Corridor is located in an area that is planned to go through redevelopment.

4.6.6 Millennium Plaza Park (City of Lake Oswego)

Millennium Plaza Park is an open space located at 200 First Street in Lake Oswego. Millennium Plaza Park opened in 1999 and features a pergola with an open fireplace at the west end and a reflecting pond in front. To the east, a traffic circle at the south end of First Avenue surrounds a seven-foot bronze sculpture atop an eight-foot rock pile and fountain. The park is the site concerts and events, including the Lake Oswego farmers market, held weekly between May and October.

5. ENVIRONMENTAL CONSEQUENCES

This chapter discloses the anticipated effects of the alternatives and design options and provides a comparison of the No-Build Alternative, the Streetcar Alternative and design options, and the Enhanced Bus Alternative. This chapter addresses the direct, indirect, cumulative, and short-term effects to park and recreational resources. Direct impacts result from changes in right-of-way and/or access. Indirect effects include impacts to setting, including changes in noise and visual conditions. Cumulative effects consider project impacts in the context of related past, present, and future projects. Short-term effects are those that would result from construction.

5.1 Direct Long-Term Impacts

The potential effects of the study alternatives on park and recreational resources, and historic sites were evaluated. The evaluation considered the qualities of the resources and assessed the extent of impairment that would likely occur to the protected resources. The number of resources that would be affected by each of the study alternatives is listed in Table 5-1.

Table 5-1 Number of Park and Recreation Resources and Natural Areas that Would Be Used, by Alternative

Measure	No-Build Alternative	Enhanced Bus Alternative	Streetcar Alternative
Section 4(f) Eligible Parks and Recreation Areas	0	0	1 ¹
Natural Areas (not Section 4(f) Resources)	0	0	3 ²
Section 6(f) Resources ³	0	0	0

Source: Lake Oswego to Portland Transit Project Streetcar Plan Set, November 9, 2009 and Preliminary Section 4(f) Analysis, DEA/URS and TriMet/Metro. See Table 4-1 for additional detail.

¹ Preliminarily determined to be a *de minimis* impact to the Kincaid Curlicue Corridor – see DEIS Appendix E for additional detail.

² Includes six tax lots in Lake Oswego owned by Metro, the City of Portland and the City of Lake Oswego. These are counted as three resources to reflect ownership by three separate entities).

³ See Table 4-1 for a list of qualifying Section 6(f) resources.

5.1.1 No-Build Alternative

The No-Build Alternative would not have direct impacts on park or recreational resources in the project area. This alternative would not include improvements to transit facilities in the project corridor; transportation improvements would be limited to those included in the 2035 financially constrained list of highway and transit projects, which is in the 2008 RTP. No impacts to the parks and recreation areas inventoried are anticipated with the No-Build Alternative.

5.1.2 Enhanced Bus Alternative

The Enhanced Bus Alternative would generally use established roadway and would not require additional right-of-way, except for the new park-and-ride facility in downtown Lake Oswego and transportation improvements as defined in the 2035 financially constrained list of highway and transit projects in the 2008 RTP. There would be no direct effects to park or recreational resources associated with the Enhanced Bus Alternative.

5.1.3 Streetcar Alternative

The effects of the Streetcar Alternative on parks are described below. Effects are anticipated at four parks or recreational resources from the Streetcar Alternative. The degree of impact would vary based on design options. Tables 5-2 and 5-3 summarize the Streetcar Alternative impacts by segment and design option, and the narrative below describes the effects.

Table 5-2
Public Park Resources Directly Affected by the Streetcar Alternative and Preliminary Section 4(f)
Determination

Segment/Design Option	Acres of Resource Used	Summary Description of Direct Impacts by Resource	Preliminary Section 4(f) Determination ³
1 – Downtown Portland	N/A	No Section 4(f) resources in this segment.	N/A
2 – South Waterfront¹		No direct impacts. Formally designated areas of the Willamette River Greenway Trail would be unaffected. There would be changes to temporary connections, including rerouting of the connector trail between SW Bancroft and Hamilton Streets (see temporary impacts).	
	0.00		
3 – Johns Landing			
Willamette Shore Line	0.00	No direct impacts. Streetcar stations would be placed near the north and south ends of Willamette Park . Construction impacts, including potential staging, associated with the stations could temporarily extend into Willamette Park.	No Use/ Temporary occupancy as per 23 CFR 771.135(p)(7)
Macadam In-Street	0.00	No direct impacts. A streetcar station would be placed near the south end of Willamette Park . Construction impacts, including potential staging, associated with the stations could temporarily extend into Willamette Park.	No Use/ Temporary occupancy as per 23 CFR 771.135(p)(7)
Macadam Additional Lane	0.00	No direct impacts. A streetcar station would be placed near the south end of Willamette Park . Construction impacts, including potential staging, associated with the stations could temporarily extend into Willamette Park.	No Use/ Temporary occupancy as per 23 CFR 771.135(p)(7)
4 – Sellwood Bridge²		No direct impacts. The project would add a pedestrian overpass over the Willamette Shore Line right of way to provide continued access to Powers Marine Park . Up to 8 culverts would be replaced; 2 to 4 of these could result in temporary occupancy for limited construction activities within the park property (see Figure 5-4).	No Use. Temporary occupancy as per 23 CFR 771.135(p)(7)
	0.00		
5 – Dunthorpe/Riverdale			
Willamette Shore Line	0.00	No direct impacts.	
Riverwood	0.00	No direct impacts.	
6 – Lake Oswego			
UPRR	0.7 ³	The project would require the use of 0.7 acre of the Kincaid Curlicue Corridor . The corridor's existing path would be relocated to retain the trail function and improved with new connections.	De minimis impact with mitigation
Foothills Realignment	1.0 ³	This design option would result in use of 1.0 acre of the Kincaid Curlicue Corridor . The corridor's existing path would be relocated to retain the trail function and improved with new connections.	De minimis impact with mitigation

Source: Lake Oswego to Portland Transit Project Streetcar Plan Set, November 9, 2009 (revised May 2010) and Preliminary Section 4(f) Analysis, DEA/URS and TriMet/Metro. See Figure 4-1 for an illustration of the location of these resources.

¹ The South Waterfront Segment contains potential construction phasing options associated with the Streetcar alignments. See DEIS Section 3.17 Phasing for more information regarding phasing options and differences between those options.

² The Sellwood Bridge Segment contains potential construction phasing options associated with the Streetcar alignments. See DEIS Section 3.17 Phasing for more information regarding phasing options and differences between those options.

³ Preliminary determinations of *de minimis* impact are based on inclusion of potential mitigation measures to be determined. As per USDOT guidance, documentation of agreement by jurisdictional owners of the resources with determinations of *de minimis* impacts and temporary occupancy will be obtained prior to publication of the final Section 4(f) Assessment.

Table 5-3 Other Natural Areas (Non-Section 4(f) Resources) Directly Impacted the Streetcar Alternative, by Segment and Design Option

Segment/Design Option	Acres of Natural Areas Impacted	Summary Description of Impacts by Natural Area Resource
1 – Downtown Portland Segment¹	0	None
2 – South Waterfront Segment	0	None
3 – Johns Landing Segment		
Willamette Shore Line	0	None
Macadam In-Street	0	None
Macadam Additional Lane	0	None
4 – Sellwood Bridge Segment²	0	None
5 – Dunthorpe/Riverdale Segment		
Willamette Shore Line	0	None
Riverwood	0	None
6 – Lake Oswego Segment		
UPRR Right-of-Way	0.33	<ul style="list-style-type: none"> • The UPRR design option would require the use of approximately 0.33 acre of undeveloped land adjacent to or near Tryon Cove Park (publicly-owned land but not protected by Section 4(f)); • A bicycle and pedestrian crossing of Tryon Creek would be added as part of the streetcar project.
Foothills	0.5	<ul style="list-style-type: none"> • The Foothills Realignment design option would require the use of approximately 0.5 acre of undeveloped land adjacent to or near Tryon Cove Park (publicly-owned land but not protected by Section 4(f)); • A bicycle and pedestrian crossing of Tryon Creek would be added as part of the streetcar project.

Source: *Lake Oswego to Portland Transit Project Streetcar Plan Set*, November 9, 2009 and *Preliminary Section 4(f) Analysis*, DEA/URS and TriMet/Metro. See Figure 4-1 for an illustration of the location of these resources.

¹ The South Waterfront Segment contains potential construction phasing options associated with the Streetcar alignments. See DEIS Section 3.17 Phasing for more information regarding phasing options and differences between those options.

² The Sellwood Bridge Segment contains potential construction phasing options associated with the Streetcar alignments. See DEIS Section 3.17 Phasing for more information regarding phasing options and differences between those options.

5.1.3.1 Downtown Portland Segment

No parks or recreational resources would be impacted by the Streetcar Alternative or design options within this segment.

5.1.3.2 South Waterfront Segment

The Streetcar Alternative with the Moody-Bond Phasing Option would extend the existing street couplet two blocks further south from its current end at SW Bancroft Street. The existing bicycle path used as the **Willamette River Greenway Trail** would be incorporated into that extension, or be extended along the Willamette River. The existing temporary trail connection south of SW Bancroft Street within the Willamette Shore Line right-of-way would be replaced. The ultimate configuration of the Willamette River Greenway Trail alignment through this segment is being planned by the City of Portland in conjunction with the South Portal planning efforts.

5.1.3.3 Johns Landing Segment

Within the Johns Landing Segment, both the Willamette Shore Line and the Macadam In-Street and Macadam Additional Lane design options would change the existing **Willamette River Greenway**

Trail near the Boundary Station, where the streetcar alignment would cross the trail, either on the existing railroad right-of-way (Willamette Shore Line Design Option), or on the existing Landing Square Drive (Macadam Additional Lane and Macadam In-Street design options). The trail connects SW Macadam Avenue with the Willamette River Greenway Trail and crosses through private property. The Willamette Shore Line Design Option crossing would be altered from its current configuration to provide safety features for trail users (“zee” crossings are planned). The Macadam Additional Lane and Macadam In-Street Design Options would also cross this trail, at an existing private road crossing (SW Landing Drive).

At **Willamette Park**, the streetcar alignment would be adjacent to the park’s western boundary along the park’s entire length and would operate fully within the Willamette Shore Line right of way. The streetcar alignment, including a streetcar station at SW Nevada Street, would be identical in the Johns Landing Segment south of SW Nebraska Street. Pedestrian access to and from the park across the Willamette Shore Line right of way at SW Nevada Street would be maintained. Vehicle and pedestrian access to and from the park at SW Nebraska Street would be maintained under the Streetcar Alternative and design options. However, there would be a change to the rail crossing signage and controls at SW Nebraska Street. Configuration of those signage and control changes and final determination of the location of the Nebraska Station under the Willamette Shore Line design option would be determined in consultation with ODOT and the City of Portland during Preliminary Engineering and final design, if the Streetcar Alternative is selected as the LPA.

Streetcar improvements in relationship to the park, primarily the location of streetcar stations, would vary by design option north of SW Nebraska Street. Under the Willamette Shore Line design option, there would be a center platform streetcar station just north of SW Nebraska Street, which would be in the streetcar right of way and in close proximity to the park’s primary vehicular entrance and exit (see Figure 5-2). The station would not require use of park property.

Under the Macadam In-Street design option and the Macadam Additional Lane design option, there would be no station at SW Nebraska Street (see Figure 5-1). Instead, transit access to the north end of the park would be provided approximately two blocks north at a streetcar station at SW Carolina Street, between SW Macadam and Beaver avenues. While the location of the streetcar station north of SW Nebraska Street would vary by design option, the streetcar alignment in the vicinity of the park, between SW Nebraska and Dakota streets, would not vary by design option.

Under the Streetcar Alternative, visual changes in Willamette Park would occur at the west side of the park adjacent to the western park boundary. In most areas these visual changes would be obscured by existing vegetation, and would not detract from existing views toward the Willamette River. Some of the trees in Willamette Park have been designated by the City of Portland as “trees of merit” which recognizes the tree(s) as noteworthy trees in the city that have been nominated for Heritage Tree status but, for a variety of reasons, were not given the status. The designation of “trees of merit” does not afford special protection. One of the mature oak trees may be within the existing right of way of the streetcar and its proximity to the proposed streetcar alignment may require it to be removed during construction of the project. Figure 5-3 shows a visual simulation of the streetcar alignment adjacent to Willamette Park with the one mature tree removed (pending consideration of potential mitigation measures). Based on the current design, no additional mature oak trees within or directly adjacent to Willamette Park would need to be removed to construct or operate the Streetcar Alternative. The project would develop and consider potential mitigation measures that could avoid the removal of mature oak trees, while maintaining safe streetcar operations, if the Streetcar

Alternative is selected as the LPA. Those mitigation measures would be developed and evaluated in consultation with the City of Portland. The project owner would coordinate with the City of Portland regarding minimizing vegetation removal and mitigation for impacts to Willamette Park. A final determination regarding the status of the trees along or in the Willamette Shore Line right of way would be made during Preliminary Engineering. Measures to avoid its removal would be considered as potential Section 4(f) mitigation in consultation with the City Arborist and the City Parks.

In Willamette Park, some users currently access the parks across the streetcar tracks at several locations, and some of these may be modified or relocated as a result of the project. In Willamette Park, there are four formal access points supported with easements (at SW Beaver, Nevada, Nebraska and Miles streets). These access points would be maintained with the Streetcar Alternative. There are at least three additional informal access points that are used by the public, which are generally located on private property. Safety measures installed for the streetcar alignment would likely relocate and/or consolidate these access points; park users would have to cross the tracks at designated locations. For any of the Streetcar Alternative's design options, the pedestrian crossing at SW Nevada Street could be improved as part of the project as mitigation for its effect on pedestrian access to/from the park. The sidewalk improvement would bring the park's sidewalk into compliance with the Americans for Disability Act and it would provide direct pedestrian access between the park and the proposed streetcar station. The City of Portland would likely retain responsibility for maintenance of the sidewalk entering the park and there would be no change to the key characteristics and function of the sidewalk.

Construction impacts, including potential staging, associated with the stations could temporarily extend into Willamette Park. The duration of the construction would be less than the time needed for the construction of the project and there would not be a change in ownership associated with the construction or staging areas.

Based on preliminary project plans which include minimization of vegetation loss and planned improvements to pedestrian environment at park entrances, the indirect effects of the project would not substantially impair affect the features, activities or attributes of Willamette Park. Further, construction activities, such as reconstruction of the sidewalk within the park boundary, are preliminarily determined to be temporary in nature, as defined by 23 CFR 771.135(p)(7), and would likely not constitute a Section 4(f) use.







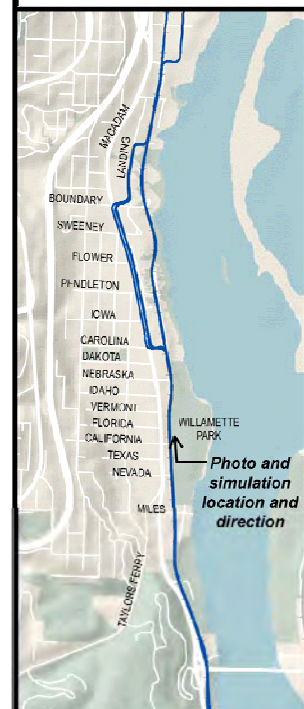
A - Existing view looking north from Willamette Park.



B - Future view looking north from Willamette Park with Streetcar Alternative (all design options).

**Existing View and
Visual Simulation
from Willamette
Park**

Figure 5-3



5.6.10

5.1.3.3 Sellwood Bridge Segment

In the vicinity of the **Powers Marine Park**, the streetcar alignment would be located within the existing Willamette Shore Line right of way. The Streetcar Alternative would not use any portion of the Powers Marine Park and it would have no direct long-term impacts to the park. The Streetcar Alternative would have short-term construction-related impacts and indirect impacts (access) to the Powers Marine Park, described below.

The Streetcar Alternative would have short-term effects on park property related to the replacement of culverts that pass under the existing rail tracks used by the excursion trolley. Of the eight anticipated culvert replacements, two to four could have temporary impacts in the park, based on right of way location (see Figure 5-4). The construction impacts from replacement of those culverts would likely require less time than the project's overall construction period and would not interfere with the activities or purpose of the park, thus their reconstruction would be preliminarily defined as temporary in nature as per 23 CFR 771.135(p)(7) and would likely not constitute a Section 4(f) use.

In Powers Marine Park, some users currently access the parks across the streetcar tracks away from formal park entry points. There are two park access points identified with easements across the existing tracks (at the north end of the park and near the proposed pedestrian bridge). There are two formal entrance points with associated parking areas, and at least five additional parking spots located along the park on the shoulders of the roadway (Highway 43, SW Macadam Avenue). These additional points that are being used to enter the park may be modified due to safety restrictions with the operation of the streetcar. With the introduction of the streetcar project, people currently entering the park on foot from the south will have to walk along the roadway for approximately 1/2-mile to access the planned pedestrian bridge over the streetcar tracks. If the Streetcar Alternative is selected as the LPA, the project team would continue to work with the City of Portland and the Oregon Department of Transportation (ODOT) regarding design and mitigation for access to Powers Marine Park from Highway 43. Additionally, if the Streetcar Alternative is selected as the LPA, the project would increase the frequency of passenger rail service adjacent to Powers Marine Park, which could impede wildlife access patterns between the Willamette River and the hills to the west. However, SW Macadam Avenue provides a significant barrier to wildlife crossings between the river and the western hills.

Staging locations in or near Powers Marine Park may be used for the construction of the project, particularly the construction of the pedestrian bridge over the streetcar tracks. The construction and staging for the pedestrian bridge would be minor, would likely require less time than the project's overall construction period and would not interfere with the activities or purpose of the park and would, therefore, preliminarily be determined to be a temporary occupancy, as defined by 23 CFR 771.135(p)(7), and would likely not constitute a Section 4(f) use.

Based on preliminary project plans, which include the provision of safe access across the streetcar line between SW Macadam Avenue and Powers Marine Park, the indirect effects of the project would not substantially impair the features, activities or attributes of Powers Marine Park. Potential mitigation could include fencing for wildlife and safety structures or barriers for pedestrians to deter them from using the tracks or crossing at undesignated locations. Proposed mitigation measures would be discussed and confirmed with the City of Portland during the project's FEIS phase, if the Streetcar Alternative is selected as the LPA.



5.1.3.4 Dunthorpe/Riverdale Segment

There would be no impacts to park or recreational resources from the Streetcar Alternative or design options in this segment.

5.1.3.5 Lake Oswego Segment

The **Kincaid Curlicue Corridor** is a multi-use paved trail linking Foothills Road near the existing trolley station and Foothills Park. The main recreational feature of the resource is the multi-use trail, which is used for walking and bicycling. There are two portions of the trail: an upper level that includes a paved trail with a switchback; and a lower portion that connects to Foothills Park. Foothills Road bisects these two sections. The Kincaid Curlicue Corridor is located in an area that is planned to go through redevelopment. The area owned by the City of Lake Oswego for the Kincaid Curlicue Corridor totals 3.6 acres, spanning several parcels. See Figure 5-5 for an illustration of the resource and an overlay of current plans for the parcel in conjunction with the project, including the proposed relocation of the existing trail under the Streetcar Alternative, which is described below.

The Streetcar Alternative's design options in this segment have been designed to be consistent with the City of Lake Oswego's plans for a trail linking to Foothills Park under their Foothills redevelopment proposal. The Streetcar Alternative's affect on the Kincaid Curlicue Corridor would be similar under the segment's two design options, but some specifics would vary by design option. Both design options would relocate an approximately 800-foot segment of the existing trail, because both options would construct a surface park-and-ride lot over portion of the existing trail. Under both design options, the relocated portion of the trail would be slightly west of its current location and immediately west of the proposed surface park-and-ride lot (see Figure 5-5). Additionally, both design options of the Streetcar Alternative would include the construction of a stairway between State Street (downtown Lake Oswego) and the Foothills area, enhancing connectivity in this area and connecting to the Kincaid Curlicue Corridor trail at two locations. The configuration of the pedestrian facilities in relationship to the vehicular facilities has been designed to separate those activities and to consolidate pedestrian crossings at controlled locations. Overall, initial coordination with the City of Lake Oswego staff indicates that the trail could be satisfactorily modified in response to the design of the project through this area, retaining and even enhancing the path's function and use.

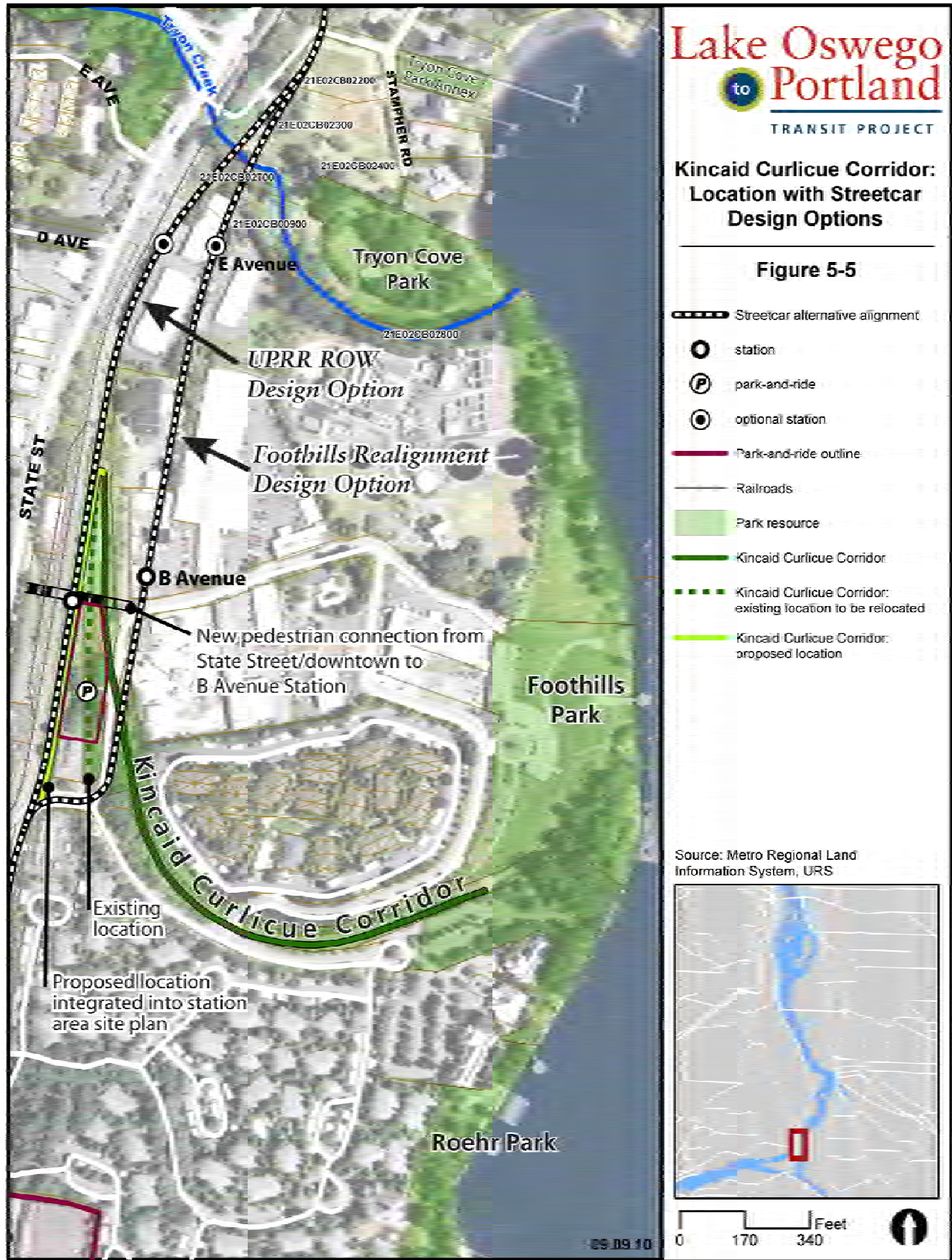
The following is a description of how the segment's two design options would differ in relationship to the Kincaid Curlicue Corridor:

Under the Foothills Realignment design option, the streetcar alignment and B Avenue Station would be located about 200 feet east of the existing UPRR alignment, integrated into a redesigned Foothills development area. The streetcar alignment would cross the Kincaid Curlicue Corridor and path about 300 feet south of the proposed B Avenue Station. The Foothills Realignment design option would result in the likely use of approximately 1.0 acre of the Kincaid Curlicue Park.

Under the UPRR Right of Way design option, the proposed streetcar alignment would be located approximately 50 feet east of the existing UPRR alignment, immediately west of the realigned bike path and park-and-ride lot. The B Avenue Station would be located adjacent to the proposed stairway along the alignment and the realigned path would be designed to be nitrated within the B Avenue Station design. Under the UPRR Right of Way design option, the streetcar alignment would

not cross the Kincaid Curlicue Corridor or path. As a result of the design of the UPRR right of way design option, the Streetcar Alternative would result in the likely use of 0.7 acre of the Kincaid Curlicue Corridor.

Under both design options, the primary feature of the corridor (i.e., a trail) and activity on the corridor (i.e., bicycle and pedestrian access between State Street and Foothills Park) would be maintained. The net direct and indirect effects of the project would not adversely affect the features, activities or attributes of the Kincaid Curlicue Corridor. Initial coordination with the city suggests that the trail could be satisfactorily modified in response to the design of the project through this area. Potential mitigation measures that would be considered during Preliminary Engineering, if the Streetcar Alternative is selected as the LPA, would include: design treatments for the relocated portions of the trail, integration of the trail into the project's pedestrian facility improvements and design treatments to address any potential conflicts between vehicular and pedestrian traffic. Based on the initial assessment of impacts, plans for mitigation and coordination with the City of Lake Oswego, FTA has preliminarily determined that with adequate mitigation the Streetcar Alternative would have a *de minimis* impact to the Kincaid Curlicue Corridor, because there would be no adverse affect to the features, activities or attributes of the resource. This preliminary determination requires concurrence with the City of Lake Oswego. The final determination of this finding would be made during the preparation of the FEIS, if the Streetcar Alternative is selected as the LPA.



5.2 Indirect Impacts

Indirect effects would typically include effects from project improvements that could cause changes to the parks, but would be less direct than those described above as direct impacts. Indirect impacts could include project related changes, such as from noise or visual conditions.

5.2.1 No-Build Alternative

There would be no indirect impacts to park or recreational resources from project improvements with the No-Build Alternative. The No-Build Alternative would not include new project related transit improvements in the corridor. There would be however be transportation improvements related to other projects included in the 2035 RTP financially constrained list that could result in indirect impacts to parklands in the corridor, such as changes to the visual environment or noise environment in corridor parks.

5.2.2 Enhanced Bus Alternative

The Enhanced Bus Alternative would result in park access improvements similar to those defined below for the Streetcar Alternative. There would be slightly longer walking distances between the new transit stops and several corridor parks, since the bus stops would be located along Southwest Macadam Avenue. The Enhanced Bus Alternative would not have visual, noise, or other indirect effects to park or recreational resources in the project area. Indirect impacts as described for the No-Build Alternative from other transportation projects in the area would also apply for the Enhanced Bus Alternative.

5.2.3 Streetcar Alternative

Minor indirect effects could occur at some park and recreational resources with the Streetcar Alternative and would vary depending on the design option. In general, indirect impacts could include changes in visual conditions, changes in transit and traffic patterns, changes in access and changes in noise levels. The Streetcar Alternative could result in visual changes adjacent to Willamette Park, Butterfly Park, Willamette Moorage Park, Powers Marine Park, Tryon Cove Park and the Kincaid Curlicue Connector. None of the visual changes would be considered significant adverse visual impacts to the parks. A moderate noise impact is anticipated at Powers Marine Park. No severe noise impacts are anticipated at any of the park or recreational resources in the corridor. Based on current designs, transportation impacts and access changes would be minimal.

In general, the Streetcar Alternatives would improve access from transit to most of the publicly-accessible parks and recreational resources in the corridor. The exceptions are Elk Rock Island, which is accessed from the east side of the Willamette River, and Tryon Creek State Natural Area, which has entrances over 1.5 miles from the closest streetcar stop and can be more easily accessed by existing bus routes. The longest distance between a proposed station and a park would be 800 feet, which is the distance between Butterfly Park and the Sellwood Bridge station. It is possible that service frequency would decline for users of Powers Marine Park if bus service along Macadam Avenue is cut back as a result of the project.

In Willamette Park and Powers Marine Park, some users currently access the parks across the streetcar tracks at several locations, and some of these may be modified or relocated as a result of the

project. In Willamette Park, there are four formal access points supported with easements (at Beaver, Nevada, Nebraska and Miles streets). These access points would be maintained with the streetcar project. There are at least three additional access points that are used by the public, which are generally located on private property. These crossing points will likely be consolidated or relocated by the project. The project team will work with the City of Portland regarding access to Willamette Park. Other than the crossings at roadways, which are marked with stop signs, the existing track crossings are not controlled with supplemental safety measures.

In Powers Marine Park, there are two park access points identified with easements across the existing tracks (at the north end of the park and near the proposed pedestrian bridge). There are two formal entrance points with associated parking areas and approximately five other parking areas located along the park on the shoulders of Macadam Avenue/Highway 43. These additional access points that are being used to enter the park may be modified due to safety restrictions with the operation of the streetcar. With the introduction of the streetcar project, people currently entering the park on foot from the south would need to walk along the roadway for approximately one-half mile to access the planned pedestrian bridge over the streetcar tracks. The project team would work with the City of Portland and the Oregon Department of Transportation (ODOT) regarding design and mitigation for access to Powers Marine Park during the project's preparation of its FEIS, if the Streetcar Alternative is selected as the Locally Preferred Alternative. The project would increase train traffic through Powers Marine Park, which could impede wildlife access patterns between the Willamette River and the hills to the west. However, Macadam Avenue provides a significant barrier to wildlife crossings between the river and the western hills.

Visual changes at Willamette Park, at Powers Marine Park and, to a lesser extent, at Tryon Cove Park and Kincaid Curlicue Corridor would occur due to construction of the streetcar alignment adjacent to these resources. In Willamette Park, visual changes related to construction of the streetcar at the west side of the park adjacent to the western boundary would be partially obscured by existing vegetation, and would not detract from existing views toward the Willamette River. (See Figure 5-3 for a visual simulation in Willamette Park.) Similarly, the streetcar would be located on the western edge of Powers Marine Park, allowing park users uninterrupted views of the Willamette River. Table 5-4 summarizes a resource by resource listing of anticipated indirect impacts including potential visual, noise and transportation impacts.

Table 5-4 Summary of Indirect Impacts to Park and Recreation Resources from the Streetcar Alternative

Segment/Design Option ¹	Access Modifications	Visual, Noise and Other Affects
1 – Downtown Portland	No impacts to resources in this segment	
2 – South Waterfront²		
No design options	<ul style="list-style-type: none"> New streetcar route improves access to the Willamette River Greenway Trail at multiple points along its alignment Access modifications to connector trail between Macadam and Willamette River Greenway Trail to enhance safety (no right-of-way changes) within Willamette Shore Line right of way (Willamette Shore Line Design Option) or SW Landing Drive (Macadam design options) improved access to Cottonwood Bay; Hamilton Station would be within 200 feet 	<ul style="list-style-type: none"> Delays associated with 7.5-minute peak-hour headways for connection trail near the Boundary Station No impacts anticipated for Cottonwood Bay
3 – Johns Landing		
Willamette Shore Line	<ul style="list-style-type: none"> Improved access for transit to Willamette Park (Nebraska and Nevada stations would be adjacent to park) Change and potential consolidation of informal access across and along tracks 	<ul style="list-style-type: none"> Visual changes partially obscured by vegetation
Macadam In-Street and Macadam Additional Lane	<ul style="list-style-type: none"> Improved access for transit to Willamette Park (Carolina and Nevada stations would be adjacent to park) Change and potential consolidation of informal access across and along tracks 	<ul style="list-style-type: none"> Visual changes partially obscured by vegetation
4 – Sellwood Bridge³		
No design options	<ul style="list-style-type: none"> Improved access with Sellwood Bridge station for Butterfly Park and Willamette Moorage Park Sellwood Bridge station would be adjacent to Powers Marine Park Change and consolidation of informal access across and along tracks at Powers Marine Park 	<ul style="list-style-type: none"> Visual changes for park users due to adjacent streetcar route One moderate noise impact at Powers Marine Park
5 – Dunthorpe/Riverdale		
Willamette Shore Line and Riverwood	<ul style="list-style-type: none"> Riverwood station would be approximately 500 feet from Elk Rock Gardens of the Bishops Close; No changes to Peter Kerr Property or Elk Rock Island 	<ul style="list-style-type: none"> None
6 – Lake Oswego		
UPRR and Foothills	<ul style="list-style-type: none"> Improved access via B Avenue station for Tryon Cove Park, Tryon Cove Annex and six tax lots adjacent to or near Tryon Cove park, which would include a new multi-use bridge over Tryon Creek Improved access to Foothills Park, Roehr Park, Kincaid Curlicue Corridor, and Millennium Plaza Park, which would include a new pedestrian crossing from State Street 	<ul style="list-style-type: none"> Visual changes for park users due to adjacent streetcar route for Tryon Cove Park, Tryon Cove Park Annex, six tax lots in the vicinity of Tryon Cove Park and the Kincaid Curlicue Corridor No impacts on Foothills, Roehr or Millennium Plaza parks

Source: *Lake Oswego to Portland Transit Project Streetcar Plan Set*, November 9, 2009 and *Preliminary Section 4(f) Analysis*, DEA/URS and TriMet/Metro. See Figure 4-1 for an illustration of the location of these resources.

¹ Except as noted in the Johns Landing Segment, the indirect impacts associated with the Streetcar Alternative would not vary by design option.

² The South Waterfront Segment contains potential construction phasing options associated with the Streetcar alignments. The Willamette Shore Line and Moody/Bond Couplet are considered phasing options rather than design options. See DEIS Section 3.17 Phasing for more information regarding phasing options and differences between those options. ³ The Sellwood Bridge Segment contains potential construction phasing options associated with the Streetcar alignments. The Willamette Shore Line and New Interchange are considered phasing options rather than design options. See DEIS Section 3.17 Phasing for more information regarding phasing options and differences between those options.

5.3 Cumulative Effects

Cumulative effects include project-related impacts in the context of related past, present and future projects. Cumulative effects to park and recreational resources from the Enhanced Bus or Streetcar alternatives would generally be positive based on improved transit access. Considered in context of the benefits of the project to park users and considering past, present and reasonably foreseeable future projects in the project area, the cumulative effects on park and recreational resources in the project area would be positive.

5.4 Short-Term (Construction) Impacts Related to Parks and Recreational Resources

Short-term impacts to parks along the project alignment could result from noise and dust generated during construction, from temporary disruptions in access, or as a result of construction easements onto park property. This section outlines anticipated construction impacts at parks along the alignment. Table 5-4 summarizes the short-term impacts, or lack of impacts, at all parks identified in the corridor.

5.4.1 No-Build Alternative

There are no short-term impacts to parks associated with the No-Build Alternative.

5.4.2 Enhanced Bus Alternative

There are no short-term impacts to parks associated with the Enhanced Bus Alternative.

5.4.3 Streetcar Alternative

Potential short-term impacts to parks in the project area associated with the Streetcar Alternative are described below, and summarized in Table 5-5. Parks without construction impacts are not described in the text below but are noted in the table.

**Table 5-5.
Summary of Short-Term (Construction) Impacts to Parks and Recreational Resources Associated with the Streetcar Alternative**

Park or Recreational Resource	Segment	Applicable Alternative / Design Option (or none)	Construction Impact
Willamette River Greenway Trail	South Waterfront Johns Landing Sellwood Bridge Dunthorpe/Riverdale	Streetcar Alternative, Sellwood Bridge MOS, all design options	Temporary rerouting in South Waterfront of informal sections of trail; construction across trail connection near Boundary Station
Cottonwood Bay	South Waterfront	N/A	None
Willamette Park	Johns Landing	Streetcar Alternative, Sellwood Bridge MOS, all design options	Construction easements within park property
Butterfly Park	Sellwood Bridge	N/A	None
Willamette Moorage Park	Sellwood Bridge	Streetcar Alternative, Sellwood Bridge MOS, all design options	None
Powers Marine Park	Sellwood Bridge	Streetcar Alternative, Sellwood Bridge MOS, all design options	Construction of pedestrian overpass encroaches on park; repair of multiple culverts will require temporary easements within park property
Peter Kerr Property	Dunthorpe/Riverdale	Streetcar Alternative, all design options	No impacts anticipated
Elk Rock Island	Dunthorpe/Riverdale	N/A	None
Tryon Creek State Natural Area	Lake Oswego	N/A	None
Tryon Cove Annex	Lake Oswego	N/A	None
Tryon Cove Park	Lake Oswego	Streetcar Alternative, all design options	None, however there will be construction adjacent to publicly owned land adjacent to or near Tryon Cove Park
Foothills Park	Lake Oswego	N/A	None
Roehr Park / Amphitheater	Lake Oswego	N/A	None
Kincaid Curlicue Corridor	Lake Oswego	Streetcar Alternative, all design options	Temporary construction impact with Foothills Design Option (not for the UPRR Right-of-Way Design Option)
Millennium Plaza Park	Lake Oswego	N/A	None

5.4.3.1 Downtown Portland Segment

There will not be construction impacts to parks in this segment.

5.4.3.2 South Waterfront Segment

In the South Waterfront Segment, the temporary bicycle path used to connect to the **Willamette River Greenway Trail** would be temporarily disrupted during construction. The construction of the streetcar project would also temporarily disrupt the connector trail between Southwest Macadam Avenue and the Willamette River Greenway near the proposed Boundary Street station. Trail use would be interrupted during construction with temporary closures. Interim routes would be provided.

5.4.3.3 Johns Landing Segment

The construction of the streetcar alternative (all design options) would cross a connector trail to the **Willamette River Greenway Trail** between SW Macadam Avenue and the Willamette River Greenway near the Boundary Station. Trail use could potentially be interrupted during construction with a temporary closure. Interim routes would be provided.

The project could result in short-term construction impacts adjacent to and possibly within **Willamette Park**. Construction activities could extend into the park area near the Nebraska Street station at a small area east of the tracks and west of Beaver Avenue. The other potential area within the park that could be affected by construction is near the Nevada Street station, south of the tennis courts.

5.4.3.4 Sellwood Bridge Segment

The project would have impacts to property within **Powers Marine Park** from the construction of a pedestrian overpass of the rail alignment and from the improvement of culverts that pass under the existing tracks. Of the eight anticipated culvert replacements, two to four are expected to have temporary impacts in the park, based on right-of-way location.

5.4.3.5 Dunthorpe/Riverdale Segment

There will be construction within the tunnel that crosses under the **Peter Kerr property**, owned by the City of Portland as a natural area. No impacts to the natural area are anticipated as a result of construction.

5.4.3.6 Lake Oswego Segment

There will be a new bridge constructed over Tryon Creek in this segment, with the properties to the north of the creek owned by public entities for future parkland. Construction staging areas have not been determined in the area around **Tryon Cove Park**, but it is possible that the publicly owned land adjacent to the bridge may be used for staging. Further planning between the project and the owners of the parcels in question could avoid a Section 4(f) impact in this area.

The Foothills Design Option alignment would result in temporary construction impacts to the **Kincaid Curlicue Corridor**, an existing pedestrian and bicycle path linking N State Street in Lake Oswego with Foothills Park. The path will be able to be accessed during construction from an existing road. Both design options include a new park-and-ride near the corridor, which would require moving the westernmost portion of the path.

6. POTENTIAL MITIGATION MEASURES

This chapter identifies the potential mitigation measures that could be utilized to mitigate significant impacts of the study alternatives. The purpose of discussing mitigation measures in the context of the technical reports and DEIS analyses is to identify what mitigation options, if any, are required to mitigate significant impacts that have been identified and when mitigation commitments would be required to mitigate these impacts. Actual commitments to mitigation will be defined in conjunction with development of the FEIS, relative to the selected alternative/options, through mitigation plans that will support the FEIS and be included in the project ROD.

6.1 Potential Short-Term Mitigation

Depending on the type of resource and the type of project-related impacts, short-term mitigation measures can include a wide range of options, including those defined within individual topic areas such as noise, visual, and transportation. Where direct or proximity impacts are expected, the project will coordinate with park owners to maintain access to park resources where possible and, when restrictions to access or the use of park or recreational resources are unavoidable, the project would work to minimize the duration.

6.2 Potential Long-Term Mitigation

The initial design for the project incorporates measures designed to minimize impacts and to provide opportunities for benefits (e.g., minimizing cutting of trees, planting vegetation in areas of impact and improving access opportunities for the public). Where the use of park property would be required, the project would work with the park owner to determine appropriate compensation or other agreements to allow use of the land for the project's improvements. After selection of the Locally Preferred Alternative and during future design efforts, the design team would explore other mitigation measures for the Locally Preferred Alternative. Potential mitigation measures could include new or replaced landscaping, park amenities or modified project design.

The Section 4(f) regulations are very specific regarding the order in which steps must be taken before authorizing the use or constructive use of a Section 4(f) property. If a use or constructive use of parkland is identified, alternatives to avoid the use of the Section 4(f) resource must be developed and examined. If no reasonable alternative can be identified, then documentation showing that there is "no prudent or feasible alternative" must be prepared and approved by the DOI. If use of a Section 4(f) resource cannot be avoided for the selected alternative, then, during the FEIS phase, measures to minimize the use must be developed, evaluated, and coordinated with the agency with jurisdiction over the resource.

Mitigation is anticipated related to Section 4(f) requirements and would be developed in consultation with the park owners prior to the release of the FEIS if the Streetcar Alternative is selected as the Locally Preferred Alternative. No mitigation would be needed if the Enhanced Bus Alternative is selected as the Locally Preferred Alternative. See Appendix E Preliminary Section 4(f) Evaluation for more information.

No conversion of Section 6(f) lands is required. If a conversion were required, the land must be replaced with other recreational properties of at least equal fair market value and with reasonable equivalent usefulness and location.

7. REFERENCES

City of Lake Oswego. 2010. Website providing parks information.

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City of Lake Oswego. 2004. City of Lake Oswego Capital Improvement Plan. Parks and Open Space 2004-2009. Prepared by Kim Gilmer.

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http://www.oregon.gov/OPRD/about_us.shtml

8. LIST OF PREPARERS

Krinke, Mara. Senior Planner. David Evans and Associates. M.A., Public Affairs, University of Minnesota; B.A., Economics, B.A., Botany, Miami University (Ohio).

Guthrie, Tobin. Survey Technician/GIS Specialist. David Evans and Associates. B.A., Psychology, Colorado College.

Dupey, Alex. Project Manager. David Evans and Associates.

Appendices

Appendix A: Agency Coordination

Meetings

March 8, 2010: Meeting held with the City of Portland's Parks and Recreation staff to discuss project area and nearby parks. Participants: Nancy Gronowski (Senior Planner, City of Portland, Bureau of Parks and Recreation), Brian Monberg (Metro), Mara Krinke (David Evans and Associates).

March 11, 2010: Meeting held with the City of Lake Oswego's Parks and Recreation staff to discuss project area and nearby parks. Participants: Kim Gilmer (Parks Director, City of Lake Oswego), Brian Monberg (Metro), Mara Krinke (David Evans and Associates).

June 9, 2010: Meeting held with the City of Portland's Parks and Recreation staff to discuss preliminary findings regarding parks. Participants: Nancy Gronowski (Senior Planner, City of Portland, Bureau of Parks and Recreation), Emily Roth (Planner, City of Portland), Brian Monberg (Metro), Leon Skiles (Leon Skiles & Associates, Inc.).

June 18, 2010: Meeting held with Metro Parks and Open Spaces to discuss project area. Participants: Janet Bebb (Metro), Brian Monberg (Metro), Katy Weil (Metro), Elaine Stewart (Metro).

June 24, 2010. Meeting held with the City of Lake Oswego's Parks and Recreation staff to discuss project area and nearby parks. Participants: Kim Gilmer (Parks Director, City of Lake Oswego), Brian Monberg (Metro), Mara Krinke (David Evans and Associates), Leon Skiles (Leon Skiles & Associates, Inc.).

July 12, 2010. Meeting held with Metro Parks to discuss project area. Participants: Mary Ann Cassin (Metro), Janet Bebb (Metro), Bridget Wieghart (Metro), Brian Monberg (Metro), Leon Skiles (Leon Skiles & Associates, Inc.).

July 28, 2010. Meeting with City of Portland. Participants: Patrick Sweeney (City of Portland), Kristen Acock (Portland Bureau of Environmental Services), Kaitlin Lovell (Portland Bureau of Environmental Services), Amin Wahab (Portland Bureau of Environmental Services), Jamie Snook (Metro), Brian Monberg (Metro).

September 17, 2010. Meeting with Lake Oswego regarding park resources. Participants: Kim Gilmer (Lake Oswego Parks and Recreation), Brant Williams (Lake Oswego), Jamie Snook (Metro), Brian Monberg (Metro), Leon Skiles (Leon Skiles & Associates, Inc.).

Letters



Metro | *People places. Open spaces.*

November 5, 2010

Kim Gilmer, Director
City of Lake Oswego Parks & Recreation Department
P.O. Box 369
Lake Oswego, OR 97034

Dear Ms. Gilmer,

Thank you for meeting with us to discuss the Lake Oswego to Portland Transit Project, and for your agency's continued participation in reviews of products supporting the development of the project's Draft Environmental Impact Statement (DEIS). With this letter, we reiterate our interest in coordinating with Lake Oswego Parks and Recreation throughout the planning and design process of the Lake Oswego to Portland Transit Project.

The Lake Oswego to Portland Transit project is considering No-Build, Enhanced Bus, and Streetcar Alternatives that would connect the City of Lake Oswego and Clackamas County to the City of Portland. The project plans on releasing the DEIS in the fall of 2010. This document will be followed by a 45 to 60-day public comment period. A decision on a Locally Preferred Alternative (LPA) is expected to be reached in 2011. Preliminary Engineering will begin after the adoption of the LPA. While the DEIS will disclose impacts, potential mitigation, and include a preliminary Section 4(f) assessment, the Final Environmental Impact Statement (FEIS) will determine the mitigation strategies to be pursued by the project. The DEIS considers resources across different disciplines for direct, indirect, and cumulative impacts and possible mitigations measures. Specific park, recreation, natural area and open space resources addressed in the DEIS are described below.

There are several resources in the City of Lake Oswego, including Tryon Creek State Natural Area, Tryon Cove Park, Tryon Cove Annex, Foothills Park, Roehr Park, the Kincaid Curlicue Corridor Trail, and Millennium Plaza. We also understand the city to be committed to the Willamette River Greenway Trail, by developing plans to continue the trail along the Willamette River north from Foothills Park, and connect both to a future regional trail north of the city, and west to Tryon Creek State Natural Area.

The Federal Government has established policies for the protection and preservation of significant parks, recreation areas, nature refuges, and cultural resources that must be considered during planning and construction of federally funded transportation projects. This process, commonly known as Section 4(f), applies to publicly owned resources. The DEIS analysis helps the Federal Transit Administration (FTA) determine if there would be any use of Section 4(f) lands, or if there would be any impacts that would substantially diminish the qualities that make them Section 4(f) resources as a result of the project. Where there is a use of a Section 4(f) resource for a project, the FTA can approve the project only if it is a minor impact or, if the use is significant, there are no prudent and feasible alternatives, and if all possible planning efforts have been used to minimize the harm to these resources. If the impact is minor, and the responsible official(s) with jurisdiction

of the resources agree(s) in writing, compliance with Section 4(f) evaluation is simplified. This condition of minor impact is called a *de minimis* determination.

With this letter and in concert with city comments on the preliminary DEIS section provided in June and September 2010, we seek to confirm our understanding of the City of Lake Oswego's park resources. This letter is to inform the city that the project is evaluating the possibility of a *de minimis* impacts determination to the Kincaid Curlicue Corridor, and that the project will continue to work with the city on future development plans for the publicly owned parcels adjacent to Tryon Creek and Tryon Cove Park.

As discussed with city staff, the streetcar design options would include an alignment and park-and-ride facility adjacent to the existing Kincaid Curlicue Corridor. The primary feature of the park, a multi-use trail, would be relocated approximately 200 feet west of its current location and integrated into the station area design. The trail would maintain its feature as a trail connection from the west end of the Foothills District into Foothills Park. The transit project includes the placement of a stairway between State Street and the Foothills area, enhancing connectivity in this area. The UPRR Design Option would be aligned along the western edge of the property, and would require use of approximately 0.7 acre of the parcel. The Foothills Design Option would cross the parcel, requiring approximately 1.0 acre. Initial coordination with the city suggests that the trail could be satisfactorily modified in response to the design of the project through this area. The current DEIS analysis includes an initial finding that the use of the land, combined with the project design, would not adversely affect the activities, features, and attributes of the Kincaid Curlicue Corridor, although we acknowledge that this finding could change in the Final Environmental Impact Statement.

The project will also continue to work with the City of Lake Oswego on the future development of properties around Tryon Cove Park. As we have discussed, Tryon Cove Annex is considered a Section 4(f) resource. Based on our conversations and review of documentation involving other properties adjacent to Tryon Creek:

- Seven of the taxlots around Tryon Creek were purchased in 2003 as part of the "Jarvis Property" acquisition.
- The intent of the joint purchase was to preserve natural habitat, restore fish habitat in the Tryon Creek Watershed, and to provide public access to the Willamette River and a pedestrian connection across Tryon Creek.
- Three taxlots are owned and managed by the City of Portland Bureau of Environmental Services (BES). The Tryon Creek Confluence Habitat Project currently underway is working to restore fish habitat on Tryon Creek. The property includes an above ground sewage pipe and sewage easement for the City of Portland Wastewater Treatment Plant located south of Tryon Creek.
- One taxlot is owned by Metro Regional Government. Its intended use is as natural open space consistent with the Metro Greenspaces Master Plan. Based on the current Intergovernmental Agreement signed in 2003, formal use is not to begin until a Resource Management Plan has been adopted.
- Four taxlots are owned by the City of Lake Oswego:
 - Two taxlots are immediately north of Tryon Creek. Based on the current intergovernmental agreement signed in 2003, use of the parcels north of Tryon Creek shall be restricted as open space, except that Lake Oswego may, in its discretion, establish a natural resource educational/interpretive center with associated meeting room space. Lake Oswego may also develop the parcel for the purpose of providing pathways and passive recreational uses. No trail or education

- center has been constructed to date, although the properties currently allow for natural area viewing and water access to the Willamette River.
- Two taxlots are immediately south of Stampher Road. Based on the current intergovernmental agreement signed in 2003, these properties were identified as surplus, subject to future sale or development by the city. It was clarified at our September 17, 2010 meeting that these lots are for future park use at the current location.
- To date, no Master Plan or Resource Management Plan has been adopted for the properties.

Based on a review of documentation, the project currently recommends that the two taxlots the City of Lake Oswego owns adjacent to Tryon Creek are to be considered Section 4(f) resources, while the other properties are not to be considered Section 4(f) resources at this time. The project will continue to work with the City of Lake Oswego's future efforts on these properties, consistent with city plans and policies, including the Foothills Redevelopment Plan and the city's Parks and Recreation Comprehensive Plan and Open Space Plan. Final determination of Section 4(f) status will be made by the FTA in consultation with resource owners as part of the FEIS.

We would like to request a letter from the City of Lake Oswego agreeing to continue coordination between the Lake Oswego to Portland Transit Project and park plans. This coordination will include discussion of design, phasing, and mitigation strategies. A final determination of impacts and mitigation will be defined in the FEIS. As the FEIS helps conclude on impacts, we will likely be asking the city to concur on a finding that the transit project would not adversely affect the activities, features, and attributes of Kincaid Curlicue Corridor. The project will work to avoid, minimize, and mitigate any impacts to publicly owned property in the area. The project will also work to ensure that development of transit alternatives happens in conjunction with future master planning of publically-owned parcels in the vicinity of Tryon Cove.

We are looking forward to coordinating planning efforts with Lake Oswego Parks and Recreation throughout the project design process. The Federal Transit Administration, Metro, and TriMet are committed to avoid impacts or conflicts from the transit project. We recognize that further definition of design and implementation will need to be discussed. The project will continue to work directly with you and your agency throughout preliminary engineering, the FEIS, and final design.

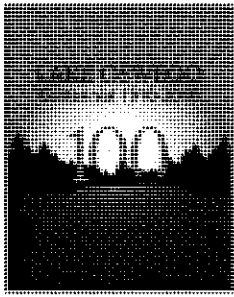
If you have any questions or have further information to share, feel free to call me at 503-797-1775 or Jamie Snook at 503-797-1751.

Sincerely,



Bridget Wieghart
DEIS Project Manager
Lake Oswego to Portland DEIS

Cc: Brant Willams, City of Lake Oswego
Joe Recker, Trimet
Jamie Snook, Metro



CITY OF LAKE OSWEGO

PARKS & RECREATION DEPARTMENT

4101 Kruse Way
PO Box 369
Lake Oswego, OR 97034

503-675-2549
www.ci.oswego.or.us

November 8, 2010

Bridget Wieghart
Transit Project Manager
Metro
600 NE Grand Avenue
Portland, OR 97232

Dear Ms. Wieghart:

It was nice meeting with the project partners regarding the Lake Oswego to Portland Transit Project Draft Environmental Impact Statement (DEIS). I appreciate the time the team has taken to meet with me in June, July, and September this year to provide an overview of the DEIS and its findings. This letter is intended to clarify our comments regarding the DEIS and its conclusions concerning the Kincaid Curlicue Corridor and Tryon Cove Park and nearby parcels owned by the City of Lake Oswego, the City of Portland and Metro.

I understand, based on project documentation received to date, that the DEIS proposes that a Section 4(f) designation be applied to the Kincaid Curlicue Corridor, and that the concept design for the Lake Oswego to Portland Transit Project streetcar alternative would affect the existing alignment of this trail corridor. The project, as currently defined, does a good job of minimizing and mitigating the impacts to the trail. Based on that conceptual design and potential mitigation measures, the resulting realignment of the trail would most likely result in an improved trail alignment once the project is complete. Therefore, I am comfortable with a preliminary finding that the Streetcar Alternative would not adversely affect the activities, features, or attributes that make this property eligible for Section 4(f) designation, which would constitute a *de minimis* impact under federal Section 4(f) guidelines. I recognize that this determination will not be finalized until the completion of the Final Environmental Impact Statement, which will be based on preliminary engineering and project commitments to mitigation. The city looks forward to working with the project to minimize affects to the resource.

We have worked closely with Metro over the past several months to document and understand the current status and use of Tryon Cove Park and nearby parcels owned by the cities of Lake Oswego and Portland and Metro. As we discussed, the City of Lake Oswego's property was purchased as part of a joint effort between the City of Portland, Metro, and the City of Lake Oswego in 2002. The primary intent of the joint purchase was to preserve natural habitat,

restore fish habitat in the Tryon Creek Watershed, and to provide public access to the Willamette River and a pedestrian connection across Tryon Creek. The purchase agreement between the three jurisdictions anticipates the development of a master plan for the properties, but no master plan has yet been adopted. In the future as a part of that master planning effort, the City of Lake Oswego looks to develop a future trail connection from these properties south to Foothills Park, west to Tryon Cove Natural Area, and north to a future regional trail. The city aims to develop pathways and passive recreational uses consistent with future habitat restoration along Tryon Creek.

We encourage you to initiate a planning effort for the resources adjacent to Tryon Cove during future development of any transit alternative.. These combined planning efforts will work to define the activities, features, and attributes of the public properties adjacent to Tryon Creek and insure the goals of both projects can be successfully achieved. Specifically, the City will be seeking to initiate a future Master Plan, in conjunction with its partners, for the related parcels that will be coordinated closely with future Foothills District planning efforts and streetcar, if streetcar is selected as the Locally Preferred Alternative. The City's goal is to clarify the details of this coordination during the Locally Preferred Alternative adoption process. These details will be confirmed during preliminary engineering and the FEIS. Lake Oswego Parks & Recreation desires to develop a master plan that is well coordinated with street car planning efforts while also achieving the habitat restoration and public parks and recreation goals of all parties involved.

I appreciate the time you and your team have taken in keeping me apprised of the transit project's progress. We anticipate future conversations about transit project design that will successfully integrate the future park planning and maximize benefits to the city while mitigating for the effects to any park property. We look forward to continued partnership with Metro and TriMet as the transit project moves forward into the Final EIS and preliminary engineering.

Sincerely,



Kim L. Gilmer, Director
Lake Oswego Parks & Recreation Department