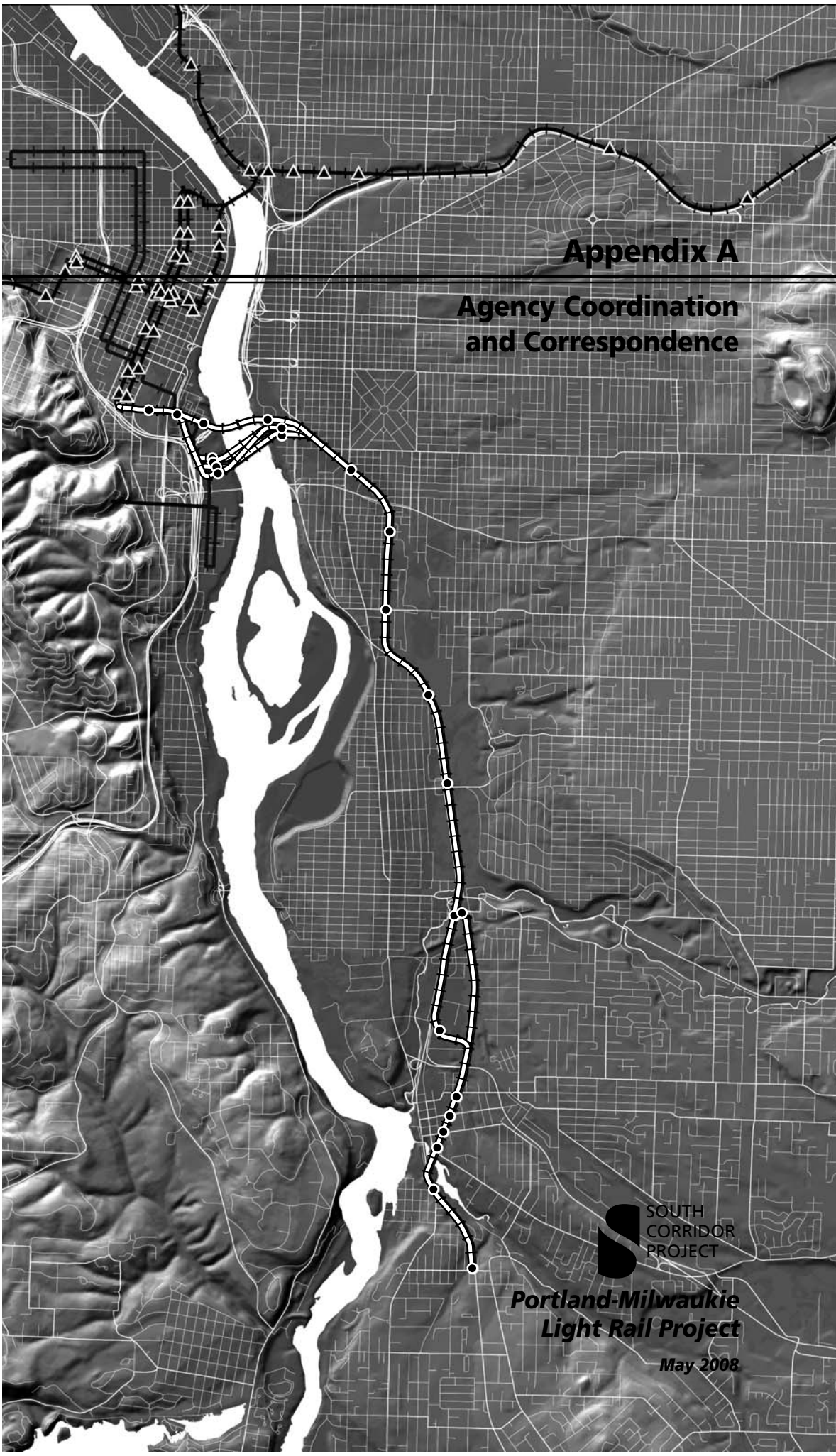

Appendix A

Agency Coordination and Correspondence

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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APPENDIX A. AGENCY COORDINATION AND CORRESPONDENCE

This appendix lists correspondence from the current Portland-Milwaukie Light Rail Project. Chapter 6 of the SDEIS provides a list of community participation, agency coordination, and associated outreach efforts. Records of correspondence regarding the South/North Corridor Project (DEIS, February 1998) and the South Corridor Project (SDEIS, December 2002) can be found in those documents.

The attachments to this appendix include:

- U.S. Fish and Wildlife Service lists of threatened and endangered species known to occur in Clackamas and Multnomah Counties
- Oregon Natural Heritage Information Center correspondence regarding rare, threatened and endangered plant and animals within two miles of the project area

April 17, 2007 – Re-Initiating the Supplemental Draft Environmental Impact Statement

Federal Agencies Invited:

Federal Emergency Management Agency
Federal Highway Administration
NOAA National Marine Fisheries Service
Federal Railroad Administration
U.S. Coast Guard
U.S. Army Corps of Engineers
U.S. Bureau of Indian Affairs
U.S. Department of Agriculture
U.S. Department of Commerce
U.S. Department of Homeland Security
U.S. Department of the Interior
U.S. Department of Energy: Bonneville Power Administration
U.S. Environmental Protection Agency

(In addition, the Chinook, Cowlitz, Grand Ronde, Siletz and Warm Springs Tribes were invited to send a representative if they could not attend a meeting scheduled for the Tribes and FTA)

Agencies In Attendance: Oregon Department of Environmental Quality, City of Portland Department of Transportation, Portland Police Bureau, Clackamas County Water Environment Services, Clackamas County Public & Government Relations, Confederated Tribes of Grand Ronde, Portland Water Bureau, City of Portland Bureau of Parks & Recreation, City of Portland Bureau of Environmental Services, Portland Development Commission, Oregon State Historic Preservation Officer, Oregon Emergency Management

This meeting was a re-initiation of the South Corridor Phase II: Portland-Milwaukie Light Rail Project. At the meeting Metro staff reviewed the history of the South Corridor, the refinement phase, the process and schedule for the Supplemental Draft Environmental Impact Statement (SDEIS) for the project. Comments and concerns that were heard at the meeting are as follows: the Oregon Department of Environmental Quality was interested in the methodology concerning hazardous materials; the Portland Police Bureau wants to see transit police at park and rides and SEPTA principals implemented; the City of Portland Bureau of Environmental Services expressed concern of endangered species during construction of the light rail and the bridge; the Portland

Water Bureau concerned about the impacts to the water main lines; Clackamas County commented on the impact to the N. Clackamas Trolley Trail; and the Portland Development Commission stated that the project needs to maximize economic development opportunities.

Agencies were solicited for their areas of interest in the SDEIS. Oregon Department of Environmental Quality, Oregon State Historic Preservation Office, City of Portland Department of Transportation, Portland Parks and Recreation and the Confederated tribes of Grand Ronde submitted an "Area of Interest" form.

June 28, 2007 – Additional Re-Initiating the Supplemental Draft Environmental Impact Statement Coordination Meeting

Agencies In Attendance:
U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers

For federal agencies unable to attend the April 17 meeting, staff held an additional meeting for the natural resource agencies. The meeting included a review of the project history and the latest design options for both the southern terminus and the Willamette River crossing location and alignment. A highlight of the comments, questions and concerns of the agencies are as follows: was a tunnel considered as an alternative to the bridge; how would this new bridge compare with the Marquam Bridge in terms of height; why is Park Place proposed as a southern terminus; that a park and ride facility in combination with a bus stop and station needs to be explored to reduce the development footprint; any project mitigation around Johnson Creek needs to be coordinated with other creek improvements to maximize effectiveness; can the project fund the dam removal at Kellogg Creek to reduce the amount of water to be spanned; wildlife passages, especially at water bodies, that cross the alignment need to be explored; and would the new bridge have enough capacity for future traffic if another bridge was unable to be used.

July 11, 2007 – Second Additional Re-Initiating the Supplemental Draft Environmental Impact Statement Coordination Meeting

Agencies In Attendance:
NOAA National Marine Fisheries Service, Federal Transit Administration, Region 10 (via phone)

As the NOAA Fisheries were unable to participate in the April 17 or June 28 meetings, this meeting was held to discuss the project and their concerns regarding endangered species and ecosystem resources managed by NOAA Fisheries along the alignment. The meeting began with a presentation on the history and the alignment for the project. Some key concerns that were identified by NOAA Fisheries are as follows: is there an actual need for this project given the existing transit network; the present conditions of the Willamette River are such that additional human development will degrade the situation; why not use an existing bridge; bank work that replaces or impairs or prevents shoreline habitat preservation or restoration is a concern; will the project coordinate with the current plans to remove the Kellogg Lake dam; and will the project coordinate with the Johnson Creek restoration.

January 24, 2008 – Coordination meeting with the U.S. Coast Guard

Agencies in Attendance: U.S. Coast Guard, Riverwise, Michael Eaton of Multnomah County

Metro and TriMet project staff met with the U.S. Coast Guard (USCG) to discuss a draft of the river user survey and data. The USCG noted the number of commercial users whose use would be restricted at higher water levels with a 65' bridge vertical clearance, less USCG concern was apparent at 72' vertical clearance. Project staff advised the USCG that further outreach would be performed with the river users.

January 29, 2008 – Second Invitation to Tribes Concerning Project Coordination

This letter extended an invitation to the Chinook, Cowlitz, Grand Ronde, Siletz and Warm Springs Tribes to meet and review the project. The letter noted that a letter had gone out in March 2007 inviting these tribes to a meeting with the Federal Transit Administration concerning the project. The letter also noted that if there was any project information that was needed it would be provided.

January 30, 2008 – Letter of Participation or Coordination Request

Letters sent to: U.S. Fish and Wildlife, Federal Highway Administration, U.S. Coast Guard, NOAA National Marine Fisheries Service, U.S. Army Corps of Engineers, Federal Railroad Administration

Letters were sent to the above agencies inviting them to be a participating or coordinating agency as part of the environmental review process for the project. The U.S. Coast Guard, U.S. Army Corps of Engineers and the Federal Highway Administration have agreed to become a coordinating agency while NOAA National Marine Fisheries Service agreed to be a participating agency.

March 5, 2008 – Federal Railroad Administration Tour

Agencies in Attendance:
Federal Railroad Administration

On March 5, 2008, a project tour was provided to a representative of the Federal Railroad Administration, with special attention to areas of the proposed alignment or alignment options in proximity to private rail lines. The FRA representative noted that where grade separated crossings were proposed, this design solution satisfied FRA safety and operational concerns. TriMet representatives suggested that they would continue to work with the FRA as well as the private railroad interests as the project proceeded with more detailed design and engineering.

March 11, 2008 – Second Coordination Meeting with NOAA's National Marine Fisheries Service

Agencies Attended:
NOAA National Marine Fisheries Service, Federal Transit Administration, Region 10

Information about the project and alternative modes and alignments studied and not advanced were presented. NOAA issues included a) coordination of three potential projects that concern nearby

properties including the Portland Park Bureau South Waterfront Willamette Greenway project, a hazardous materials remediation project being negotiated between Ziddell International and the Oregon Department of Environmental Quality and the Portland-Milwaukie Light Rail Project, b) methods to minimize the hardscape along the river and maintaining native landscape materials, especially tall trees, along the river bank.

April 15, 2008 Agency Coordination Meeting/Comments on Advance Draft of SDEIS
Agencies Attended:
Federal Transit Administration (via telephone), Oregon State Office of Historic Preservation, Federal Rail Administration, Bonneville Power Administration, Oregon Department of Transportation, Parametrix, TriMet and Metro.

A project overview was provided and then agency comments solicited. Issues identified included the need to contact the archeological expert at the State Historic Preservation Office about a memorandum of understanding concerning inadvertent discoveries of any below ground resources. Further, the Federal Railroad Administration (FRA) indicated that the State of Oregon would need to review any rail crossings and that the FRA would want to continue to be involved with any proposed spur changes and that they would want a final design to reflect sufficient space separation between any LRT and railroad tracks for railroad worker safety. ODOT indicated that they had concerns with the proposed traffic signal at Powell and Eighth as well as any at grade crossing of McLoughlin Boulevard.

April 21, 2008 Agency Coordination Meeting/Comments on Advance Draft of SDEIS

Agencies Attended:
Federal Transit Administration, Confederated Tribes of the Grand Ronde, US Environmental Protection Agency, US Army Corps of Engineers, National Marine Fisheries Service, Federal Highway Administration, Oregon Department of Fish and Wildlife, Oregon Department of State Lands, City of Portland Bureau of Environmental Services, Parametrix, TriMet and Metro.

The Confederated Tribes of the Grand Ronde indicated interest avoiding impacts to and improvement of lamprey and salmonid habitat, providing a list of replanting species for restoration projects and providing monitors for exploratory and construction efforts that include excavation. They further indicated interest in any draft memorandum of understanding concerning inadvertent discoveries.

Other comments included information about the extent of Green Sturgeon, inclusion of Oregon Conservation Strategy Habitats, taking account of potential indirect impacts (in addition to direct impacts), mitigation of each river or stream crossing, construction window times, removal of the dam blocking Kellogg Creek, coordinating the Portland to Milwaukie LRT and Columbia River Crossing projects to share construction equipment and production of common elements (such as concrete segments for bridges), treatment of stormwater runoff, wildlife passage under any bridges, removal or improvement of existing culverts or fish blockages that would be crossed by LRT and continuing coordination between the project and resource agencies.

FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN WHICH MAY OCCUR WITHIN MULTNOMAH COUNTY, OREGON

LISTED SPECIES

Mammals

Terrestrial:

Columbian white-tailed deer (Columbia River distinct population segment)	*Odocoileus virginianus leucurus*	E

Birds

Northern spotted owl	*Strix occidentalis caurina*	CH T

Fish

Anadromous:

Columbia River chum salmon	*Oncorhynchus keta*	T*
Southern Oregon/Northern California coasts coho salmon	*Oncorhynchus kisutch*	CH T*
Lower Columbia River/Southwest Washington coho salmon	*Oncorhynchus kisutch*	T*
Upper Willamette River steelhead	*Oncorhynchus mykiss spp*	T*
Middle Columbia River steelhead	*Oncorhynchus mykiss ssp.*	T*
Snake River Basin steelhead	*Oncorhynchus mykiss ssp.*	T*
Lower Columbia River steelhead	*Oncorhynchus mykiss ssp.*	T*
Lower Columbia River chinook salmon	*Oncorhynchus tshawytscha*	T*
Upper Willamette River chinook salmon	*Oncorhynchus tshawytscha*	T*
Snake River chinook (Spring/Summer/Fall Runs) salmon	*Oncorhynchus tshwatscha*	T*

PROPOSED SPECIES

None

No Proposed Endangered Species		PE
No Proposed Threatened Species		PT

CANDIDATE SPECIES

Birds

Streaked horned lark	*Eremophila alpestris strigata*

SPECIES OF CONCERN

Mammals

Pallid bat	*Antrozous pallidus pacificus*
Red tree vole	*Arborimus longicaudus*
Townsend's western big-eared bat	*Corynorhinus townsendii townsendii*
Silver-haired bat	*Lasionycteris noctivagans*
Long-eared myotis bat	*Myotis evotis*
Long-legged myotis bat	*Myotis volans*
Yuma myotis bat	*Myotis yumanensis*
Camas pocket gopher	*Thomomys bulbivorus*

Birds

FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN WHICH MAY OCCUR WITHIN MULTNOMAH COUNTY, OREGON

Northern goshawk	*Accipiter gentilis*
Tricolored blackbird	*Agelaius tricolor*
Western burrowing owl	*Athene cunicularia hypugaea*
Olive-sided flycatcher	*Contopus cooperi*
Harlequin duck	*Histrionicus histrionicus*
Yellow-breasted chat	*Icteria virens*
Lewis' woodpecker	*Melanerpes lewis*
Mountain quail	*Oreortyx pictus*
Band-tailed pigeon	*Patagioenas fasciata*
Oregon vesper sparrow	*Pooecetes gramineus affinis*
Purple martin	*Progne subis*

Reptiles and Amphibians

Northern Pacific pond turtle	*Actinemys marmorata marmorata*
Coastal tailed frog	*Ascaphus truei*
Oregon slender salamander	*Batrachoseps wrighti*
Larch Mountain salamander	*Plethodon larselli*
Northern red-legged frog	*Rana aurora aurora*
Cascades frog	*Rana cascadae*

Fish

Green sturgeon	*Acipenser medirostris*
Pacific lamprey	*Lampetra tridentata*
Coastal cutthroat trout	*Oncorhynchus clarki ssp*

Invertebrates

Snails:

Columbia pebblesnail	*Fluminicola fuscus (= columbianus)*

Insects:

Mt. Hood primitive brachycentrid caddisfly	*Eobrachycentrus gelidae*
Mt. Hood farulan caddisfly	*Farula jewetti*
Columbia Gorge neothremman caddisfly	*Neothremma andersoni*
Wahkeena Falls flightless stonefly	*Zapada wahkeena*

Clams:

California floater mussel	*Anodonta californiensis*

Plants

Howell's bentgrass	*Agrostis howellii*
Cliff paintbrush	*Castilleja rupicola*
Cold-water corydalis	*Corydalis aquae-gelidae*
Pale larkspur	*Delphinium leucophaeum*
Peacock larkspur	*Delphinium pavonaceum*
Howell's daisy	*Erigeron howellii*
Oregon fleabane	*Erigeron oreganus*
Barrett's penstemon	*Penstemon barrettiae*
Snake River goldenweed	*Pyrrocoma radiata*
Whitetop aster	*Sericocarpus rigidus*
Oregon sullivantia	*Sullivantia oregana*

Definitions:

FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN WHICH MAY OCCUR WITHIN MULTNOMAH COUNTY, OREGON

Listed Species: An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future.

Proposed Species: Taxa for which the Fish and Wildlife Service or National Marine Fisheries Service has published a proposal to list as endangered or threatened in the Federal Register.

Candidate Species: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.

Species of Concern: Taxa whose conservation status is of concern to the U.S. Fish and Wildlife Service (many previously known as Category 2 candidates), but for which further information is still needed. Such species receive no legal protection and use of the term does not necessarily imply that a species will eventually be proposed for listing.

Key:

E	Endangered
T	Threatened
CH	Critical Habitat has been designated for this species
PE	Proposed Endangered
PT	Proposed Threatened
PCH	Critical Habitat has been proposed for this species

* Consultation with National Marine Fisheries Service may be required.

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FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN WHICH MAY OCCUR WITHIN CLACKAMAS COUNTY, OREGON

LISTED SPECIES

Birds

Northern spotted owl	*Strix occidentalis caurina*	CH T

Fish

Anadromous:

Southern Oregon/Northern California coasts coho salmon	*Oncorhynchus kisutch*	CH T*
Lower Columbia River/Southwest Washington coho salmon	*Oncorhynchus kisutch*	T*
Upper Willamette River steelhead	*Oncorhynchus mykiss spp*	T*
Lower Columbia River steelhead	*Oncorhynchus mykiss ssp.*	T*
Lower Columbia River chinook salmon	*Oncorhynchus tshawytscha*	T*
Upper Willamette River chinook salmon	*Oncorhynchus tshawytscha*	T*

Plants

Nelson's checker-mallow	*Sidalcea nelsoniana*	T

PROPOSED SPECIES

None

No Proposed Endangered Species	PE
No Proposed Threatened Species	PT

CANDIDATE SPECIES

Birds

Streaked horned lark	*Eremophila alpestris strigata*

SPECIES OF CONCERN

Mammals

Red tree vole	*Arborimus longicaudus*
Townsend's western big-eared bat	*Corynorhinus townsendii townsendii*
California wolverine	*Gulo gulo luteus*
Silver-haired bat	*Lasionycteris noctivagans*
Long-eared myotis bat	*Myotis evotis*
Fringed myotis bat	*Myotis thysanodes*
Long-legged myotis bat	*Myotis volans*
Yuma myotis bat	*Myotis yumanensis*
Camas pocket gopher	*Thomomys bulbivorus*

Birds

Northern goshawk	*Accipiter gentilis*
Olive-sided flycatcher	*Contopus cooperi*
Harlequin duck	*Histrionicus histrionicus*
Yellow-breasted chat	*Icteria virens*
Acorn woodpecker	*Melanerpes formicivorus*

FEDERALLY LISTED, PROPOSED, CANDIDATE SPECIES AND SPECIES OF CONCERN WHICH MAY OCCUR WITHIN CLACKAMAS COUNTY, OREGON

Lewis' woodpecker	*Melanerpes lewis*
Mountain quail	*Oreortyx pictus*
Band-tailed pigeon	*Patagioenas fasciata*
Oregon vesper sparrow	*Pooecetes gramineus affinis*
Purple martin	*Progne subis*

Reptiles and Amphibians

Northern Pacific pond turtle	*Actinemys marmorata marmorata*
Coastal tailed frog	*Ascaphus truei*
Oregon slender salamander	*Batrachoseps wrighti*
Larch Mountain salamander	*Plethodon larselli*
Northern red-legged frog	*Rana aurora aurora*
Cascades frog	*Rana cascadae*

Fish

Pacific lamprey	*Lampetra tridentata*
Coastal cutthroat trout	*Oncorhynchus clarki ssp*

Invertebrates

Insects:

Beller's ground beetle	*Agonum belleri*
Scott's apatanian caddisfly	*Allomyia scotti*
Cascades apatanian caddisfly	*Apatania tavala*
Mt. Hood primitive brachycentrid caddisfly	*Eobrachycentrus gelidae*
Mt. Hood farulan caddisfly	*Farula jewetti*

Annelid Worms:

Oregon giant earthworm	*Megascolides macelfreshi*

Plants

Cliff paintbrush	*Castilleja rupicola*
Cold-water corydalis	*Corydalis aquae-gelidae*
Pale larkspur	*Delphinium leucophaeum*
Willamette Valley larkspur	*Delphinium oreganum*
Peacock larkspur	*Delphinium pavonaceum*
Howell's daisy	*Erigeron howellii*
Thin leaved peavine	*Lathyrus holochlorus*
Snake River goldenweed	*Pyrrocoma radiata*
Whitetop aster	*Sericocarpus rigidus*
Henderson's checker-mallow	*Sidalcea hendersonii*
Pale blue-eyed grass	*Sisyrinchium sarmentosum*
Oregon sullivantia	*Sullivantia oregana*

Definitions:

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PCH	Critical Habitat has been proposed for this species

* Consultation with National Marine Fisheries Service may be required.

OREGON NATURAL HERITAGE INFORMATION CENTER

OSU Oregon State University
Institute for Natural Resources
1322 SE Morrison Street
Portland, Oregon 97214-2423
503.731.3070
http://oregonstate.edu/ornhic

September 26, 2007

Christopher Collins
Parametrix, Inc.
700 NE Multnomah Boulevard, Suite 1160
Portland, OR 97232

Dear Mr. Collins:

Thank you for requesting information from the Oregon Natural Heritage Information Center (ORNHIC). We have conducted a data system search for rare, threatened and endangered plant and animal records for your Milwaukie Light Rail EIS Project in Township 1 South, Range 1 East, Sections 2-4, 10, 11, 13, 14, 24-26, 35, and 36, and Township 2 South, Range 1 East, Section 1, W.M.

Twenty-five (25) records were noted within a two-mile radius of your project and are included on the enclosed computer printout. A key to the fields is also included.

Please remember that the lack of rare element information from a given area does not mean that there are no significant elements there, only that there is no information known to us from the site. To assure that there are no important elements present, you should inventory the site, at the appropriate season.

This data is confidential and for the specific purposes of your project and is **not to be distributed**.

If you need additional information or have any questions, please do not hesitate to contact me.

Sincerely,

Cliff Alton
Conservation Information Assistant

encl.: invoice (H-092607-CWA3)
computer printout and data key

Oregon
Theodore R. Kulongoski, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, OR 97301-1266
(503) 986-0707
FAX (503) 986-0793
www.hcd.state.or.us

April 25, 2008

Ms. Bridget Wieghart
Portland Metro
600 NE Grand Avenue
Portland, OR 97232-2736

RE: SHPO Concurrence
South Corridor Portland-Milwaukie Light Rail Project
Multiple Sites, Portland/Milwaukie, Multnomah/Clackamas

Dear Ms. Wieghart,

The State Historic Preservation Office (SHPO) has reviewed the materials submitted on the project referenced above. SHPO conditionally approves the survey project contingent upon successful resolution of any adverse effects noted on the 17 National Register eligible properties listed below and on the attached Cover Sheet. Also, we concur with the effect determinations of the following properties, also listed below and on the attached Cover Sheet:

- 2300 SE Harrison, Milwaukie Middle School, No Adverse Effect
- 2405 SE Harrison, Residence, No Adverse Effect
- 2326 SE Monroe St., Spanish Revival Residence, No Adverse Effect
- 2001 SE Holgate, Brooklyn Yard, No Adverse Effect
- 11205 SE McLoughlin Blvd., Kellogg Lake Outlet, No Effect
- 12006 SE McLoughlin Blvd., Birkemeier-Sweetland Home, No Effect
- 2505 SE 11th Ave., Ford Motor Assembly Plant, No Effect
- 4784 SE 17th Ave., Iron Fireman Building, No Effect
- 2425 SE Bybee Blvd., Eastmoreland Golf Course, No Effect
- 7605 SE McLoughlin Blvd., Westmoreland Park, No Effect
- 1200 Naito Parkway, Hawthorne Bridge, No Effect
- 600 SE Powell Blvd., Ross Island Bridge, No Effect
- 9002 SE McLoughlin Blvd., ODOT Region Office, Adverse Effect with possible design refinements or mitigation options to reduce effect
- 2206 SE Washington, R. Derwey House, Adverse Effect with possible design refinements or mitigation options to reduce effect
- 2425 SE 8th Ave., Royal Foods, Adverse Effect, with possible design refinements or mitigation options to reduce effect
- 11200 SE McLoughlin Blvd., Oregon Pacific & Union Pacific Railroad/Trestle, No Adverse Effect to Railroad track/grade; Adverse Effect to Trestle with possible design refinements or mitigation options to reduce effect
- 2000 SW 5th Ave., Portland State School Building, No Adverse Effect (NP, however, due to acquisition of property, included for review)

Our response here is to assist you with your responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800). Please feel free to contact me if you have questions.

Sincerely,

Stephen P. Poyser, PhD
Sec. 106 Review & Compliance/Preservation Planner
503.986.0686 or stephen.poyser@state.or.us

Oregon — Cover Sheet

for

Reconnaissance Level Surveys and 106 Compliance

Theodore R. Kulongoski, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, OR 97301-1266
(503) 986-0707
FAX (503) 986-0793
www.hcd.state.or.us

Submit this Cover Sheet to SHPO along with all survey materials (see checklist below).

Survey Project Name **Portland - Milwaukie LRT**
City **Portland** County **Multnomah**
SurveyType **Selective Baseline**
Survey Sponsor **Parametrix**
Surveyor Name **Julie Osborne/Kimberli Fitzgerald**

Survey Start Date **10/14/2007**
Survey End Date **12/15/2007**
Year Completed **2007**
Date Submitted to SHPO

Contributing Properties **17**
Non-contributing Properties **64**
Acreage Surveyed (estimate using USGS quad) **110**

Survey Boundaries: **The area surveyed is bounded on the west by SW 5th Ave and spans southeastward to Milwaukie along either side (north/south) of McLoughlin Blvd.**

Survey Summary: **The selection of inventoried properties within the APE (one-half block within the Portland grid system, and 150 on either side of the alignment outside the grid system) was based on several factors: (1) It was to build on the information prepared for the 2002 SDEIS; (2) it included all properties along the transit line that will be affected to provide context for the resources that are potentially eligible; (3) and it included assessing properties built between 1957 and 1967 that may become eligible when they reach the 50-year age criterion.**

106 Effect: **The effects to eligible historic resources are included in the database comments. Summarized they are:**

- **2300 SE Harrison, Milwaukie Middle School, No Adverse Effect**
- **2405 SE Harrison, Residence, No Adverse Effect**
- **2326 SE Monroe St., Spanish Revival Residence, No Adverse Effect**
- **2001 SE Holgate, Brooklyn Yard, No Adverse Effect**
- **?11205 SE McLoughlin Blvd., Kellogg Lake Outlet, No Effect**
- **12006 SE McLoughlin Blvd., Birkemeier-Sweetland Home, No Effect**
- **2505 SE 11th Ave., Ford Motor Assembly Plant, No Effect**
- **4784 SE 17th Ave., Iron Fireman Building, No Effect**
- **2425 SE Bybee Blvd., Eastmoreland Golf Course, No Effect**
- **7605 SE McLoughlin Blvd., Westmoreland Park, No Effect**
- **1200 Naito Parkway, Hawthorne Bridge, No Effect**
- **600 SE Powell Blvd., Ross Island Bridge, No Effect**
- **9002 SE McLoughlin Blvd., ODOT Region Office, Adverse Effect with possible design refinements or mitigation options to reduce effect**
- **2206 SE Washington, R. Derwey House, Adverse Effect with possible design refinements or mitigation options to reduce effect**
- **2425 SE 8th Ave., Royal Foods, Adverse Effect, with possible design refinements or mitigation options to reduce effect**
- **?11200 SE McLoughlin Blvd., Oregon Pacific & Union Pacific Railroad/Trestle, No Adverse Effect to Railroad track/grade; Adverse Effect to Trestle with possible design refinements or mitigation options to reduce effect**
- **2000 SW 5th Ave., Portland State School Building, No Adverse Effect (NP, however, due to acquisition of property, included for review)**

To Be Completed by SHPO Staff

SHPO Evaluation of Survey Project

___ Approved
_✓_ Conditionally Approved
___ Returned for Corrections

SHPO Comment on Effect Determinations
_✓_ **Concur**
___ **Do Not Concur**
___ **Return for Additional Data**

Checklist of Required Items:

1. ___ *Research Design Completed Prior to Survey
2. ___ Properly Marked Survey Map
3. ___ Copy of USGS Map Showing Location of Surveyed Area
4. ___ Completed Survey Forms (Field Forms)
5. ___ Survey Data Submitted in Electronic Format
6. ___ Properly Labeled Photos
7. ___ ***Final Report, including outline of historic contexts and recommendations for future action**
8. ___ Completed "Cover Sheet"
9. ___ Duplicates of everything: one for SHPO and one for the contracting community or agency.

SHPO Staff Signature _____ Date 4/22/08

Oregon State Historic Preservation Office, 725 Summer Street NE, Suite C, Salem OR 97301

Appendix B

Environmental Justice Compliance

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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APPENDIX B. ENVIRONMENTAL JUSTICE COMPLIANCE

1. INTRODUCTION

This appendix describes the Portland-Milwaukie Light Rail project's compliance with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations* and the U.S. Department of Transportation (DOT), *Order to Address Environmental Justice in Minority Populations and Low-Income Populations*. The U.S. DOT offers the following definition of Environmental Justice:

> *The term environmental justice was created by people concerned that everyone within the United States deserves equal protection under the country's laws. Executive Order 12898, issued in 1994, responded to this concern by organizing and explaining in detail the Federal government's commitment to promote environmental justice. Each Federal agency was directed to review its procedures and to make environmental justice part of its mission by identifying and addressing the impacts of all programs, policies, and activities on minority populations and low-income populations. The U.S. Department of Transportation (DOT) issued its DOT Order to Address Environmental Justice in Minority Populations and Low-Income Populations in 1997. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have been working with their State and local transportation partners to make sure that the principles of environmental justice are integrated into every aspect of their transportation mission.*
>
> *Principles of Environmental Justice are to:*
>
> - *Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.*
> - *Avoid, mitigate, or minimize disproportionately high and adverse human health and environmental impacts, including social and economic impacts, on minority and low-income populations.*
> - *Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.*

1.1 PUBLIC INVOLVEMENT AND DECISION-MAKING PROCESSES

This section summarizes the Portland-Milwaukie Light Rail project's Public Involvement and decision-making processes addressing the project's efforts to ensure "full and fair participation by all potentially affected communities." For additional information, refer to *Chapter 6, Public Participation*.

1.1.1 Public Involvement and Outreach Program

Metro and TriMet have been including potentially-impacted minority and low-income populations in their public involvement activities has been an important consideration throughout the evolution of the South/North, South Corridor and Portland-Milwaukie Light Rail projects. Identifying and

involving minority and low-income populations will continue through the selection of a Locally Preferred Alternative, the preparation of the Final Environmental Impact Statement, Preliminary Engineering and construction.

Early in the project, staff evaluated 2000 U.S. Census data and reviewed past documentation of the study area to identify concentrations of low-income, Hispanic, or minority residents. No significant concentrations of these groups were identified. However, since some limited low-income, Hispanic or minority populations were identified, areas with potential concentrations of these groups were targeted for door-to-door canvassing. Public involvement staff used these door-to-door visits to explain the project, discuss concerns, invite further involvement and note concentrations of people who would require further specialized outreach such as non-English speakers. These visits were also used as an opportunity to expand the project mailing list to ensure that residents would continue to be informed. Newsletters or information about upcoming meetings as well as staff contact information were left for residents who were not at home.

Outreach efforts to the public and to potentially-protected populations were conducted as part of the South/North DEIS in 1996 to 1998, for the South Corridor SDEIS effort in 2000-2002, and again when the Portland-Milwaukie SDEIS was re-initiated in late 2006 and early 2007. Potentially-affected communities have been included in the project's additional outreach and communications since the process. For the Portland-Milwaukie Light Rail project SDEIS, U.S. Census 2000 and ACS 2005 poverty data were used to help identify changes to demographics, including low-income and minority communities. Project staff also consulted with local jurisdictions to help identify any potentially affected parties that should be invited to participate.

1.1.2 Decision-Making Process

Policy recommendations related to the South Corridor Project will continue to be provided by the South Corridor Policy Committee that is comprised of elected officials and executive staff from affected jurisdictions and agencies. The public involvement activities described in Section B.1.1 will support community involvement in the decision-making process.

After the SDEIS publication, a public comment period will be held in compliance with NEPA regulations and Metro public involvement standards. During the public comment period, staff will continue to meet with community groups, distribute project information and use other methods for encouraging community participation.

After the public comment period concludes, the Citizen Advisory Committee (CAC) will make a recommendation to the Policy Committee. The Policy Committee will review public comments, the CAC recommendation, and technical information before recommending a Locally Preferred Alternative (LPA). Each partner jurisdiction and agency will have an opportunity to make a recommendation related to the proposed LPA. The Metro Council, after hearing public comment on the LPA, will adopt the final LPA.

1.2 ANALYSIS OF PROJECT IMPACTS ON LOW-INCOME AND MINORITY POPULATIONS

This section summarizes the analysis of impacts on low-income and minority populations that could occur with the Portland-Milwaukie Light Rail project alternatives. The discussion begins with

definition of terms and thresholds used for the analysis, followed by findings of impacts and benefits of the alternatives. This section concludes by identifying potential mitigation measures that could minimize impacts to low-income and minority populations.

1.2.1 Analysis Methods

The analysis methods used in this environmental justice analysis follow. These are based on guidelines for effective practices outlined by the U.S. DOT through the Federal Highway Administration and Federal Transit Administration. These guidelines do not specify the thresholds that should be used to determine the location of minority, Hispanic, or low-income populations or communities, but do recommend using census data especially if it represents the most up-to-date data available. In terms of size of population or community, the following guidance is given:

> *While the minority or low-income population in an area may be small, this does not eliminate the possibility of a disproportionately high and adverse effect of a proposed action. Environmental Justice determinations are made based on effects, not population size. It is important to consider the comparative impact of an action among different population groups.*
>
> *The threshold of disproportionately high and adverse impacts requires impacts to be greater in magnitude or appreciably more severe for a low-income or minority community than those suffered by non-low-income or non-minority populations/communities.*

Potential minority and Hispanic populations or communities for this project were identified by comparing the U.S. Census 2000 minority or Hispanic proportion of the population of each census block group with the minority or Hispanic proportion of the population for all census tracts within the Metro Urban Growth Boundary (UGB). Similarly, potential low-income populations or communities were identified by comparing the U.S. Census proportion of households below poverty level of each census block group with proportion of households below the poverty level within the Metro UGB.

In addition, the same U.S. Census data were used to estimate the probable number of minority, Hispanic, and low-income displacements and the characteristics of potential rider populations receiving improved transit service.

The above analysis was initially conducted for the 2002 South Corridor SDEIS, which included a light rail alignment very similar to the 2003 LPA and covering essentially the same census geographies. The analysis for this Portland-Milwaukie SDEIS looked at 2005 American Community Survey data for changes in overall trends of population growth, poverty, and minority status at the county level. The ACS data was generally consistent with earlier U.S. Census data but as sample data it has a wider margin of error.

1.2.2 Findings

According to the U.S. Census 2000, 18.7 percent of residents within the Metro UGB were members of a minority group compared to 17.1 percent within the Tri-County area and 10.5 percent in the Portland-Milwaukie Light Rail project corridor (represented by block groups adjacent to the LRT Alignment). Residents of Hispanic origin comprise only 8.3 percent of the population within the Metro UGB population, 8.0 percent in the Tri-County area and 4.3 percent in the census block

groups of the Portland-Milwaukie Light Rail project corridor. A higher proportion of households within the Portland-Milwaukie corridor block groups (10.0 percent) had incomes below the Federally-defined poverty level[1] in 1999 than the proportion in either the Metro UGB (9.4 percent) or the Tri-County area (8.7 percent).

Table B.2-1
Comparison of EJ Population Ratios

Area	Population	% Minority	% Hispanic	% Poverty
Portland-Milwaukie Project Corridor Census Block Groups (2005)	23,404	10.6%	4.3%	10.0%
Metro UGB (2000)	1,190,993	18.7%	8.3%	9.4%
Tri-County area	1,444,219	17.1%	8.0%	8.7%

Source: Metro, U.S. Census 2000,

Note: Percent minority and percent Hispanic refer to proportion of populations, whereas percent poverty indicates the proportion of households below the poverty level.

Downtown Portland was the only neighborhood with a higher proportion of minority residents than average for the Metro UGB. None of the neighborhoods had a higher concentration of Hispanic residents than the average for the Metro UGB. Downtown Portland, Brooklyn, Hosford-Abernethy, Sellwood-Moreland and Ardenwald had higher proportions of low-income residents than the Metro UGB average.

The one to two residential displacements expected to result from any of the alternatives or options in the corridor would occur in areas that have relatively low levels of minority, Hispanic or low-income populations. One to two residential displacements are also a very low level of impact overall, considering the length of new light rail corridor to be provided and the fact that displacement would be mitigated by relocation assistance. Therefore, no disproportionate impacts are anticipated for the project.

The Land Use and Economic Results Report discusses the number of displaced businesses and other buildings by the Portland-Milwaukie Light Rail project. Determination of minority or Hispanic business ownership is not easily quantified or estimated. As a result, no quantitative estimate has been made. However, no predominantly minority or Hispanic business districts are known to be among those impacted by the LRT alignment alternative or design options. The affected properties and resulting displacements are also distributed throughout the corridor, with only one area (SE 17th Avenue) affecting multiple properties. Compared to other linear projects, including highways or other major public works facilities, this represents a low number of property and business impacts.

1.2.2.1 Neighborhood Impacts and Benefits

The Community Impacts Assessment Results Report above identifies cohesion and livability impacts of the Portland-Milwaukie Light Rail project alternatives by neighborhood. None of the neighborhoods, including those few with more minority or low income populations than the regional norm, were found to have adverse affects that significantly impacted quality of life.

[1] The census compares household income to federal standards based on household size and composition in developing statistics to describe poverty rates by census tract (U.S. Census Bureau: 2000, Summary File 3 Technical Documentation).

An analysis of probable racial, ethnic origin and income characteristics of individuals living within a quarter-mile radius of stations was performed for the South Corridor Alternatives in 2002 to identify characteristics of potential riders. Since this information was based on the U.S. Census 2000, the latest available detailed information on socioeconomic characteristics by area, it remains a good indication of the likely benefits anticipated for the project. These characteristics of potential riders were evaluated to determine who would benefit from each of the South Corridor alternatives. Although transit riders could live anywhere, those residing within walking distance (one-quarter mile of stations) are commonly considered to receive improved access to transit services.

The LRT Alignment (2003 LPA with Extension to Park) is very similar to the Milwaukie Light Rail alignment analyzed in 2002. Because census data would be the same, any new analysis of populations near the LRT alignment, including the design options, would be unlikely to alter the results in a statistically significant way. Therefore, the results from the 2002 South Corridor analysis for the Milwaukie LRT are presented in Table D.2-2 to illustrate the benefit of light rail to potential Environmental Justice populations in the Portland-Milwaukie Light Rail project corridor.

Table D.2-2
Characteristics of Potential Rider Populations by Alternative

Alternative	Population within ¼-Mile Radius of Stations	Probable Percent Minority	Probable Percent Hispanic	Probable Percent Low-Income
Milwaukie Light Rail	13,959	10.6%	5.8%	9.6%
Metro UGB	1,190,993	18.7%	8.3%	9.4%

Source: Metro, U.S. Census 2000, and E.D. Hovee & Company.

Note: In order to determine the exact proportion of minority, Hispanic, or persons below poverty level a survey of all residents within the station areas would be necessary. In lieu of a survey, an estimate of the probable proportion of residents within a quarter mile radius of alternative stations has been made. This has been done by taking a weighted average of representation of these groups within the census block groups that intersect the quarter mile radius, applying it to the estimated population within the radius, summing results for stations by alternative, and dividing it by total population within alternative station radii.

The Light Rail Alternative, as represented by the 2003 LPA and any of the options, would provide a direct transit benefit to low-income populations. The proportion of low-income households within one-quarter mile of a station area for each of these alternatives is slightly higher than the average within the Metro UGB, likely because the project uses rights-of-way along several major existing transportation facilities, including the UPRR. While each of these alternatives would serve many minority and Hispanic people, none of the alternatives under consideration would provide a direct transit benefit to areas with a higher concentration of minority or Hispanic residents than the average concentration within the Metro UGB.

1.2.3 Conclusion

In evaluating if the Portland-Milwaukie Light Rail project would result in high and adverse environmental or health impacts being borne disproportionately by low-income, minority and Hispanic populations, guidelines indicate that offsetting benefits, mitigation and enhancement measures, design, comparative impacts, and the number of similar existing system elements in non-minority and non-low-income areas may be taken into account. The LRT alignment would provide the offsetting benefit of direct transit service to those station areas[2] within neighborhoods containing

[2] Station area is defined as ¼ mile radius of stations.

concentrations of minority and low-income households that exceed the average concentration of low-income households in the corridor.

Adverse impacts such as unmitigated noise impacts, traffic impacts, visual impacts and displacements do not fall disproportionately on minority or Hispanic populations because most of the affected neighborhoods have ratios of minorities below the ratios at the county, Metro UGB and/or Tri-County level. Three of 11 neighborhoods have ratios of higher than the Multnomah County level but still lower than the Tri-County area. Only Downtown is higher than the Multnomah County level, Metro UGB and Tri-County levels. All but one neighborhood (Historic Milwaukie) have lower ratios of Hispanic populations than all three larger geographies.

Adverse impacts such as unmitigated noise impacts, traffic impact, visual impacts and displacements do not fall disproportionately on low-income communities. The light rail alignment would affect three out of 11 neighborhoods having slightly higher ratios of low-income populations than Multnomah County. The Portland Downtown neighborhood has a noticeably higher proportion of low-income people than any of the three larger geographies. However, the area of Downtown near the alignment does not appear to contain low-income housing or areas and the project would provide offsetting benefits.

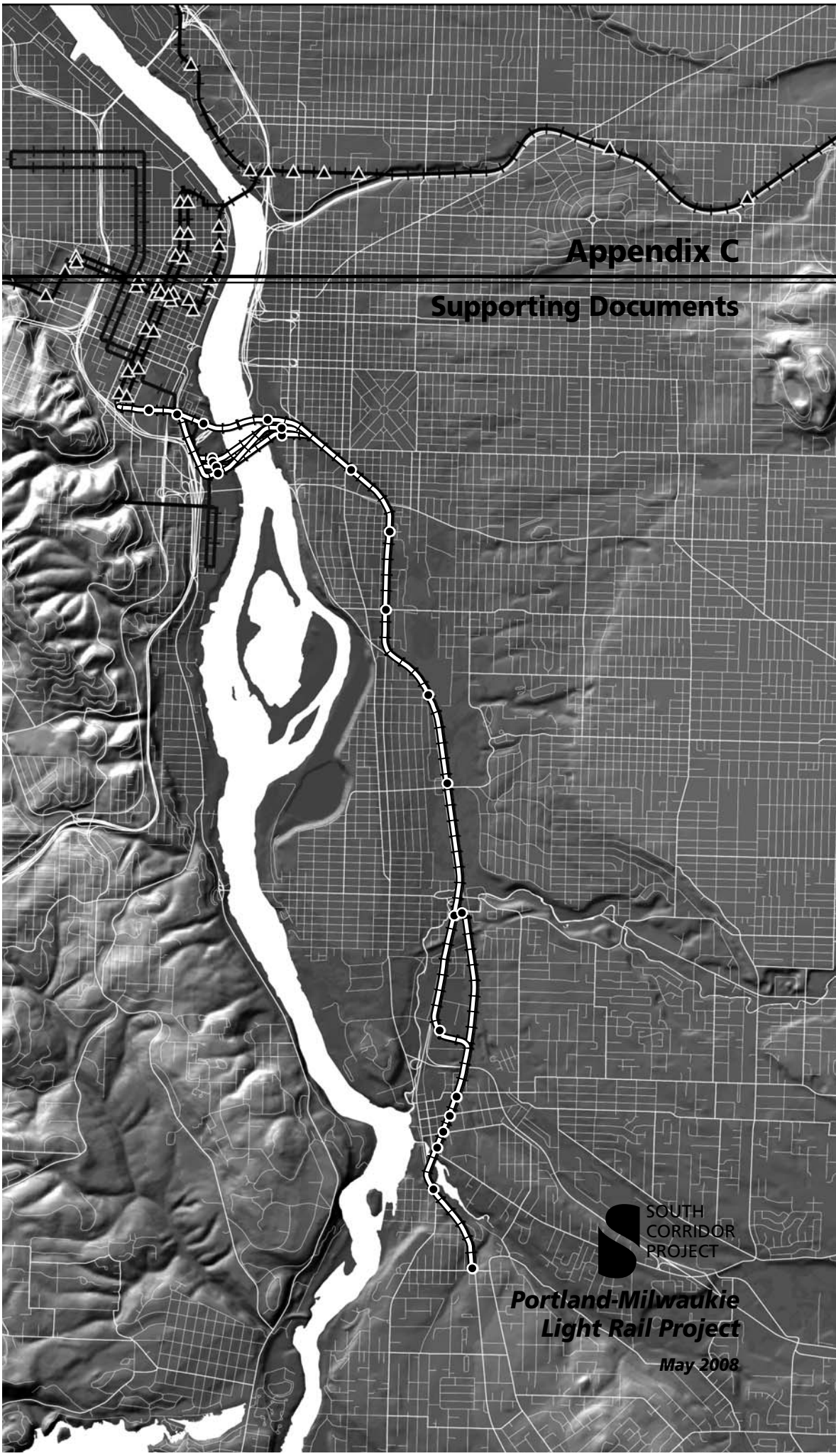
The exception to these conclusions is at the Ruby Junction maintenance base where there could be disproportional impacts to low-income and minority persons, although the number of affected parties remains low compared to the total population in Gresham. In addition, with compensation and relocation assistance, impacts are expected to remain low.

Therefore, according to the definition established in Executive Order 12898, the Light Rail Alternative would, in general, not result in high and adverse human health, environmental, social and/or economic impacts.

A final evaluation of the impacts of the Portland-Milwaukie Light Rail project on minority, Hispanic, and/or low-income populations will be made after a Preferred Alternative is identified in the FEIS.

1.3 MITIGATION AND ENHANCEMENTS

Potential impact-specific mitigation measures for the alternatives and design options are reviewed in Chapters 3 and 4 of this SDEIS and discussed in detail in other environmental topics that would be likely to affect minority or low income people. This includes the Displacement and Acquisitions Results Report, Community Impacts Assessment Results Report, Visual and Aesthetics Resources Impacts Results Report, Noise and Vibration Impacts Results Report, and the Traffic Impacts Results Report. A Safety and Security Impacts analysis is also included in the Portland-Milwaukie SDEIS.



Appendix C

Supporting Documents

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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Appendix C. Supporting Documents

The following Portland-Milwaukie Light Rail Project supporting documents are available for review at Metro and FTA offices.

1. Portland-Milwaukie Light Rail Project, Detailed Definition of Alternatives, October 2007

2. Methodology and Results Reports for each of the following topics. The methodology reports include detailed reference information for information provided in the SDEIS.

- Acquisitions, Displacements and Relocations Results Report
- Land Use and Economic Analysis Results Report
- Community Impact Assessment Results Report (Social and Neighborhood impacts, and Environmental Justice/Title VI)
- Visual and Aesthetic Qualities Results Report (with Visual Simulations)
- Historic, Archaeological and Cultural Resources Analysis Results Report
- Parklands, Recreation Areas Wildlife and Waterfowl Refuge Impacts, Section 4(f) Results Report
- Geology, Soils and Earthquake Risks Results Report
- Ecosystems and Endangered Species Results Report
- Water Quality and Hydrology Impacts Analysis Results Report
- Noise and Vibration Results Report
- Air Quality Results Report
- Energy Results Report
- Hazardous Materials Results Report
- Transit Impacts and Travel Demand Forecasting Results Report
- Local and Systemwide Traffic Impacts Results Report

3. Interstate 5 Columbia River Crossing Draft Environmental Impact Statement and Draft Section 4(f) Evaluation, May 2008.

In addition, the following supporting documents were prepared for previous studies and are available for review at Metro.

1. South Corridor Project Supplemental Draft Environmental Impact Statement, Executive Summary, December 2002

2. South Corridor Project Results Reports, November 2002
   - Air Quality Analysis Results Report
   - Capital Costs Analysis Results Report
   - Community Impact Assessment Results Report
   - Downtown Light Rail Systems Analysis
   - Ecosystems Impacts Results Report
   - Appendix C to the Ecosystem Results Report, Wetland Determination Report
   - Energy Impacts Results Report

- Financial Analysis Results Report
- Geology, Soils and Seismic Impacts Results Report
- Historic, Archaeological and Cultural Impacts Results Report
- Hazardous Materials Impacts Results Report
- Land Use and Economic Activity Results Report
- Noise and Vibration Results Report
- Operations and Maintenance Costs Results Report
- Parklands, Recreation Areas, Wildlife and Waterfowl Refuges (Section 4(f)) Results Report
- Local Traffic Impacts Results Report
- Travel Forecasting and Transit Analysis Results Report
- Visual Quality and Aesthetics Results Report
- Water Quality and Hydrology Results Report

3. South Corridor Project Methods Reports, November 2002
   - Evaluation and Financial Methods Report, April 2002
   - Transportation Analysis Methods Report, February 15, 2002
   - Social, Economic and Environmental Methods Report, February 15, 2002
   - Historic, Archaeological and Cultural Impact Analysis Methods Report
   - Capital Cost Methods Report, April 2002
   - Operating and Maintenance Cost Methods Report, February 15, 2002
   - Approach to Threatened and Endangered Species

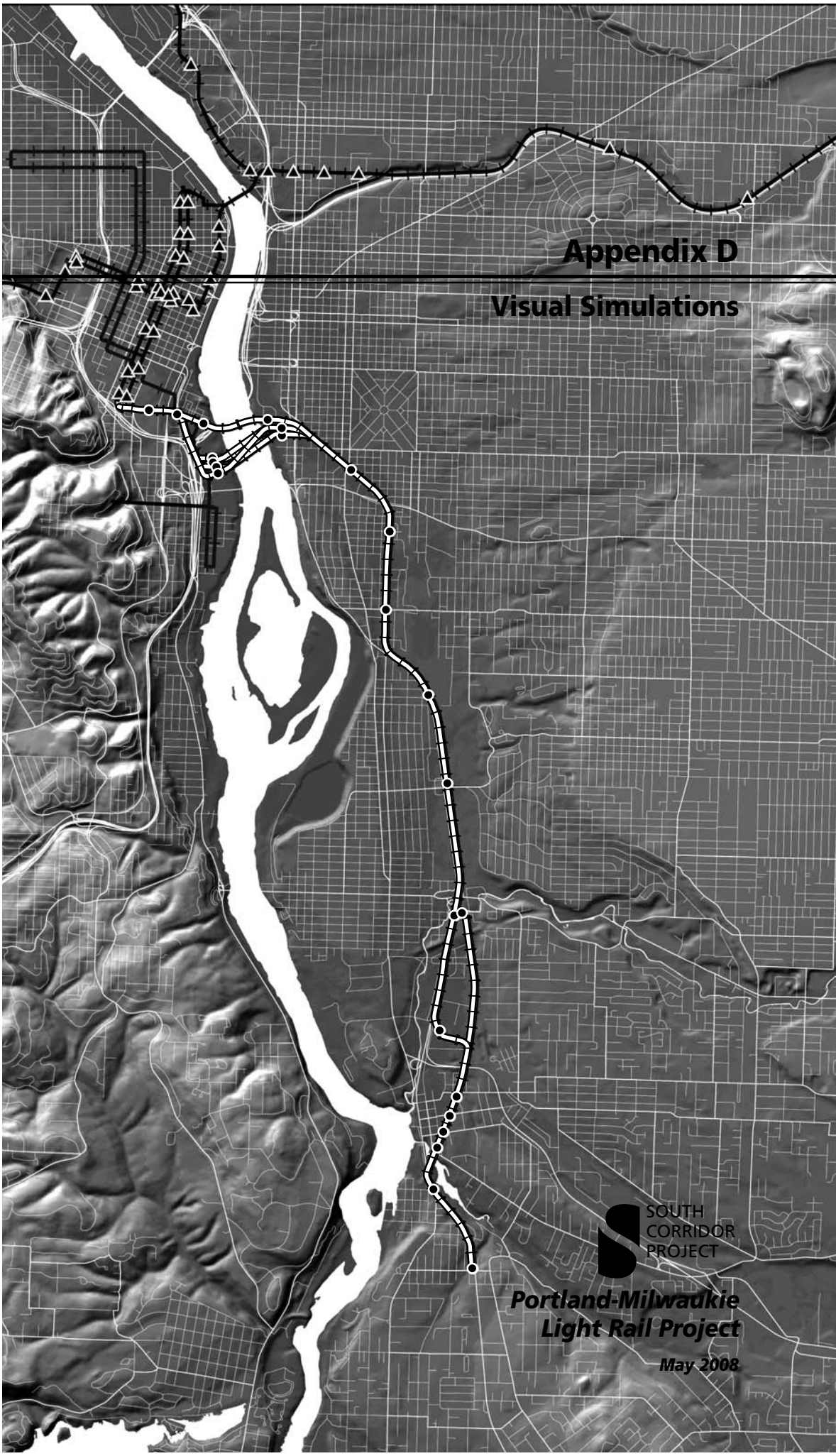
4. South Corridor Project Detailed Definition of Alternatives Report, April 2002
   - Light Rail Plan and Profile Drawings
   - BRT and Busway Plan and Profile Drawings
   - Detailed Definition of Alternatives Report

5. South Corridor Transportation Alternatives Study, October 2002
   - Capital Cost Report Refinement Study
   - Public Comments Report
   - South Corridor Evaluation Report, October 16, 2000
   - South Corridor Evaluation Summary, October 16, 2000
   - Wide Range of Alternatives Report
   - South Corridor Background Report, January 2000

6. North Corridor Final Environmental Impact Statement, October 1999
   - North Corridor Public Comment Report

7. North Corridor Supplemental Draft Environmental Impact Statement, April 1999

8. South/North Draft Environmental Impact Statement, February 1998
   - Results Reports
   - Methods Reports
   - Definition of Alternatives



Appendix D

Visual Simulations

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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Portland-Milwaukie Light Rail Project

Visual Simulation Locations

Figure D.1-1

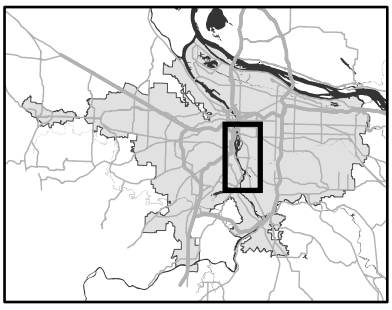
Light Rail alternative

Simulation location and direction

Figure	Location
D.2-1	Lincoln Street
D.3-1	Harbor Drive
D.4-1	Willamette River/OMSI
D.5-1	Willamette River/ Ross Island Bridge
D.6-1	Rhine Street
D.7-1	ODOT Building
D.8-1	Roswell Street
D.9-1	Harrison Street
D.10-1	Monroe Street
D.11-1	Washington Street
D.12-1	McLoughlin/Lake Road
D.13-1	21st /Lake Road
D.14-1	Kronberg Park
D.15-1	McLoughlin/Bluebird St.
D.16-1	McLoughlin/Park Avenue

Portland – Milwaukie LIGHT RAIL PROJECT

METRO



0 0.5 1 Miles

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.2-1
Existing Condition - Lincoln Avenue
View to the west

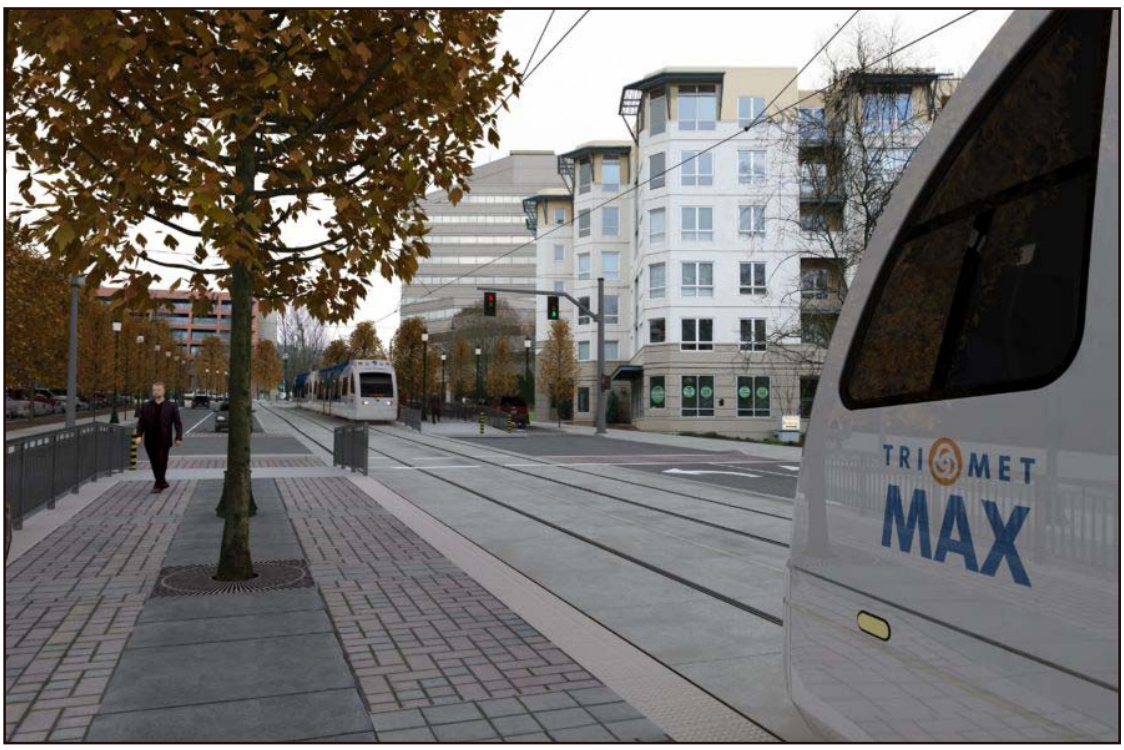


Figure D.2-1a
Lincoln Avenue: with station
View to west

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Visual Simulations

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Figure D.3-1
Existing Condition - Harbor Drive
View to the north

Figure D.3-1a
Harbor Drive: 2003 Locally Preferred Alternative
View to the north

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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.3-1
Existing Condition - Harbor Drive
View to the north

Figure D.3-1b
Harbor Drive: connection to river crossing options in South Waterfront
View to the north

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Visual Simulations

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Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1a
Willamette River/OMSI: 2003 Locally Preferred Alternative
View to the southwest

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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1b
Willamette River/OMSI: Meade-Caruthers - cable-stayed bridge
View to the southwest

Portland – Milwaukie
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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1c
Willamette River/OMSI: Meade-Caruthers - concrete segmental bridge
View to the southwest

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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1d
Willamette River/OMSI: Meade-Sherman - cable-stayed bridge
View to the southwest

Portland – Milwaukie
LIGHT RAIL PROJECT

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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1e
Willamette River/OMSI: Meade-Sherman - concrete segmental bridge
View to the southwest

Portland – Milwaukie
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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1f
Willamette River/OMSI: Porter-Caruthers - cable-stayed bridge
View to the southwest

Portland – Milwaukie
LIGHT RAIL PROJECT

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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1g
Willamette River/OMSI: Porter-Caruthers - concrete segmental bridge
View to the southwest

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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1h
Willamette River/OMSI: Porter-Sherman - cable-stayed bridge
View to the southwest

Portland – Milwaukie
LIGHT RAIL PROJECT

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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.4-1
Existing Condition - Willamette River/OMSI
View to the southwest

Figure D.4-1i
Willamette River/OMSI : Porter-Sherman concrete segmental bridge
View to the southwest

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LIGHT RAIL PROJECT

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Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.5-1
Existing Condition - Willamette River/Ross Island Bridge
View to the north

Figure D.5-1a
Willamette River/Ross Island Bridge: 2003 Locally Preferred Alternative
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.5-1
Existing Condition - Willamette River/Ross Island Bridge
View to the north

Figure D.5-1b
Willamette River/Ross Island Bridge: Porter-Caruthers - cable-stayed bridge
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.5-1
Existing Condition - Willamette River/Ross Island Bridge
View to the north

Figure D.5-1c
Willamette River/Ross Island Bridge: Porter-Caruthers - concrete segmental bridge
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.6-1
Existing Condition - Rhine Street
View to the northwest from 17th Avenue

Figure D.6-1a
Rhine Street: with station
View to the northwest from 17th Avenue

Portland – Milwaukie
LIGHT RAIL PROJECT
METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.7-1
Existing Condition - McLoughlin Boulevard/ODOT building
View to the north

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LIGHT RAIL PROJECT

METRO

Figure D.7-1a
McLoughlin Boulevard/ODOT building: 2003 LPA
View to the north

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.8-1
Existing Condition - Roswell Street
View to the west

Figure D.8-1a
Roswell Street: Tillamook Branch alignment
View to the west

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.9-1
Existing Condition - Harrison Street
View to the west

Figure D.9-1a
Harrison Street: with station
View to the west

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.9-1
Existing Condition - Harrison Street
View to the west

Figure D.9-1b
Harrison Street: without station
View to the west

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.10-1
Existing Condition - Monroe Street
View to the north

Figure D.10-1a
Monroe Street: with station
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.10-1
Existing Condition - Monroe Street
View to the north

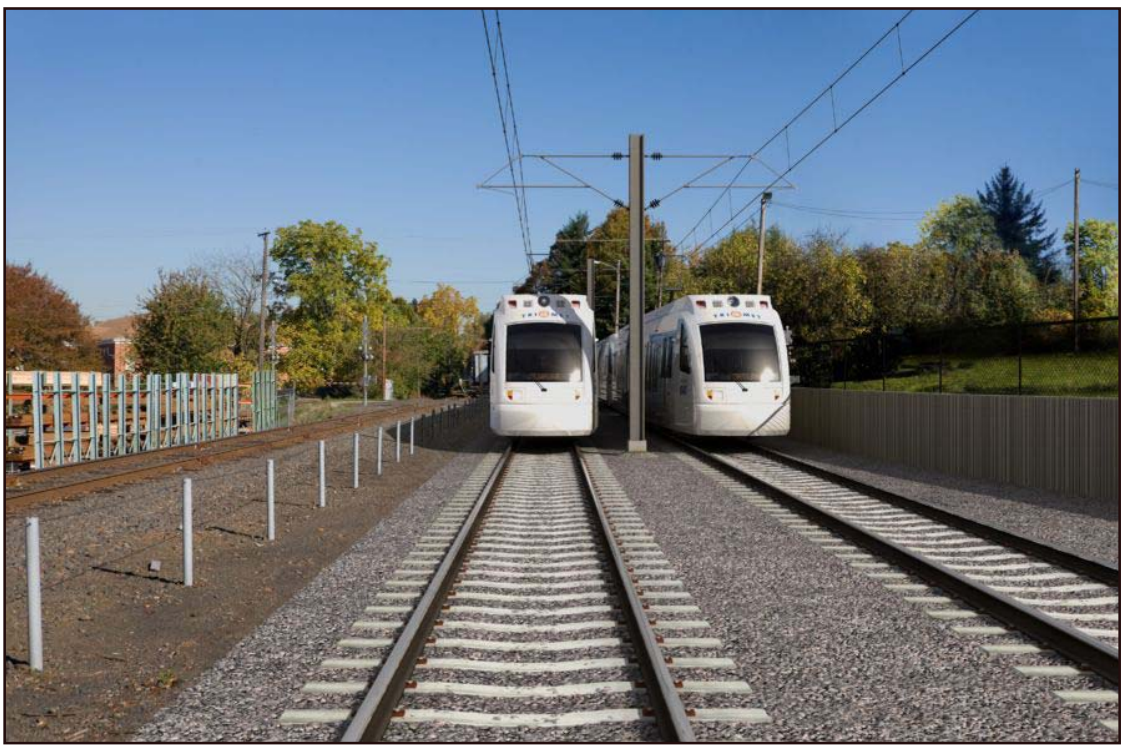


Figure D.10-1b
Monroe Street: without station
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.11-1
Existing Condition - Washington Street
View to the north

Figure D.11-1a
Washington Street: with station
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.11-1
Existing Condition - Washington Street
View to the north

Figure D.11-1b
Washington Street: without station
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.12-1
Existing Condition - McLoughlin/Lake Road
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Figure D.12-1a
McLoughlin/Lake Road: Lake Road Park and Ride
View to the north

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.13-1
Existing Condition - 21st Avenue/Lake Road
View to the north

Figure D.13-1a
21st Avenue/Lake Road: Lake Road station
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.14-1
Existing Condition - Kronberg Park
View to the north

Figure D.14-1a
Kronberg Park: at-grade design option
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.14-1
Existing Condition - Kronberg Park
View to the north

Figure D.14-1b
Kronberg Park: grade-separated design option
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.15-1
Existing Condition - McLoughlin/Bluebird Street
View to the south

Figure D.15-1a
McLoughlin/Bluebird Street: at-grade design option
View to the south

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.15-1
Existing Condition - McLoughlin/Bluebird Street
View to the south

Figure D.15-1b
McLoughlin/Bluebird Street: grade-separated design option
View to the south

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO

Visual Simulations

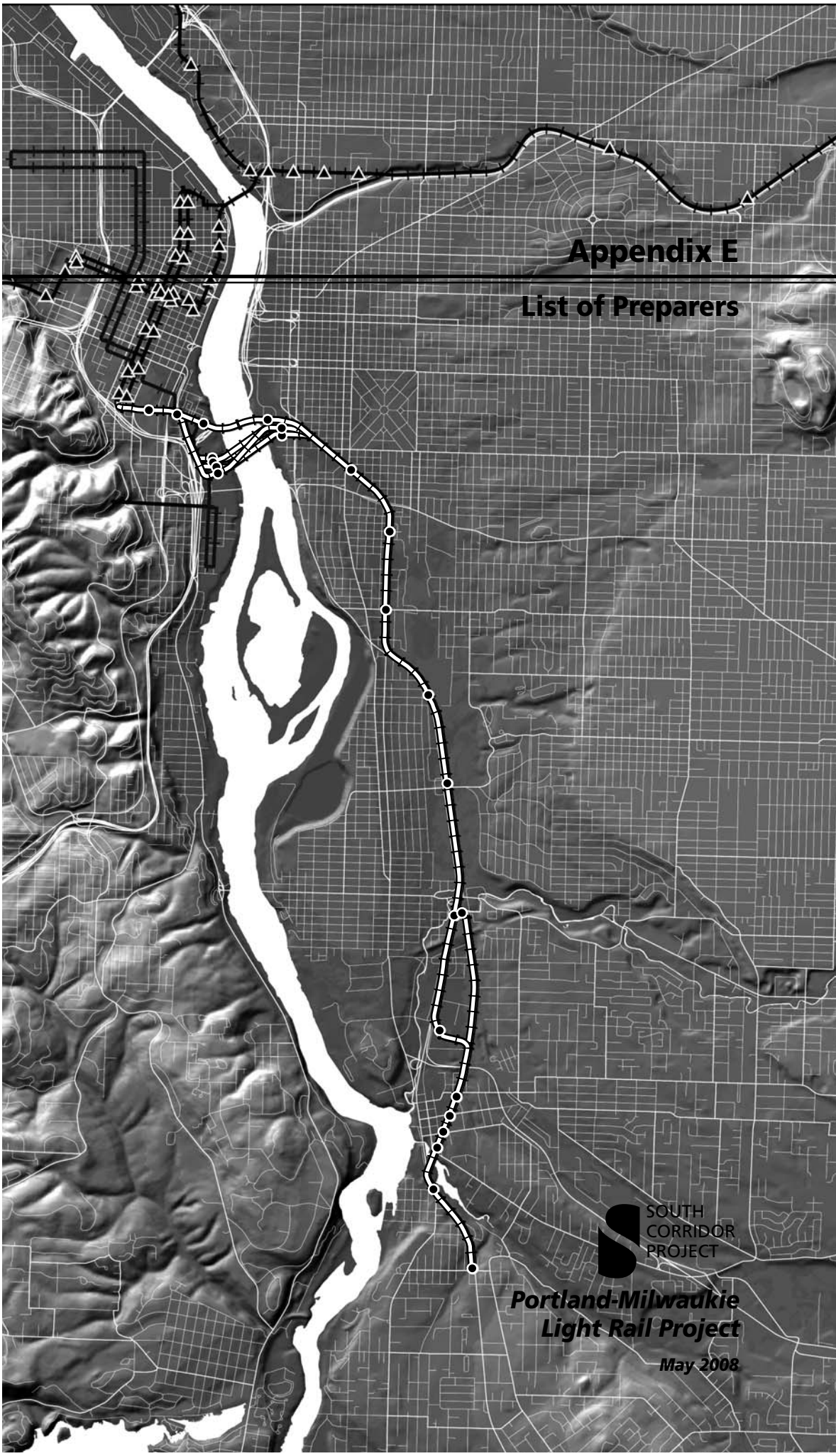
Note: These simulations have been prepared to illustrate alignment alternatives for the Supplemental Draft Environmental Impact Statement (SDEIS). These illustrations are based on a preliminary level of design (approximately 5%) and are subject to change. See Chapter 2 of this SDEIS for a description of the proposed alternatives illustrated in these simulations.

Figure D.16-1
Existing Condition - McLoughlin/Park Avenue
View to the north

Figure D.16-1a
McLoughlin/Park Avenue: Park Avenue Park and Ride
View to the north

Portland – Milwaukie
LIGHT RAIL PROJECT

METRO



Appendix E

List of Preparers

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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APPENDIX E. LIST OF PREPARERS

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Rian Windsheimer, ODOT, Region 1

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Carlotta Collette, Councilor , Metro
Fred Hansen, General Manager , TriMet
Sue Keil, Director , PDOT
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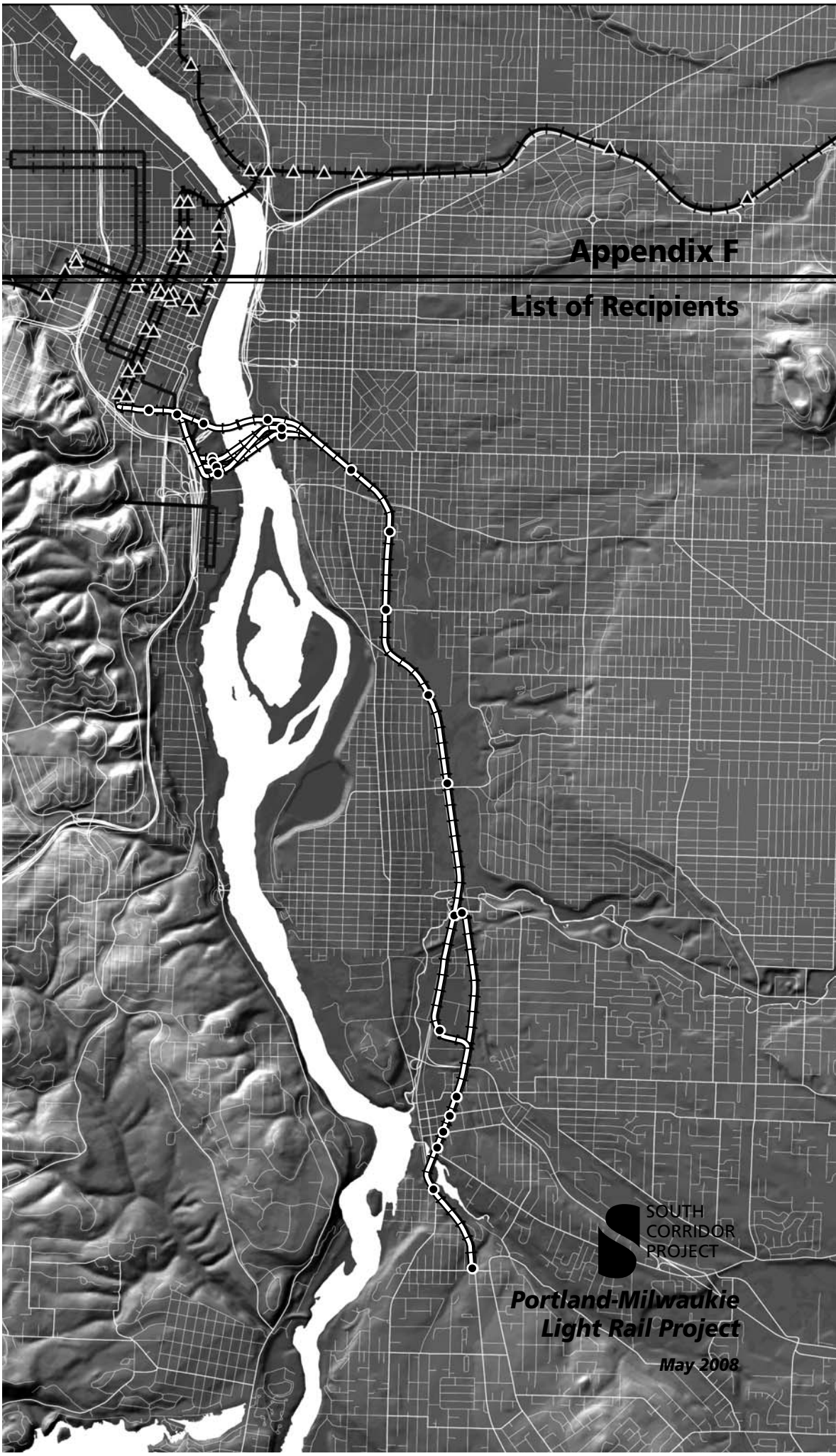
Gregory Hemer
Joanna Jenkins
Michole N Jensen
Theresa Langdon
Lance Lindahl
Rod Mcdowell
Susan Pearce
Nicole Peterson
Valeria Ramirez
Joe Traverso
Rick Williams
Dan Zalkow



Appendix F

List of Recipients

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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APPENDIX F. LIST OF RECIPIENTS

F.1 Federal Agencies
Department of the Army, Corps of Engineers
Federal Emergency Management Administration
Federal Highway Administration
Federal Railroad Administration
Federal Transit Administration
Interstate Commerce Commission
National Marine Fisheries Service
US Coast Guard
US Department of Agriculture
US Department of Commerce
US Department of Energy
US Department of Interior
US Environmental Protection Agency
US Fish and Wildlife Service

F.2 Native American Tribes
Confederated Tribes of the Grand Ronde
Confederated Tribes of the Warm Springs
Confederated Tribes of Siletz
Columbia Inter-Tribal Fish Commission

F.3 Oregon State Agencies
Office of the Governor
Department of Energy
Department of Environmental Quality
Department of Fish and Wildlife
Department of Geology and Mineral Industries
Department of Land Conservation and Development
Department of Transportation
Department of Water Resources
Division of State Lands
Economic Development Department
Department of Geology & Mineral Industries
Public Utilities Commission
State Historic Preservation Office
State Parks and Recreation Department

F.4 Regional and Local Agencies
City of Gladstone
City of Milwaukie
City of Oregon City

City of Portland
City of West Linn
City of Lake Oswego
City of Happy Valley
Clackamas County
Multnomah County
TriMet

F.5 Libraries
Clackamas County Library
Multnomah County Library
Portland State University Library
Milwaukie Ledding Library

F.6 Neighborhood Associations
Ardenwald
Brooklyn
Downtown Community Association
Eastmoreland
Gladstone
Hazelwood
Historic Milwaukie
Hosford-Abernethy
Island Station
Jennings Lodge
Lake Road
Lents
Lewelling
Linwood
McLoughlin Industrial
Milwaukie Business Industrial
Montavilla
North Clackamas
Oak Lodge
Oregon City
Powellhurst-Gilbert
Sellwood-Moreland
Southgate
Sunnyside
West Mt. Scott

F.7 Miscellaneous
Alliance of Portland Neighborhoods
Central Eastside Industrial Council
Clackamas Community College
Clackamas County Historical Society

Clackamas Town Center
East Portland Chamer of Commerce
Foster/82nd Business Association
Inner Foster Study Citizen Advisory Committee
Lents Urban Renewal Public Advisory Committee
Macadam Business Association
Milwaukie to Portland Light Rail Coalition
Milwaukie Neighborhood Development Association
North Clackamas Chamber of Commerce
North Macadam Development Council
Opportunity Gateway Public Advisory Committee
Outer Southeast Light Rail Coalition
Oregon Museum of Science and Industry
Oregon City Chamber of Commerce
Oregon Historical Society
Oregon Institute of Technology
Oregon League of Women Voters
Oregon Water Resource Council
Portland Business Alliance
Portland Development Commission
Portland Metropolitan Chamber of Commerce
Portland State University

In addition to those listed above, notices to every person or group that commented on either the South/North Corridor Project (February 1998 DEIS) or the South Corridor SDEIS (December 2002) were sent prior to the publication of this document.

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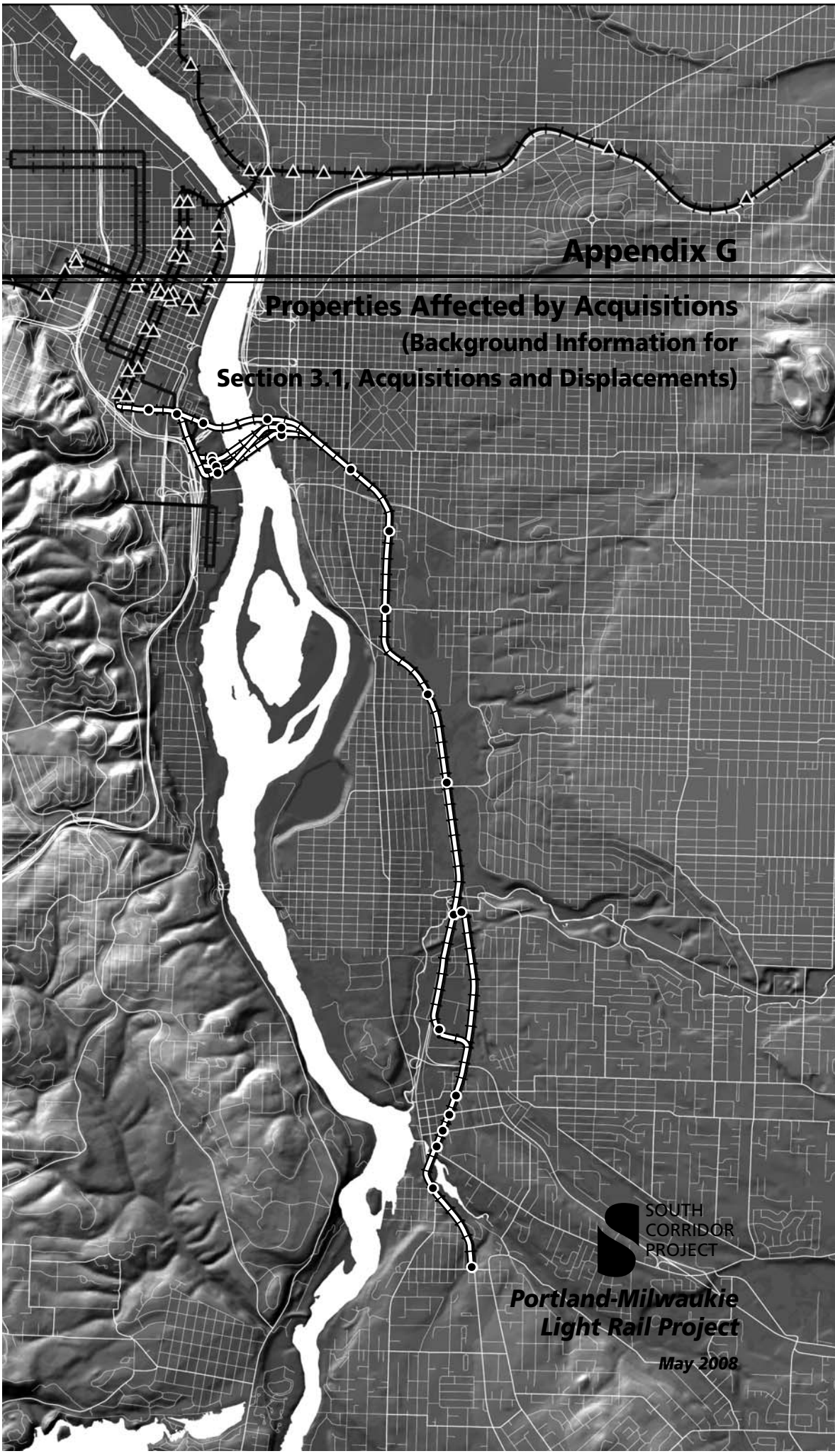

Appendix G

Properties Affected by Acquisitions

(Background Information for Section 3.1, Acquisitions and Displacements)

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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APPENDIX G. PROPERTIES AFFECTED BY ACQUISITIONS

Building and operating the Portland-Milwaukie light rail system requires acquiring property for right-of-way and other facilities and presumes displacing and relocating some of the existing uses. This appendix presents the likely property acquisitions based on the current conceptual designs. It is important to note that this list of acquisitions should not be interpreted as the final determination regarding property acquisition and the list could be updated as the project design is further refined. Furthermore, the estimates described below reflect the existing conditions at the time the analysis was conducted. Accordingly, the number and/or type of displacements could vary between what has been disclosed in this Draft SEIS and what is actually required since currently underdeveloped or vacant properties may be developed between the publication date of this Draft SEIS and the time of construction.

There are two types of property acquisitions:

- A partial acquisition would acquire part of a parcel but would not dislocate the existing use.

- A full acquisition would acquire the full parcel and displace the current use. Full acquisitions include parcels that may not be fully acquired for the project but would be affected (due to loss of parking, access or other features) such that the existing use would be substantially impaired. This includes parcels that would be required for construction activities, although in some cases all or part of the parcels would be available for other use or redevelopment after construction is complete.

The following tables present updated information on the likely acquisitions. Tables G-1 through G-7 present a list of properties potentially affected with every alternative, which are mapped in the following figures. These tables list property mapping numbers, parcel identification numbers, addresses, and property owners name provided by the Multnomah County Tax Assessor.

In addition to the potential property acquisitions described, the project would also require subterranean, aerial, and other easements and use of public right-of-way.

Table G-1.
2003 LPA

(See Figures G3.1-1 through G3.1-7)

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
1	1S1E04DD -00600	R140902950	Tri-County Metropolitan Transportation District of Oregon	2005 S/ SW 5th Ave	Portland
2	1S1E04DD -00400	R140902080	W M B Investment Co	2032 SW 5th Ave	Portland
3	1S1E04DD -00500	R140902090	Oregon State of(Bd Higher Educ C/O Portland State University Office of Business Affairs	2000 SW 5th Ave	Portland
4	1S1E04DD -00100	R140902020	Budget Rent A Car System Inc	SW 4th Ave	Portland
5	1S1E03CC -00100	R777502450	American Radio Systems Corp	2040 SW 1st Ave	Portland
6	1S1E03CD -00600	R779900250	Riverplace Square LLC	2025 Wi/ SW River Pkwy	Portland
7	1S1E03CD -00800	R779900300	City of Portland (PDC) (Leased Riverplace Partners LLC)	No Site Address	Portland
8	1S1E03DC -00500	R991030410	Oregon Health & Science University	No Site Address	Portland
12	1S1E03D -00500	R991030700	Oregon Museum of Science & Industry	1701 Wi/ SE Water Ave	Portland
13	1S1E03D -00300	R991030690	Oregon Museum of Science & Industry	1701 SE Water Ave	Portland
14	1S1E03DD -00200	R668200150	Oregon Museum of Science & Industry	SE Water Ave	Portland
18	1S1E03D -00302	R794001800	Oregon Museum of Science & Industry	1701 Wi/ SE Water Ave	Portland
19	1S1E03DD -00300	R668200200	Oregon Museum of Science & Industry	2015 SE Water Ave	Portland
21	1S1E02CC -05500	R794003230	State of Oregon	No Site Address	Portland
26	1S1E02CC -05400	R794004460	Keller Portland #28 LLC	2320 N/ SE Grand Ave	Portland
28	1S1E02CC -06100	R794010010	Balzer Pacific Equipment Co	2230 E/ SE Grand Ave	Portland
29	1S1E02CC -07600	R794011740	Roberti Investment Co LLC	2425-2445 SE 8th Ave	Portland
30	1S1E02CC -07500	R794011870	Division Watumull LLC	801 SE Division Pl	Portland
31	1S1E11BA -06900	R991110970	Northwest Natural Gas Co	904 SE Division St	Portland
32	1S1E11BA -07000	R991110960	Northwest Natural Gas Co	No Site Address	Portland
33	1S1E11BA -07200	R991110810	Northwest Natural Gas Co	No Site Address	Portland
34	1S1E11BA -07300	R834600010	Southern Pacific Transportation Co	SE 12th Ave	Portland
35	1S1E11BA -07400	R834600130	Gidland LLC	1201-1241 SE Gideon St	Portland
36	1S1E11BA -07500	R834600170	Gideon 1267 Properties LLC	1249 SE Gideon St	Portland
37	1S1E11BA -07600	R834600210	Juhr & Sons	1305 SE Gideon St	Portland
38	1S1E11BA -07700	R834600230	Juhr & Sons	1305 Wi/ SE Gideon St	Portland
39	1S1E11BA -07800	R834600250	Manchester Gary L Tr	1339 Wi/ SE Gideon St	Portland
40	1S1E11BA -07900	R834600270	Manchester Gary L Tr	1339 SE Gideon St	Portland
41	1S1E11BA -08000	R834600430	Eastern Western Corp	1421 SE Gideon St	Portland
42	1S1E11AB -17600	R834600490	Eastern Western Corp	1505 W/ SE Gideon St	Portland
43	1S1E11AB -17700	R834600530	Eastern Western Corp	1505 SE Gideon St	Portland
44	1S1E11AC -02200	R991110190	Eastern Western Corp	1509 SE Powell Blvd	Portland
45	1S1E11AC -02500	R469300150	I & A Corp	1509 SE Powell Blvd	Portland
46	1S1E11AC -02501	R991111430	City of Portland	No Site Address	Portland
47	1S1E11AC -12600	R776100340	Hewitson Edward C Et Al	SE 17th Ave	Portland

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
48	1S1E11AC -12700	R776100300	Join	3338 SE 17th Ave	Portland
49	1S1E11AC -12800	R276900610	Fairmount Financial Investment Group Inc	3390 SE 17th Ave	Portland
50	1S1E11AC -15000	R276900680	Lindquist Stuart H	1704-1706 SE Haig St	Portland
51	1S1E11AC -15100	R276900690	Lindquist Stuart H	1706 Wi/ SE Haig St	Portland
52	1S1E11AC -15200	R276900700	Lindquist Stuart H	3424 Wi/ SE 17th Ave	Portland
53	1S1E11AC -15300	R276900710	Lindquist Stuart H	3424 Wi/ SE 17th Ave	Portland
54	1S1E11DB -00500	R276901870	Portland General Electric Co	3500 SE 17th Ave	Portland
55	1S1E11DB -05600	R276902030	Pai Soo Kook & Eun Ok	3600 SE 17th Ave	Portland
56	1S1E11DB -05700	R276902040	Portland General Electric Co	No Site Address	Portland
57	1S1E11DB -05800	R276902050	Portland General Electric Co	3700 SE 17th Ave	Portland
58	1S1E11DB -06300	R709900430	Portland General Electric Co	No Site Address	Portland
59	1S1E11DB -06400	R276902990	Electra Credit Union	3717 SE 17th Ave	Portland
60	1S1E11DB -09900	R276903120	Portland General Electric Co	No Site Address	Portland
61	1S1E11DB -09800	R068901920	Portland General Electric Co	3825 SE 17th Ave	Portland
62	1S1E11DB -10000	R068901960	Portland General Electric Co	3851 SE 17th Ave	Portland
63	1S1E11DB -10100	R068901990	Portland General Electric Co	No Site Address	Portland
64	1S1E11DB -10200	R068902000	Portland General Electric Co	No Site Address	Portland
65	1S1E11DC -00600	R087301240	Tri-County Metropolitan Transportation District of Oregon	4139 N/ SE 17th Ave	Portland
66	1S1E11DC -00500	R087301220	Tri-County Metropolitan Transportation District of Oregon	4139 N/ SE 17th Ave	Portland
67	1S1E11DC -00400	R087301190	Tri-County Metropolitan Transportation District of Oregon	4139 N/ SE 17th Ave	Portland
68	1S1E11DC -00300	R087301160	Tri-County Metropolitan Transportation District of Oregon	4139 N/ SE 17th Ave	Portland
69	1S1E11DC -00200	R087301130	Tri-County Metropolitan Transportation District of Oregon	4139 SE 17th Ave	Portland
70	1S1E11DC -08600	R087301660	Tri-County Metropolitan Transportation District of Oregon	4215 SE 17th Ave	Portland
71	1S1E11DC -08700	R087301640	Tri-County Metropolitan Transportation District of Oregon	4215 W/ SE 17th Ave	Portland
72	1S1E11DC -08800	R087301520	Tri-County Metropolitan Transportation District of Oregon	4235 SE 17th Ave	Portland
73	1S1E11DC -09400	R087303140	Swearengin Anne M Tr	4421 SE 17th Ave	Portland
74	1S1E11DC -09300	R087303270	Swearengin Anne M Tr	4421 Wi/ SE 17th Ave	Portland
75	1S1E11DC -09100	R087303220	Swearengin Anne M Tr	1639 SE Holgate Blvd	Portland
76	1S1E11DC -09200	R087303240	Swearengin Anne M Tr	1639 Wi/ SE Holgate Blvd	Portland
77	1S1E14AB -00800	R305600120	Arakelian Yerchanik P Tr & Arakelian Nazig N Tr	4505 SE 17th Ave	Portland
78	1S1E14AB -02400	R186700230	Arakelian Yerchanik P Tr & Arakelian Nazig N Tr	4535 SE 17th Ave	Portland

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
79	1S1E14AB -02500	R186700450	Ellis Glen	1624 SE Pardee St	Portland
80	1S1E14AB -03900	R991140300	Ellis Glen	4629 SE 17th Ave	Portland
81	1S1E14AB -03800	R991140710	Michaelis A W Bank of America To Peco Inc	4707 SE 17th Ave	Portland
82	1S1E14AB -04000	R991140840	Michaelis A W Et Al To Peco Inc	4771 SE 17th Ave	Portland
83	1S1E14AB -04100	R991140530	Michaelis A W Bank of America Tr-1/2	4771 Wi/ SE 17th Ave	Portland
84	1S1E14AB -04200	R991140290	Michaelis Steven M-1/2 & Bank of America Tr-1/2	4771 Wi/ SE 17th Ave	Portland
85	1S1E14AB -04300	R395001110	Michaelis Steven M-1/2 & Bank of America Tr-1/2	4771 Wi/ SE 17th Ave	Portland
86	1S1E14AB -04500	R395001050	Lindahl Douglas D & Violet Y	4815 N/ SE 17th Ave	Portland
87	1S1E14AB -04600	R395001030	Lindahl Douglas D & Violet Y	4815 SE 17th Ave	Portland
88	1S1E14AB -04700	R395000990	Columbia Battery Mfg Co	4915 SE 17th Ave	Portland
89	1S1E14AB -04800	R395000750	Columbia Battery Manufacturing	4915 Wi/ SE 17th Ave	Portland
90	1S1E14A -00200	R395001510	Michaelis Steven M-1/2 & Bank of America Tr-1/2	4855 SE 18th Ave	Portland
91	1S1E14AC -00100	R395002070	H E Properties Inc	5104 SE McLoughlin Blvd	Portland
92	1S1E14A -00500	R991140010	Southern Pacific Transportation Co	5424 SE McLoughlin Blvd	Portland
93	1S1E14AD -01000	R991140910	Baird Court LLC	5200 SE McLoughlin Blvd	Portland
94	1S1E14AD -00800	R991140950	Minnesota Corn Processors Inc	5300 SE McLoughlin Blvd	Portland
95	1S1E14AD -00700	R991141030	Minnesota Corn Processors Inc	5300 Wi/ SE McLoughlin Blvd	Portland
96	1S1E14DA -00200	R288101290	Brossart Ray J	5510 SE McLoughlin Blvd	Portland
97	1S1E14DA -00900	R288102490	Brossart Ray J	5510 Wi/ SE McLoughlin Blvd	Portland
98	1S1E14DA -01000	R991140440	City of Portland	No Site Address	Portland
99	1S1E13 -00200	R991130220	City of Portland	2425 SE Bybee Blvd	Portland
100	1S1E24CB -00300	R991240070	Oregon Dept of Transportation	No Site Address	Portland
101	1S1E24CB -00200	R991240340	Oregon Dept of Transportation	No Site Address	Portland
102	1S1E24CB -00100	R991240640	Oregon Dept of Transportation	No Site Address	Portland
103	1S1E24CC -00100	R840000010	Oregon Dept of Transportation	McLoughlin & SE Tacoma St	Portland
104	1S1E24CC -00200	R991240120	Oregon Worsted Co	8300 SE McLoughlin Blvd	Portland
105	1S1E24CC -03000	R991241680	Pendleton Woolen Mills	8300 S/ SE McLoughlin Blvd	Portland
106	11E25BB00100	6736	Pendleton Woolen Mills	8500 SE McLoughlin Blvd	Milwaukie
107	11E25BB08000	7450	Metro	No Site Address	
108	11E25BB02400	6978	Rollins Randy	8750 SE McLoughlin Blvd	Milwaukie
111	11E25BB08400	7502	State of Oregon	No Site Address	
112	11E25BB06100	7316	Leopold Irving J Trustee	8890 SE McLoughlin Blvd	Milwaukie
113	11E25BB06000	7307	Leopold Irving J Trustee	8890 SE McLoughlin Blvd	Milwaukie
114	11E25BB05900	7290	Leopold Irving J Trustee	No Site Address	
118	11E25BB07000	7370	State of Oregon	8900 SE McLoughlin Blvd	Milwaukie
119	11E25BC00300	7539	Oregon Dept of Transportation	9002 SE McLoughlin Blvd	Milwaukie
120	11E25BC00800	7584	G & B Capital LLC	9304 SE Main St	Milwaukie
121	11E25CB00500	9626	Mailwell Investments LLC	2200 SE Mailwell Dr	Milwaukie
122	11E25CB00600	9635	Tennant Investors	9510 SE Main St	Milwaukie
123	11E25CB00700	9644	Monson Ventures	9592 SE Main St	Milwaukie

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
124	11E25CB01000	9653	Tri-County Metropolitan Transportation District of Oregon	9600 SE Main St	Milwaukie
125	11E25CB01100	9662	St Croix Textile Mills Inc	9850 SE Main St	Milwaukie
127	11E25CB01400	9699	Cns Properties LLC	2323 SE Hanna Harvester Dr	Milwaukie
128	11E36BB00500	26714	Jazzy Future LLC	2406 SE Harrison St	Milwaukie
129	11E36BB01300	26778	Chestnut Hill Corp	2403 SE Monroe St	Milwaukie
130	11E36BB04700	27072	Corti George N & Marie Carita	2326 SE Monroe St	Milwaukie
131	11E36BB04500	27054	Methven Gary D & Linda C	2316 SE Monroe St	Milwaukie
132	11E36BB04400	27045	Amato/Craig Properties Inc	2305 SE Washington St	Milwaukie
133	11E36BC01700	27303	Wood Richard J & Marsha M	2206 SE Washington St	Milwaukie
134	11E36BC01901	27321	White Matthew J	2103 SE Adams St	Milwaukie
135	11E36BC03300	27401	Horton Jeffrey M	11301 SE 21st Ave	Milwaukie
136	11E35AD01100	19241	City of Milwaukie	11100 SE McLoughlin Blvd	Milwaukie
137	11E35AD01200	19250	Bolouri Farid	11103 SE Main St	Milwaukie
138	11E35AD01300	19269	City of Milwaukie	No Site Address	
139	11E35AD01302	19287	City of Milwaukie	No Site Address	
140	11E35AD01301	19278	City of Milwaukie	No Site Address	

Table G-2.
Meade-Sherman Option

(See Figure G3.1-8)

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
7	1S1E03CD -00800	R779900300	City of Portland (PDC) (Leased Riverplace Partners LLC)	No Site Address	Portland
9	1S1E10 -00300	R991100010	Z R Z Realty Co	3121 Wi/ SW Moody Ave	Portland
10	1S1E10 -00200	R991100630	Oregon Health & Science University	SW Moody Ave	Portland
11	1S1E10BA -00200	R991100020	Tri-County Metropolitan Transportation District of Oregon	Hooker & SW Moody Ave	Portland
14	1S1E03DD -00200	R668200150	Oregon Museum of Science & Industry	SE Water Ave	Portland
15	1S1E03DD -00600	R668200050	Portland Opera Association Inc	211 SE Caruthers St	Portland
19	1S1E03DD -00300	R668200200	Oregon Museum of Science & Industry	2015 SE Water Ave	Portland
21	1S1E02CC -05500	R794003230	State of Oregon		Portland
22	1S1E02CC -05600	R794003190	Brunn Kelly C	2339 Wi/ SE Grand Ave	Portland
23	1S1E02CC -05700	R794003170	Brunn Kelly C	2329-2339 SE Grand Ave	Portland
26	1S1E02CC -05400	R794004460	Keller Portland #28 LLC	2320 N/ SE Grand Ave	Portland
27	1S1E02CC -06000	R794004520	Keller Portland #28 LLC	2320 SE Grand Ave	Portland
28	1S1E02CC -06100	R794010010	Balzer Pacific Equipment Co	2230 E/ SE Grand Ave	Portland

Table G-3.
Porter-Sherman Option

(See Figure G3.1-9)

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
7	1S1E03CD -00800	R779900300	City of Portland (PDC) (Leased Riverplace Partners LLC)	No Site Address	Portland
9	1S1E10 -00300	R991100010	Z R Z Realty Co	3121 Wi/ SW Moody Ave	Portland
10	1S1E10 -00200	R991100630	Oregon Health & Science University	SW Moody Ave	Portland
11	1S1E10BA -00200	R991100020	Tri-County Metropolitan Transportation District of Oregon	Hooker & SW Moody Ave	Portland
14	1S1E03DD -00200	R668200150	Oregon Museum of Science & Industry	SE Water Ave	Portland
15	1S1E03DD -00600	R668200050	Portland Opera Association Inc	211 SE Caruthers St	Portland
19	1S1E03DD -00300	R668200200	Oregon Museum of Science & Industry	2015 SE Water Ave	Portland
21	1S1E02CC -05500	R794003230	State of Oregon	No Site Address	Portland
22	1S1E02CC -05600	R794003190	Brunn Kelly C	2339 Wi/ SE Grand Ave	Portland
23	1S1E02CC -05700	R794003170	Brunn Kelly C	2329-2339 SE Grand Ave	Portland
26	1S1E02CC -05400	R794004460	Keller Portland #28 LLC	2320 N/ SE Grand Ave	Portland
27	1S1E02CC -06000	R794004520	Keller Portland #28 LLC	2320 SE Grand Ave	Portland
28	1S1E02CC -06100	R794010010	Balzer Pacific Equipment Co	2230 E/ SE Grand Ave	Portland

Table G -4.
Meade-Caruthers Option

(See Figure G3.1-10)

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
7	1S1E03CD -00800	R779900300	City of Portland (PDC) (Leased Riverplace Partners LLC)	No Site Address	Portland
9	1S1E10 -00300	R991100010	Z R Z Realty Co	3121 Wi/ SW Moody Ave	Portland
10	1S1E10 -00200	R991100630	Oregon Health & Science University	SW Moody Ave	Portland
11	1S1E10BA -00200	R991100020	Tri-County Metropolitan Transportation District of Oregon	Hooker & SW Moody Ave	Portland
15	1S1E03DD -00600	R668200050	Portland Opera Association Inc	211 SE Caruthers St	Portland
16	1S1E03DD -00700	R794001660	American Waterways Inc	100 SE Caruthers St	Portland
17	1S1E03DD -00800	R794001640	Kingsley Wayne B-55.5% & Craigievar Invest LLC-44.5%	240 SE Caruthers St	Portland
19	1S1E03DD -00300	R668200200	Oregon Museum of Science & Industry	2015 SE Water Ave	Portland
20	1S1E03DD -00500	R668200100	Portland Opera Association Inc	211 Wi/ SE Caruthers St	Portland
24	1S1E02CC -05800	R794003180	Brunn Kelly C	2329-2339 SE Grand Ave	Portland
25	1S1E02CC -05900	R794003160	State of Oregon	No Site Address	Portland
26	1S1E02CC -05400	R794004460	Keller Portland #28 LLC	2320 N/ SE Grand Ave	Portland
27	1S1E02CC -06000	R794004520	Keller Portland #28 LLC	2320 SE Grand Ave	Portland
28	1S1E02CC -06100	R794010010	Balzer Pacific Equipment Co	2230 E/ SE Grand Ave	Portland

Table G-5.
Porter-Caruthers Option

(See Figures G3.1-11)

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
7	1S1E03CD -00800	R779900300	City of Portland (PDC) (Leased Riverplace Partners LLC)	No Site Address	Portland
9	1S1E10 -00300	R991100010	Z R Z Realty Co	3121 Wi/ SW Moody Ave	Portland
10	1S1E10 -00200	R991100630	Oregon Health & Science University	SW Moody Ave	Portland
11	1S1E10BA -00200	R991100020	Tri-County Metropolitan Transportation District of Oregon	Hooker & SW Moody Ave	Portland
15	1S1E03DD -00600	R668200050	Portland Opera Association Inc	211 SE Caruthers St	Portland
16	1S1E03DD -00700	R794001660	American Waterways Inc	100 SE Caruthers St	Portland
17	1S1E03DD -00800	R794001640	Kingsley Wayne B-55.5% & Craigievar Invest LLC-44.5%	240 SE Caruthers St	Portland
19	1S1E03DD -00300	R668200200	Oregon Museum of Science & Industry	2015 SE Water Ave	Portland
20	1S1E03DD -00500	R668200100	Portland Opera Association Inc	211 Wi/ SE Caruthers St	Portland
24	1S1E02CC -05800	R794003180	Brunn Kelly C	2329-2339 SE Grand Ave	Portland
25	1S1E02CC -05900	R794003160	State of Oregon	No Site Address	Portland
26	1S1E02CC -05400	R794004460	Keller Portland #28 LLC	2320 N/ SE Grand Ave	Portland
27	1S1E02CC -06000	R794004520	Keller Portland #28 LLC	2320 SE Grand Ave	Portland
28	1S1E02CC -06100	R794010010	Balzer Pacific Equipment Co	2230 E/ SE Grand Ave	Portland

Table G-6.
2003 LPA to Park

(See Figures G3.1-12 through G3.1-13)

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
100	1S1E24CB -00300	R991240070	Oregon Dept of Transportation	No Site Address	Portland
101	1S1E24CB -00200	R991240340	Oregon Dept of Transportation	No Site Address	Portland
102	1S1E24CB -00100	R991240640	Oregon Dept of Transportation	No Site Address	Portland
103	1S1E24CC -00100	R840000010	Oregon Dept of Transportation	McLoughlin & SE Tacoma St	Portland
104	1S1E24CC -00200	R991240120	Oregon Worsted Co	8300 SE McLoughlin Blvd	Portland
105	1S1E24CC -03000	R991241680	Pendleton Woolen Mills	8300 S/ SE McLoughlin Blvd	Portland
106	11E25BB00100	6736	Pendleton Woolen Mills	8500 SE McLoughlin Blvd	Milwaukie
107	11E25BB08000	7450	Metro	No Site Address	Milwaukie
108	11E25BB02400	6978	Rollins Randy	8750 SE McLoughlin Blvd	Milwaukie
111	11E25BB08400	7502	State of Oregon	No Site Address	Milwaukie
112	11E25BB06100	7316	Leopold Irving J Trustee	8890 SE McLoughlin Blvd	Milwaukie
113	11E25BB06000	7307	Leopold Irving J Trustee	8890 SE McLoughlin Blvd	Milwaukie
114	11E25BB05900	7290	Leopold Irving J Trustee	No Site Address	Milwaukie
118	11E25BB07000	7370	State of Oregon	8900 SE McLoughlin Blvd	Milwaukie
119	11E25BC00300	7539	Oregon Dept of Transportation	9002 SE McLoughlin Blvd	Milwaukie
120	11E25BC00800	7584	G & B Capital LLC	9304 SE Main St	Milwaukie
121	11E25CB00500	9626	Mailwell Investments LLC	2200 SE Mailwell Dr	Milwaukie
122	11E25CB00600	9635	Tennant Investors	9510 SE Main St	Milwaukie
123	11E25CB00700	9644	Monson Ventures	9592 SE Main St	Milwaukie

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
124	11E25CB01000	9653	Tri-County Metropolitan Transportation District of Oregon	9600 SE Main St	Milwaukie
125	11E25CB01100	9662	St Croix Textile Mills Inc	9850 SE Main St	Milwaukie
127	11E25CB01400	9699	Cns Properties LLC	2323 SE Hanna Harvester Dr	Milwaukie
128	11E36BB00500	26714	Jazzy Future LLC	2406 SE Harrison St	Milwaukie
129	11E36BB01300	26778	Chestnut Hill Corp	2403 SE Monroe St	Milwaukie
130	11E36BB04700	27072	Corti George N & Marie Carita	2326 SE Monroe St	Milwaukie
131	11E36BB04500	27054	Methven Gary D & Linda C	2316 SE Monroe St	Milwaukie
132	11E36BB04400	27045	Amato/Craig Properties Inc	2305 SE Washington St	Milwaukie
133	11E36BC01700	27303	Wood Richard J & Marsha M	2206 SE Washington St	Milwaukie
134	11E36BC01901	27321	White Matthew J	2103 SE Adams St	Milwaukie
135	11E36BC03300	27401	Horton Jeffrey M	11301 SE 21st Ave	Milwaukie
141	11E36CB03100	29917	City of Milwaukie	No Site Address	Milwaukie
142	11E36CB03400	29935	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
143	11E36CB03500	29953	Enders Anthony	11916 SE 22nd Ave	Milwaukie
144	11E36CB03400	29935	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
145	11E36CB04300	30031	Mackey Thomas J & Carolyn E	1920 SE Bluebird St	Milwaukie
146	11E36CB04400	1687268	State of Oregon	No Site Address	Milwaukie
147	11E36CB04200	30022	Warner Donna M	12013 SE River Rd	Milwaukie
148	11E36CC02101	30442	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
149	11E36CC02100	30415	Jones Aaron C & Kathleen F	12024 SE River Rd	Milwaukie
150	11E36CC02101	30442	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
151	11E36CC05100	30825	Busse Richard A & Judith M	12302 SE 26th Ave	Milwaukie
152	11E36CC02101	30442	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
153	11E36CC05300	30843	Evans Neil Timothy & Lisa	2625 SE Lark St	Milwaukie
154	11E36CD02400	31110	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
155	11E36CD02600	31138	Piltz Kenneth M	12412 SE 27th Ave	Milwaukie
156	21E01BA10100	167688	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
157	21E01BA03301	1733048	Vitiritti Pietro Trustee	12611 SE McLoughlin Blvd	Milwaukie
158	21E01BA03300	167786	Hashem Fadi	2735 SE Park Ave	Milwaukie
159	21E01BC00100	169748	Johnson Robert A & Joan Elizabeth	2650 SE Park Ave	Milwaukie
160	21E01BC00200	169757	Oak Lodge Sanitary Dist	No Site Address	Milwaukie
161	21E01BC00300	169766	Johnson Robert A & Joan Elizabeth	No Site Address	Milwaukie
162	21E01BC00301	169775	Johnson Robert A & Joan Elizabeth	12801 SE 27th Pl	Milwaukie
163	21E01BA09700	168534	D&K Equity LLC	No Site Address	Milwaukie
164	21E01BA09600	168525	Brazer Kenneth C	12952 SE 27th Pl	Milwaukie
165	21E01BA09500	168516	D&K Equity LLC	12979 SE McLoughlin Blvd	Milwaukie
166	21E01BA09800	168543	D&K Equity LLC	2526 SE Park Ave	Milwaukie

Table G-7.
Tillamook to Park

(See Figures G3.1-14 through G3.1-15)

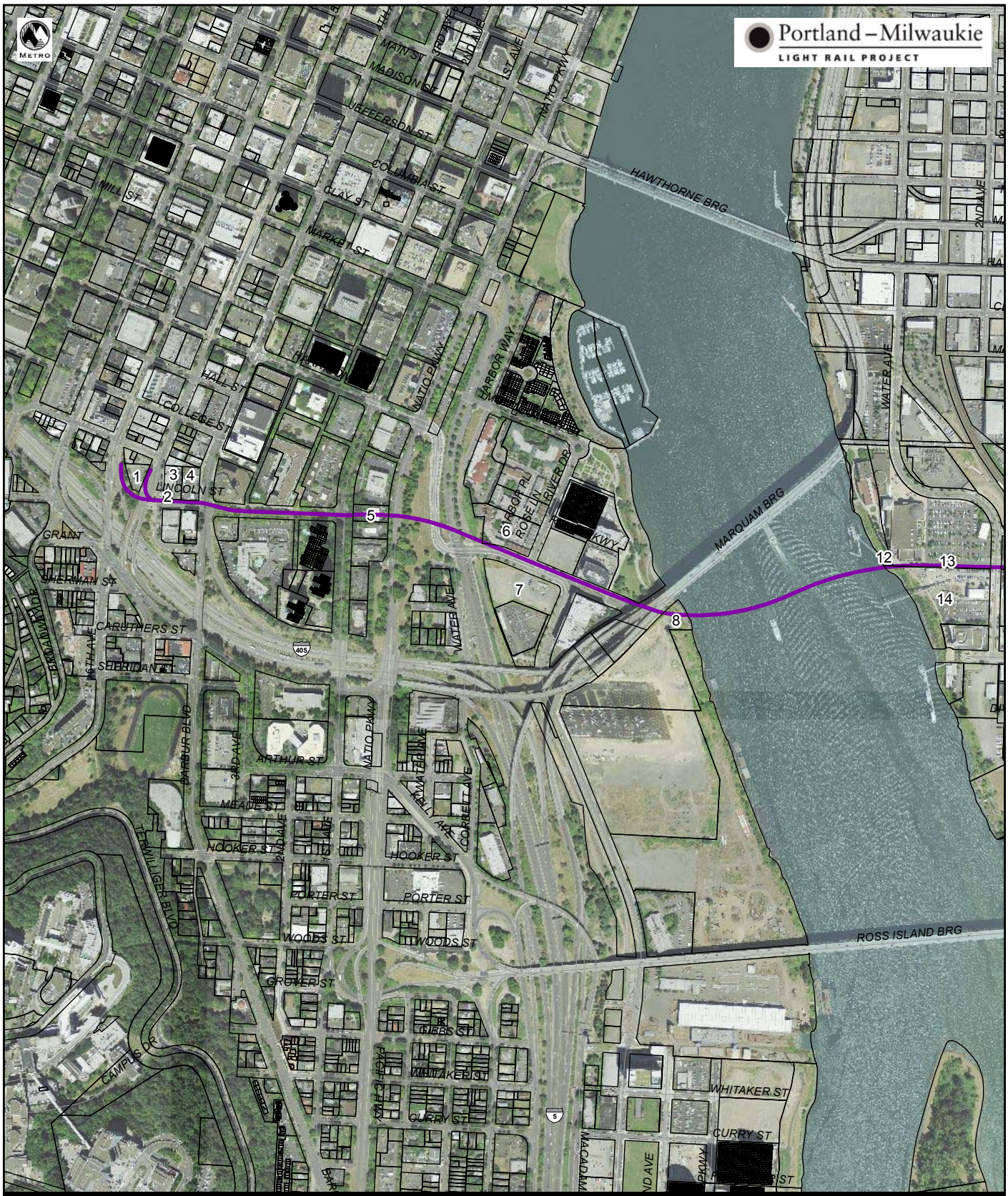
Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
100	1S1E24CB -00300	R991240070	Oregon Dept of Transportation	No Site Address	Portland
101	1S1E24CB -00200	R991240340	Oregon Dept of Transportation	No Site Address	Portland
102	1S1E24CB -00100	R991240640	Oregon Dept of Transportation	No Site Address	Portland
103	1S1E24CC -00100	R840000010	Oregon Dept of Transportation	McLoughlin & SE Tacoma St	Portland
104	1S1E24CC -00200	R991240120	Oregon Worsted Co	8300 SE McLoughlin Blvd	Portland
105	1S1E24CC -03000	R991241680	Pendleton Woolen Mills	8300 S/ SE McLoughlin Blvd	Portland
106	11E25BB00100	6736	Pendleton Woolen Mills	8500 SE McLoughlin Blvd	Milwaukie
107	11E25BB08000	7450	Metro	No Site Address	Milwaukie
109	11E25BB03200	7030	Beaver Heat Treating Corp	2505 SE Moores St	Milwaukie
110	11E25BB08100	7469	Beaver Heat Treating Corp	No Site Address	Milwaukie
115	11E25BB03300	7049	Beaver Heat Treating Corp	No Site Address	Milwaukie
116	11E25BB03500	7058	Anderson George C	8772 SE 25th Ave	Milwaukie
117	11E25BB03600	7067	Anderson George C	8794 SE 25th Ave	Milwaukie
128	11E36BB00500	26714	Jazzy Future LLC	2406 SE Harrison St	Milwaukie
129	11E36BB01300	26778	Chestnut Hill Corp	2403 SE Monroe St	Milwaukie
130	11E36BB04700	27072	Corti George N & Marie Carita	2326 SE Monroe St	Milwaukie
131	11E36BB04500	27054	Methven Gary D & Linda C	2316 SE Monroe St	Milwaukie
132	11E36BB04400	27045	Amato/Craig Properties Inc	2305 SE Washington St	Milwaukie
133	11E36BC01700	27303	Wood Richard J & Marsha M	2206 SE Washington St	Milwaukie
134	11E36BC01901	27321	White Matthew J	2103 SE Adams St	Milwaukie
135	11E36BC03300	27401	Horton Jeffrey M	11301 SE 21st Ave	Milwaukie
136	11E35AD01100	19241	City of Milwaukie	11100 SE McLoughlin Blvd	Milwaukie
137	11E35AD01200	19250	Bolouri Farid	11103 SE MAIN ST	Milwaukie
138	11E35AD01300	19269	City of Milwaukie	No Site Address	Milwaukie
139	11E35AD01302	19287	City of Milwaukie	No Site Address	Milwaukie
140	11E35AD01301	19278	City of Milwaukie	No Site Address	Milwaukie
141	11E36CB03100	29917	City of Milwaukie	No Site Address	Milwaukie
142	11E36CB03400	29935	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
143	11E36CB03500	29953	Enders Anthony	11916 SE 22nd Ave	Milwaukie
144	11E36CB03400	29935	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
145	11E36CB04300	30031	Mackey Thomas J & Carolyn E	1920 SE Bluebird St	Milwaukie
146	11E36CB04400	1687268	State of Oregon	No Site Address	Milwaukie
147	11E36CB04200	30022	Warner Donna M	12013 SE River Rd	Milwaukie
148	11E36CC02101	30442	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
149	11E36CC02100	30415	Jones Aaron C & Kathleen F	12024 SE River Rd	Milwaukie
150	11E36CC02101	30442	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
151	11E36CC05100	30825	Busse Richard A & Judith M	12302 SE 26th Ave	Milwaukie
152	11E36CC02101	30442	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
153	11E36CC05300	30843	Evans Neil Timothy & Lisa	2625 SE Lark St	Milwaukie
154	11E36CD02400	31110	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
155	11E36CD02600	31138	Piltz Kenneth M	12412 SE 27th Ave	Milwaukie
156	21E01BA10100	167688	North Clackamas Park & Rec Dist	No Site Address	Milwaukie
157	21E01BA03301	1733048	Vitiritti Pietro Trustee	12611 SE McLoughlin Blvd	Milwaukie
158	21E01BA03300	167786	Hashem Fadi	2735 SE Park Ave	Milwaukie

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
159	21E01BC00100	169748	Johnson Robert A & Joan Elizabeth	2650 SE Park Ave	Milwaukie
160	21E01BC00200	169757	Oak Lodge Sanitary Dist	No Site Address	Milwaukie
161	21E01BC00300	169766	Johnson Robert A & Joan Elizabeth	No Site Address	Milwaukie
162	21E01BC00301	169775	Johnson Robert A & Joan Elizabeth	12801 SE 27th Pl	Milwaukie
163	21E01BA09700	168534	D&K Equity LLC	No Site Address	Milwaukie
164	21E01BA09600	168525	Brazer Kenneth C	12952 SE 27th Pl	Milwaukie
165	21E01BA09500	168516	D&K Equity LLC	12979 SE McLoughlin Blvd	Milwaukie
166	21E01BA09800	168543	D&K Equity LLC	2526 SE Park Ave	Milwaukie

Table G-8.
Ruby Junction Operations Facility

(See Figure G-X)

Map Id No.	Tax Lot	Account Number	Owner	Site Address	City
167	1S3E05AD -03200	R895002170	DODD JOSEPH M	2227 NW ELEVEN MILE AVE	Gresham
168	1S3E05DA -02500	R895001950	FUGMAN DARREL	2127 NW ELEVEN MILE AVE	Gresham
169	1S3E05DA -02600	R895001930	FUGMAN DARREL &	23595 SE HOFFMEISTER RD	Boring
170	1S3E05DA -02700	R895001910	FUGMAN DARREL &	23595 SE HOFFMEISTER RD	Boring
171	1S3E05DA -02800	R895001920	KIRKPATRICK RUSSELL L &	2005 NW ELEVEN MILE AVE	Gresham
172	1S3E05DA -02900	R895001790	ROSSOMONDO ARTHUR A &	PO BOX 2278	Gresham
173	1S3E05DA -03000	R895001780	ROSSOMONDO ARTHUR A &	PO BOX 2278	Gresham
174	1S3E05DA -03100	R895001750	CLARK KENNETH I &	9711 SE 250TH AVE	Gresham
175	1S3E05DA -03200	R895001670	R J TASH CO	3381 SW MILLER DR	Gresham
176	1S3E05DA -03300	R895001590	HAMMACK TIMOTHY W	P O BOX 20421	Portland
177	1S3E05DA -03400	R895001550	HUGHES MICHAEL J	12501 NW CRESTON RD	Portland
178	1S3E05DA -03500	R895001430	WAGONER PROPERTIES LLC	1709 NW ELEVEN MILE AVE	Gresham
179	1S3E05DA -01500	R895001230	AGOPOSA JULIANNA	1806 NW ELEVEN MILE AVE	Gresham
180	1S3E05DA -01400	R895001270	QUINTANA SONG TUK TR	11328 215TH ST APT 1	Lakewood
181	1S3E05DA -01300	R895001310	SURAN RICK P	P O BOX 1049	Gresham



Portland-Milwaukie Light Rail Project — **Figure G.1-1**

Potentially Affected Parcels - 2003 Locally Preferred Alternative (LPA)

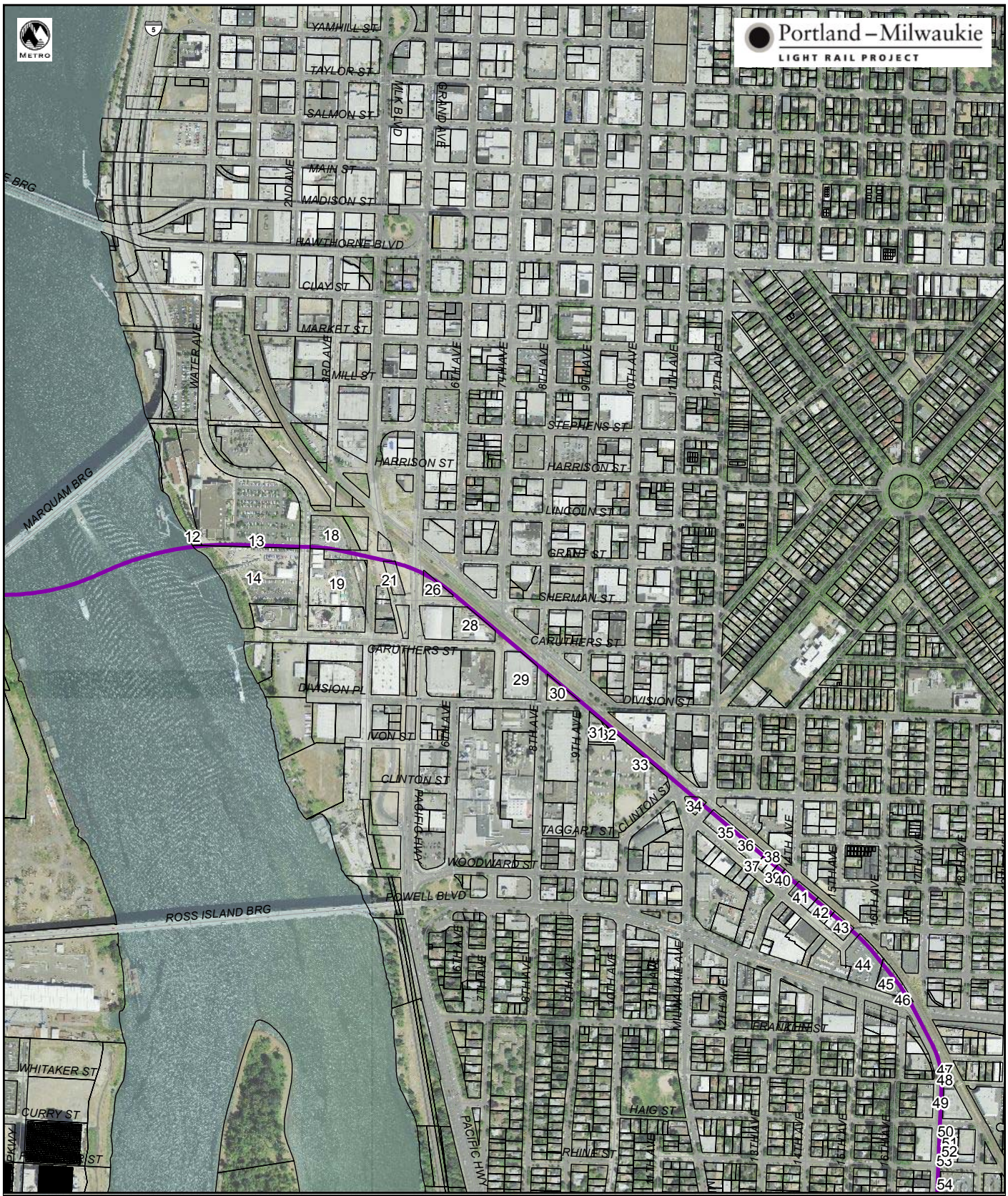
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-2**

Potentially Affected Parcels - 2003 Locally Preferred Alternative (LPA)

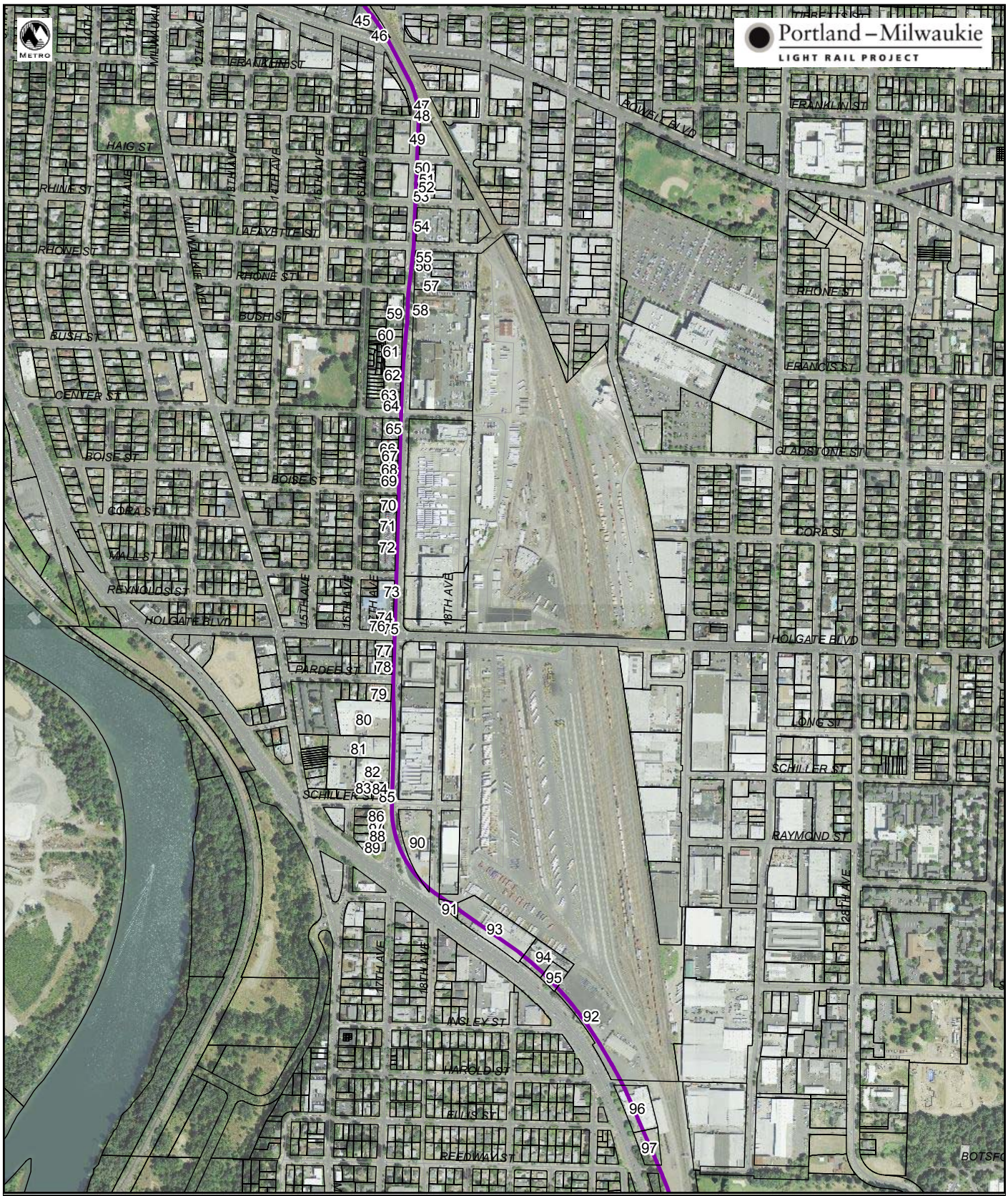
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-3**

Potentially Affected Parcels - 2003 Locally Preferred Alternative (LPA)

Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

N

October 2007

Portland-Milwaukie Light Rail Project — ***Figure G.1-4***

Potentially Affected Parcels - 2003 Locally Preferred Alternative (LPA)

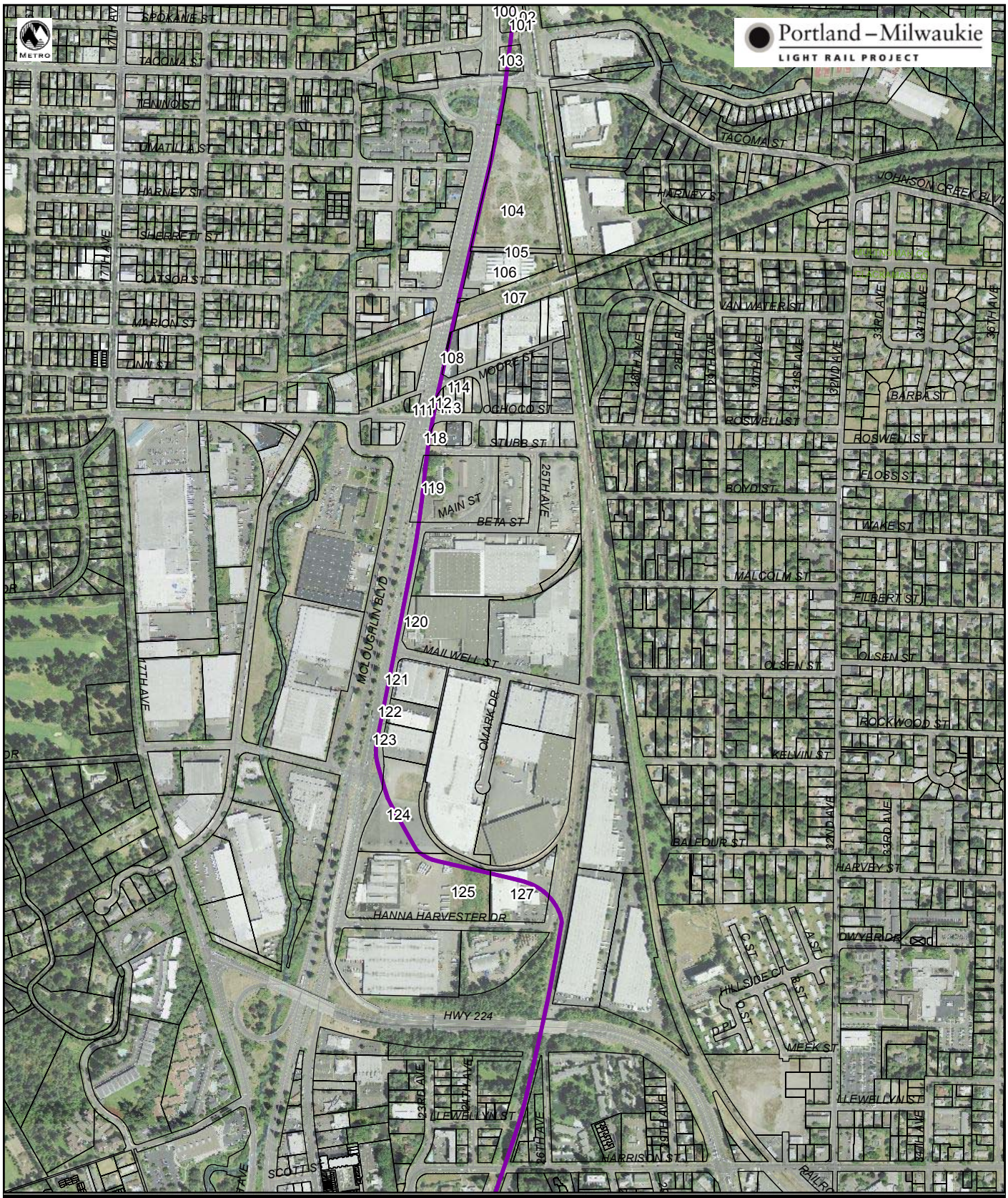
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

Feet
0 400 800

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-5**

Potentially Affected Parcels - 2003 Locally Preferred Alternative (LPA)

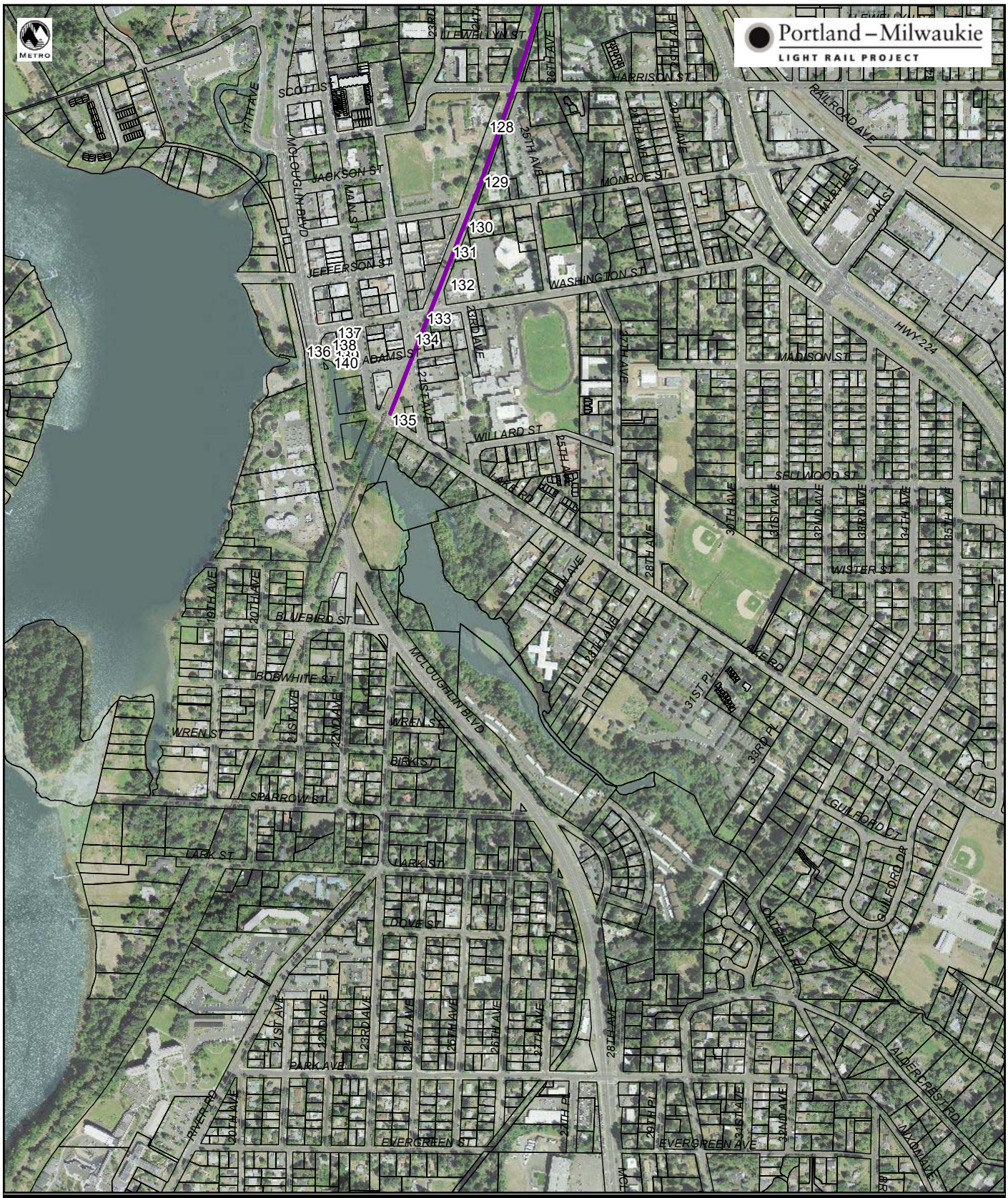
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project **Figure G.1-6**

Potentially Affected Parcels - 2003 Locally Preferred Alternative (LPA)

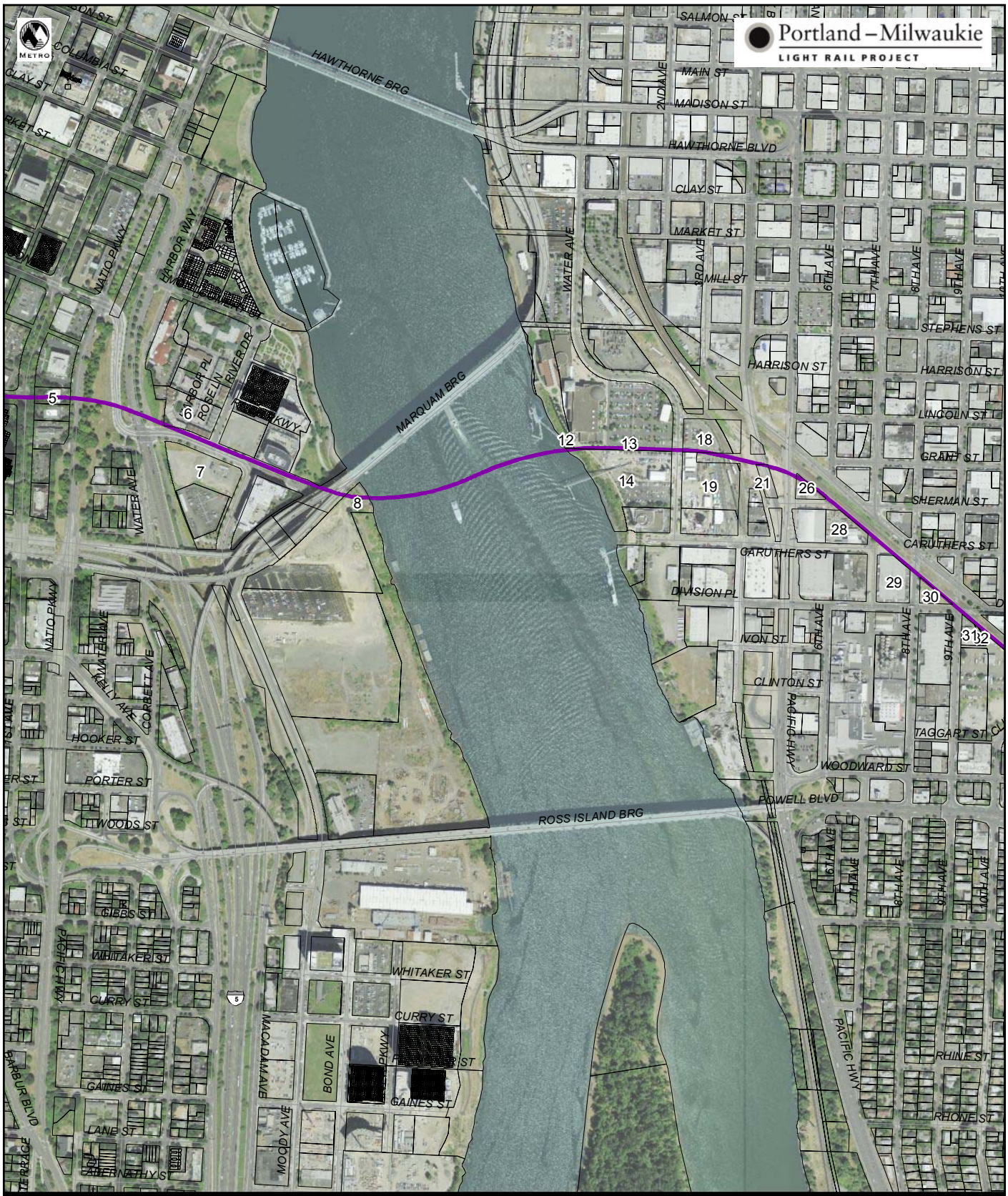
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-7**

Potentially Affected Parcels - Willamette River Crossing Options: 2003 LPA

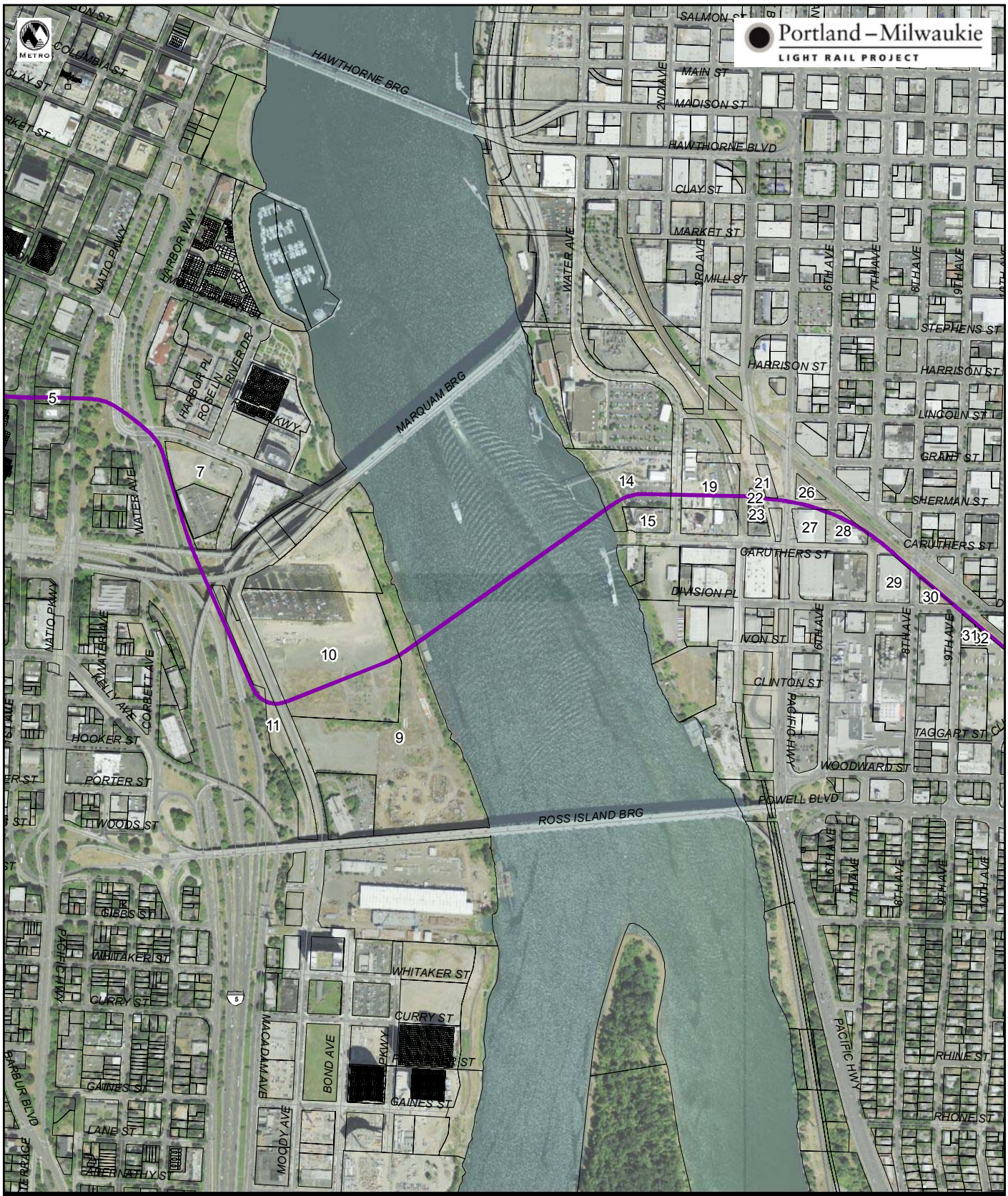
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-8**

Potentially Affected Parcels - Willamette River Crossing Options: Meade-Sherman

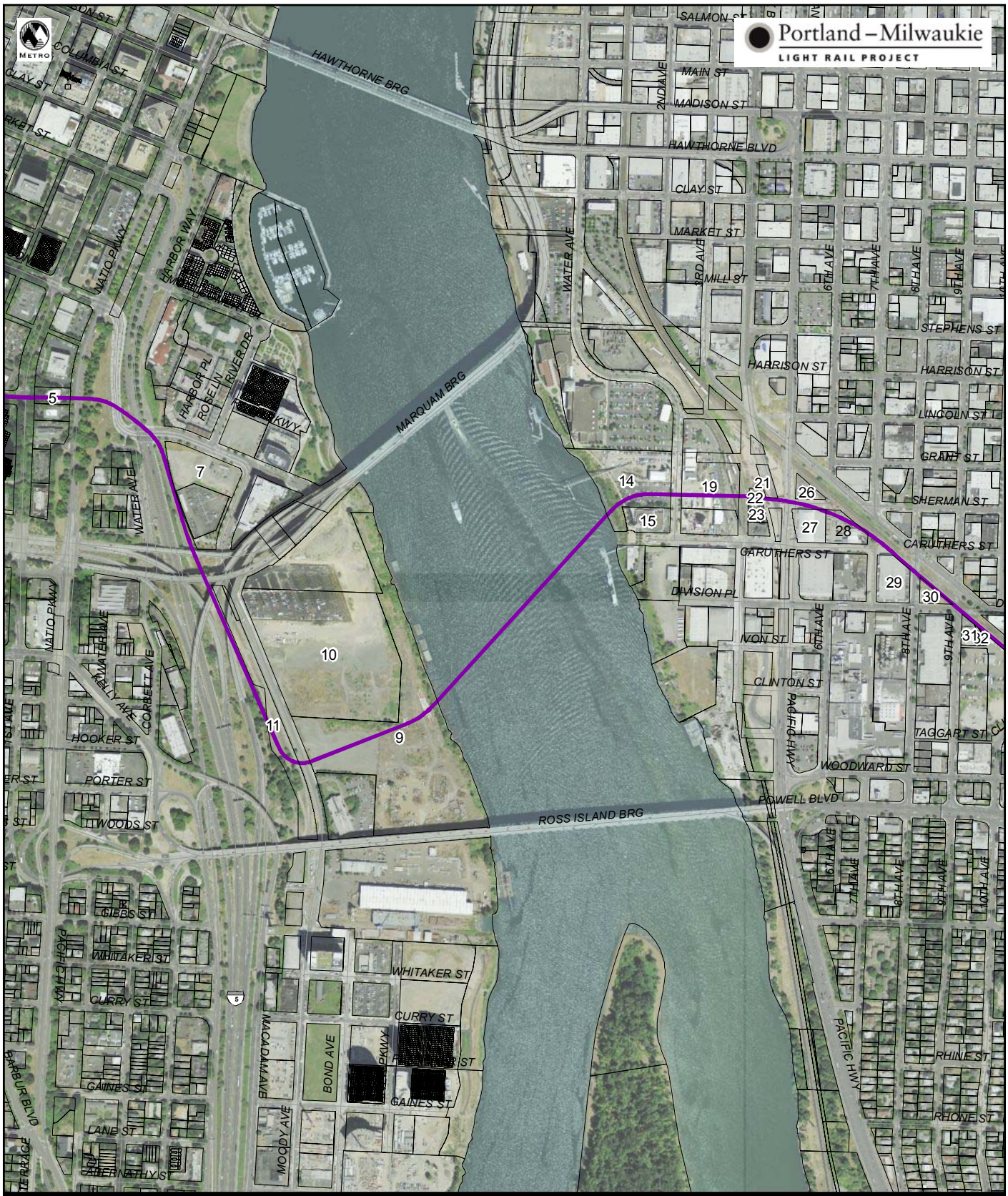
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-9**

Potentially Affected Parcels - Willamette River Crossing Options: Porter-Sherman

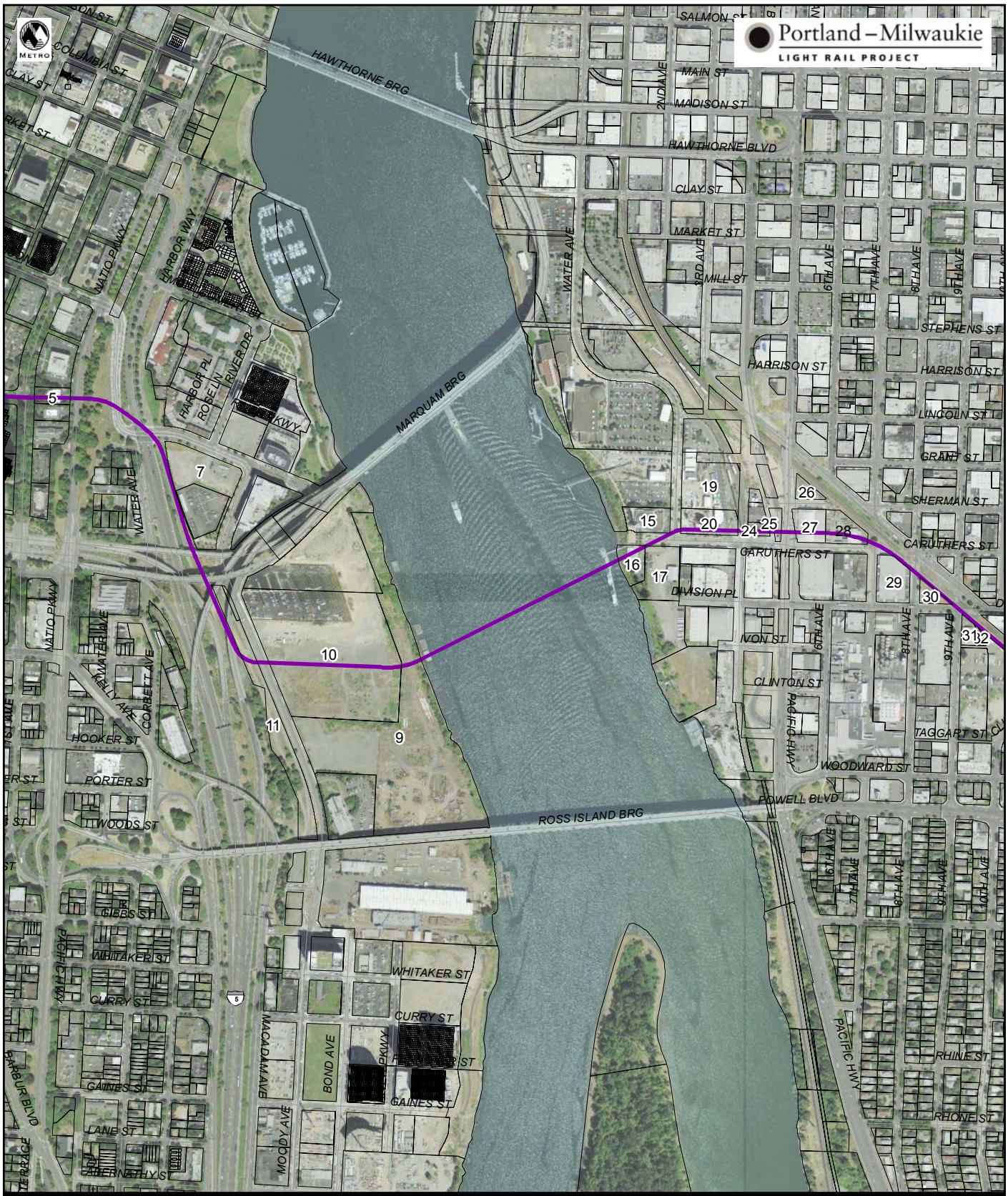
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-10**

Potentially Affected Parcels - Willamette River Crossing Options: Meade-Caruthers

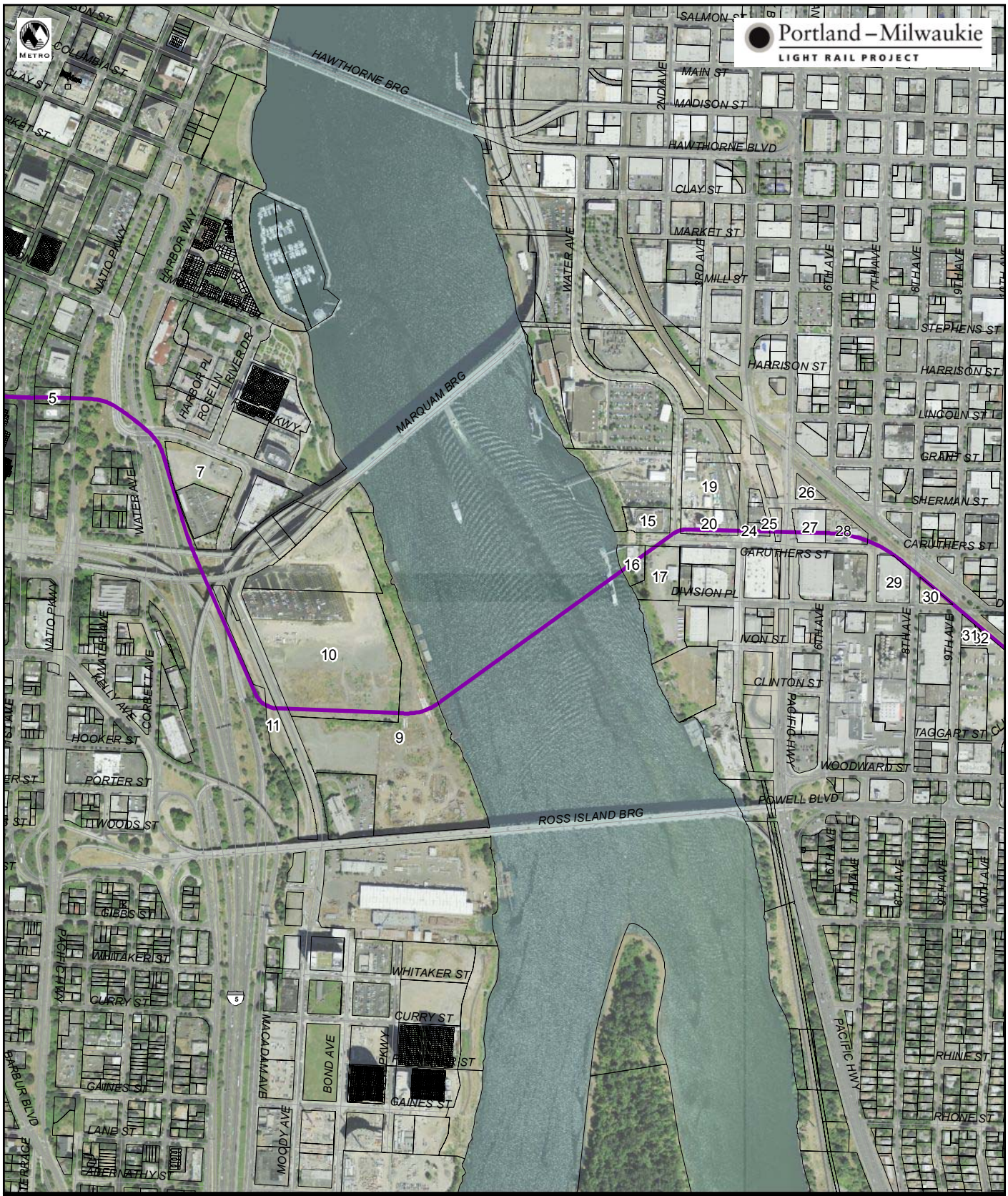
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-11**

Potentially Affected Parcels - Willamette River Crossing Options: Porter-Caruthers

Light Rail alternative

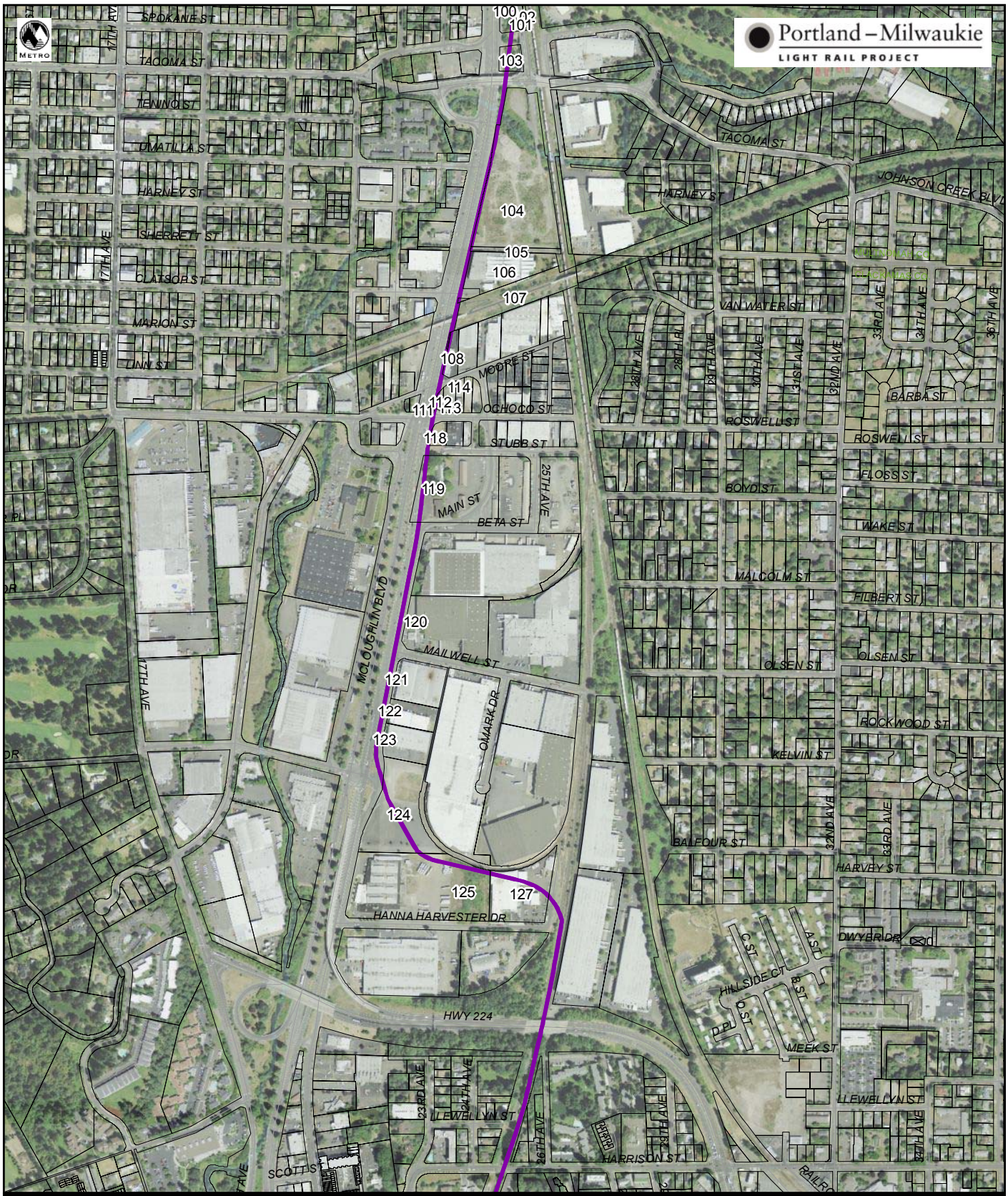
Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

N

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-12**

Potentially Affected Parcels - Tacoma to Terminus: 2003 LPA to Park

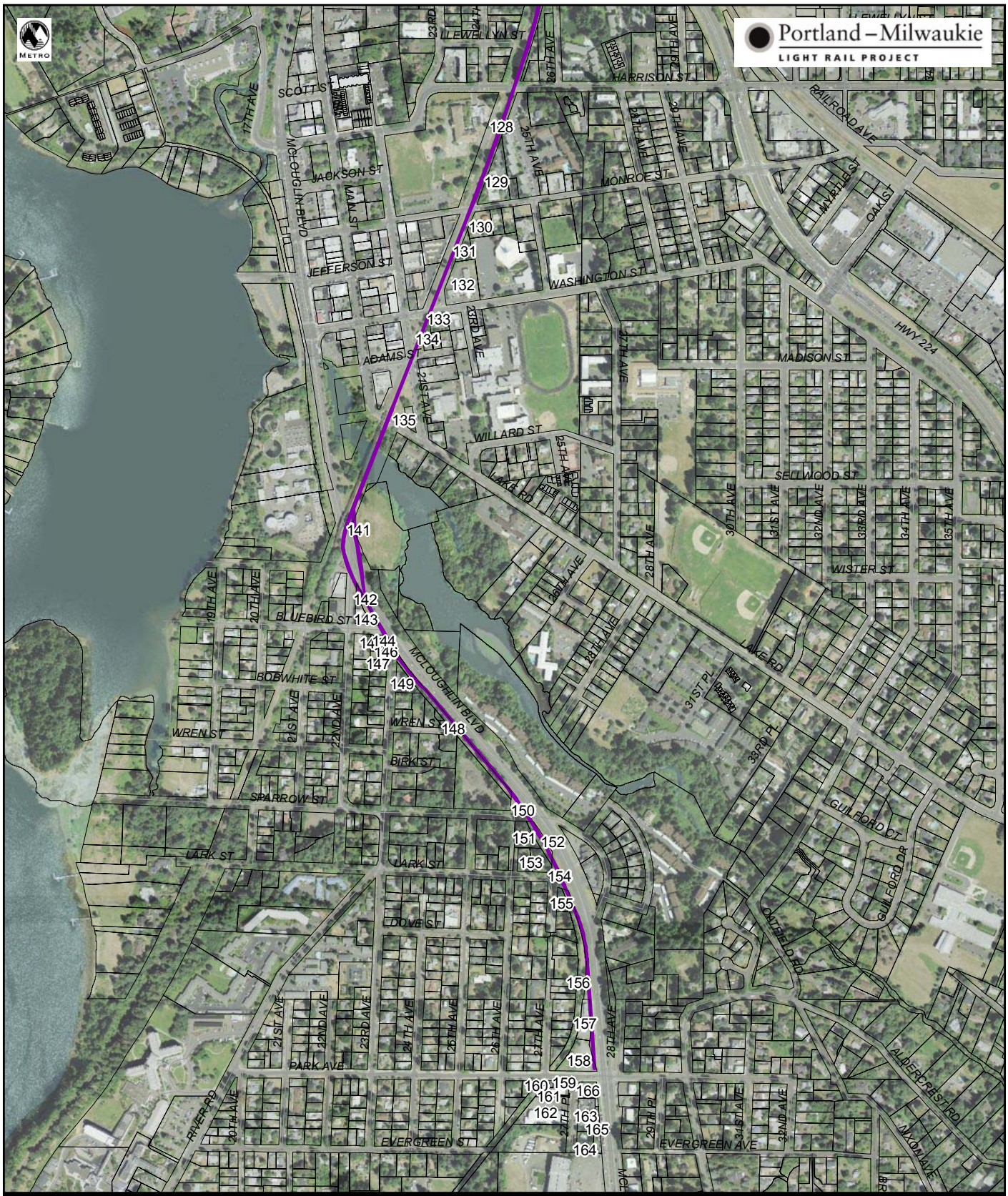
Light Rail alternative

\# Potentially Affected Parcel ID

Taxlot

Feet
0 400 800

October 2007



Portland-Milwaukie Light Rail Project **Figure G.1-13**

Potentially Affected Parcels - Tacoma to Terminus: 2003 LPA to Park

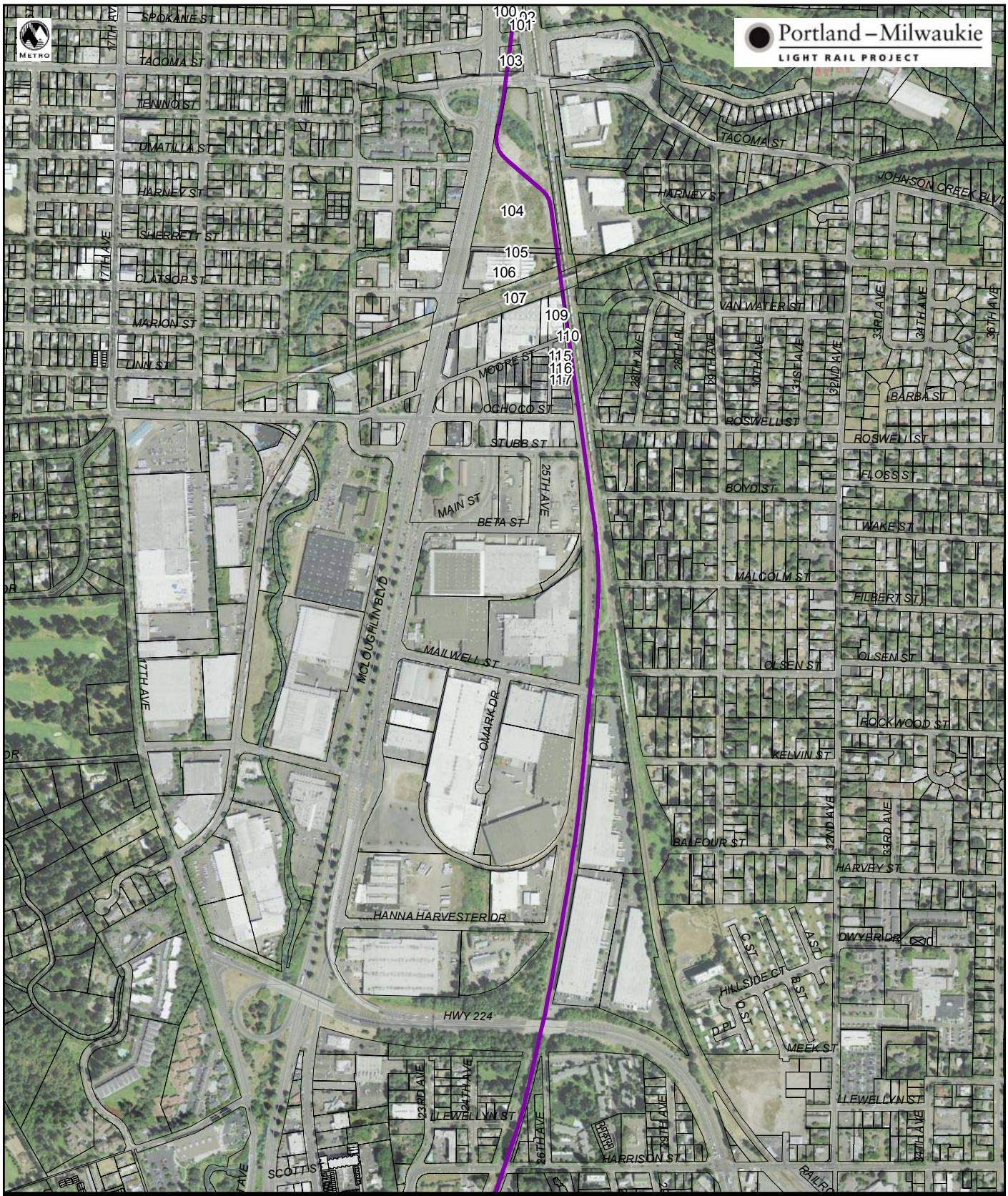
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

Feet 0 400 800

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-14**

Potentially Affected Parcels - Tacoma to Terminus: 2003 LPA with Tillamook to Park

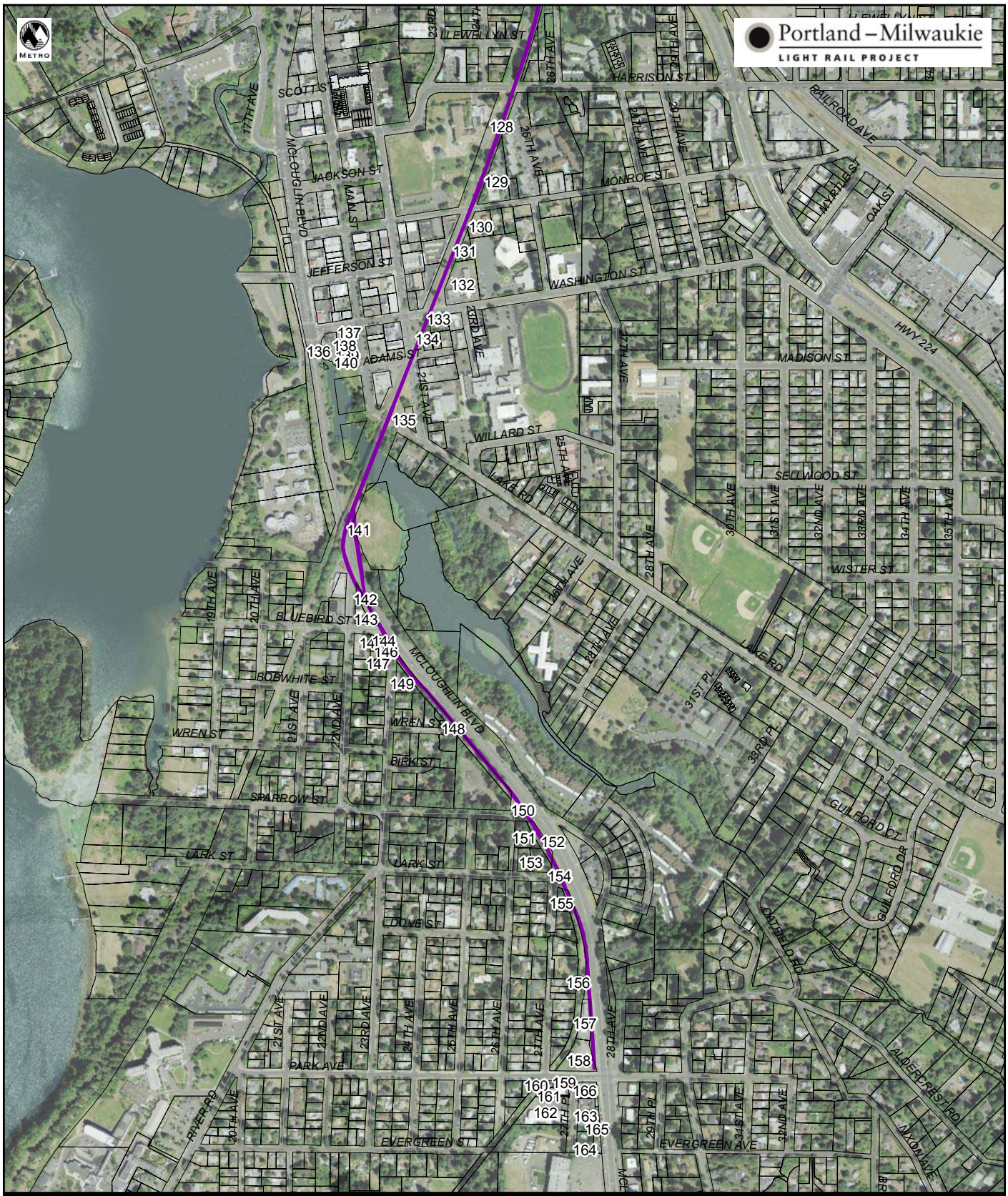
Light Rail alternative

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Portland-Milwaukie Light Rail Project — **Figure G.1-15**

Potentially Affected Parcels - Tacoma to Terminus: 2003 LPA with Tillamook to Park

Light Rail alternative

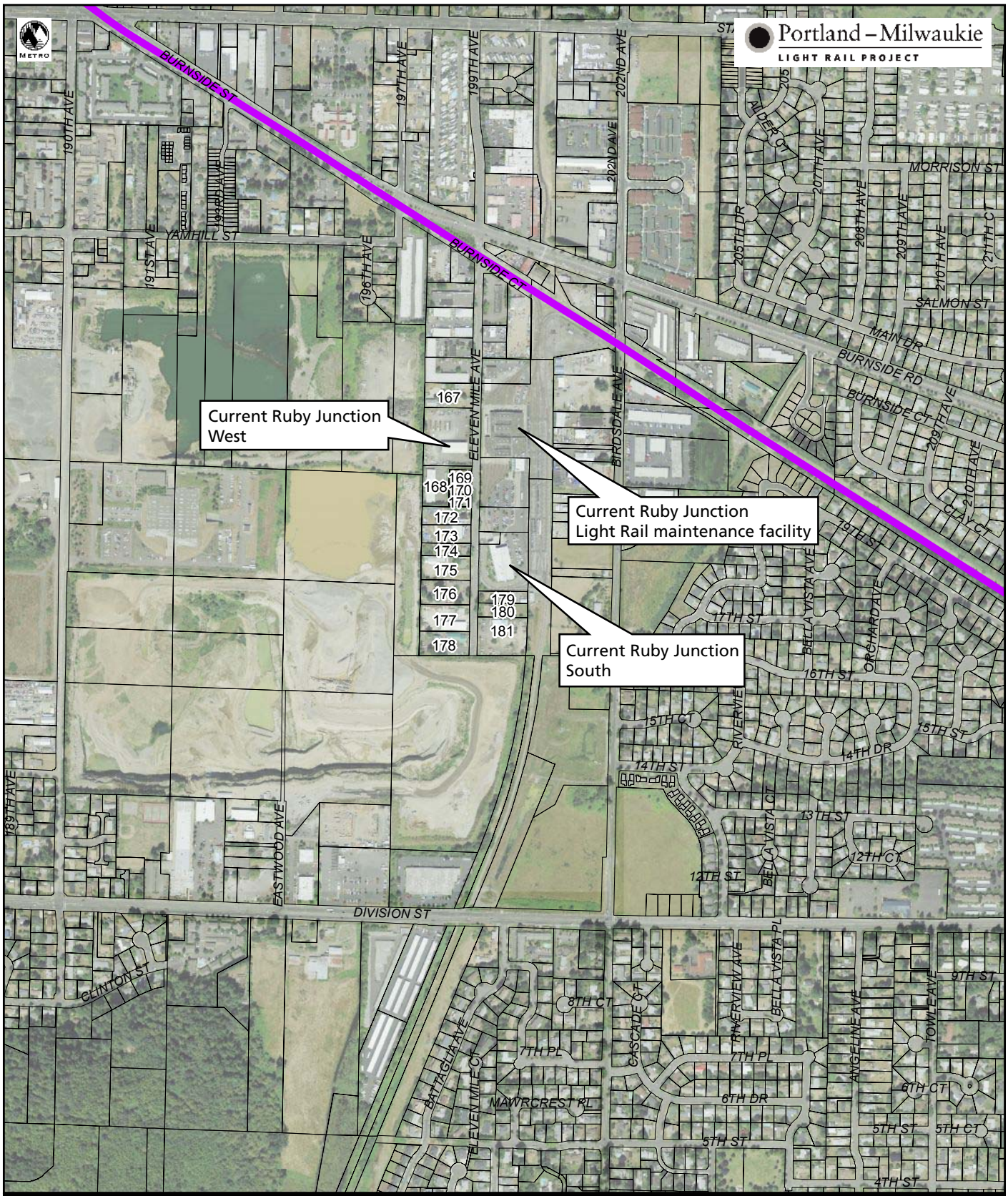
Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

N

October 2007



Portland-Milwaukie Light Rail Project **Figure G.1-16**

Potentially Affected Parcels - Ruby Junction maintenance facility

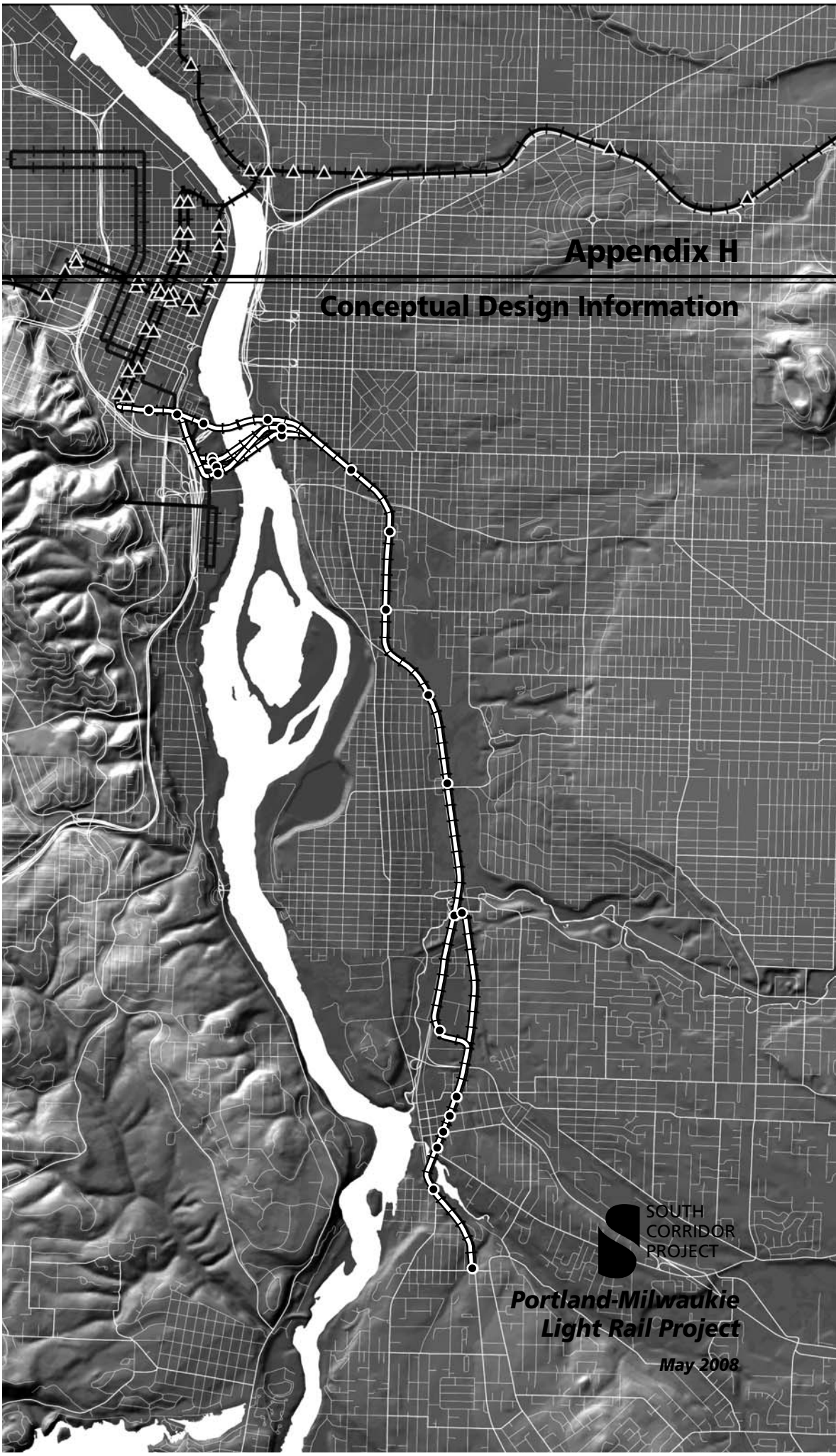
Existing Light Rail

Taxlot

\# Potentially Affected Parcel ID

0 400 800 Feet

October 2007



Appendix H

Conceptual Design Information

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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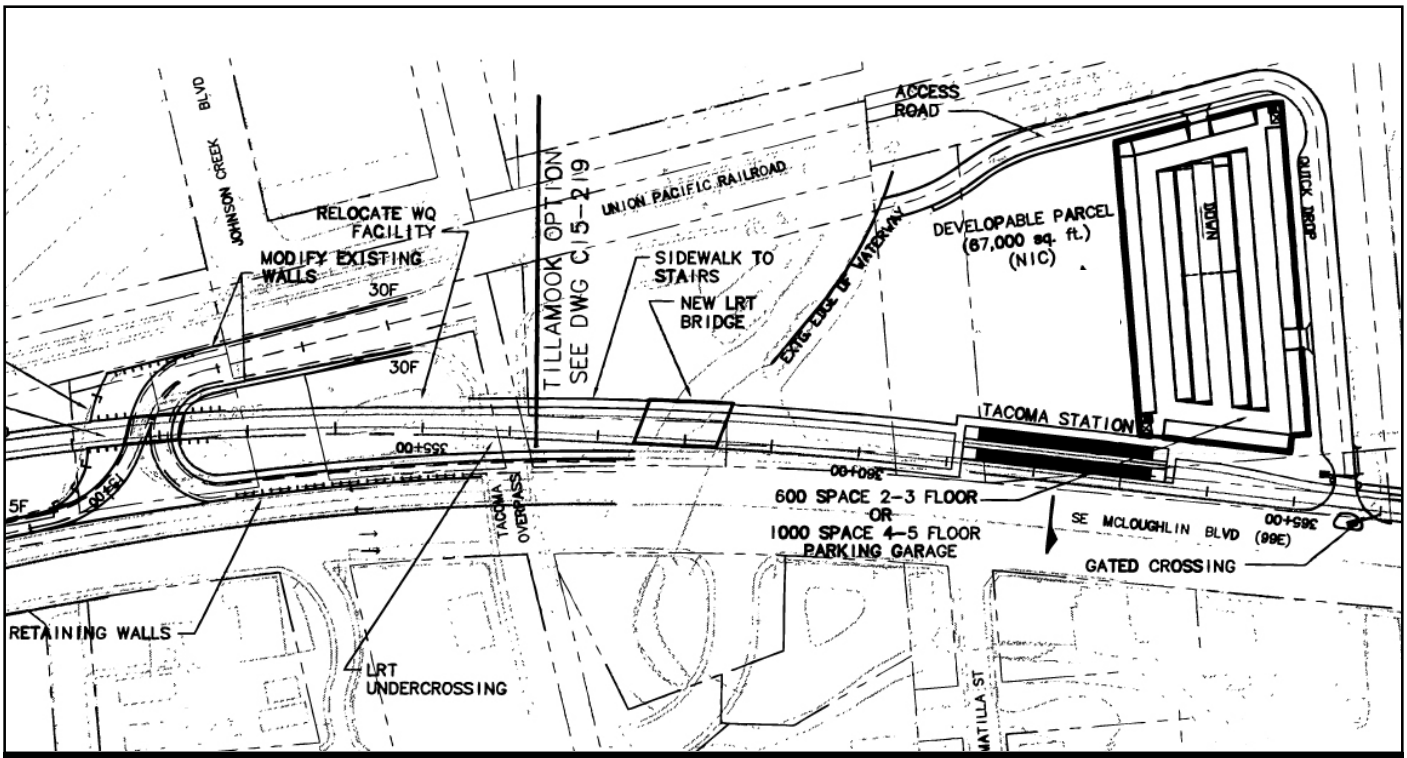
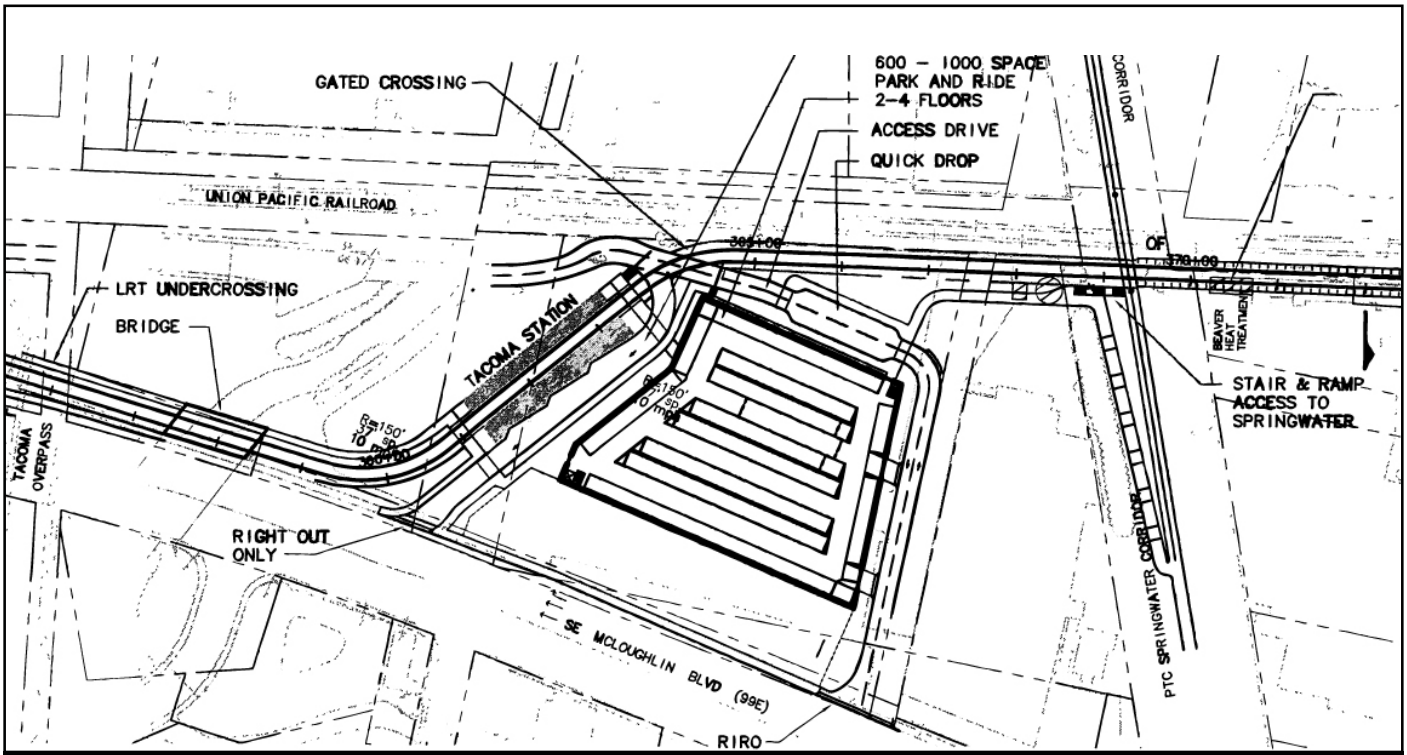


Portland-Milwaukie Light Rail Project ***Figure H.1-1***

Tacoma Park and Ride: 2003 LPA and 2003 LPA to Park

Conceptual Design

one inch is equal to approximately 80 feet

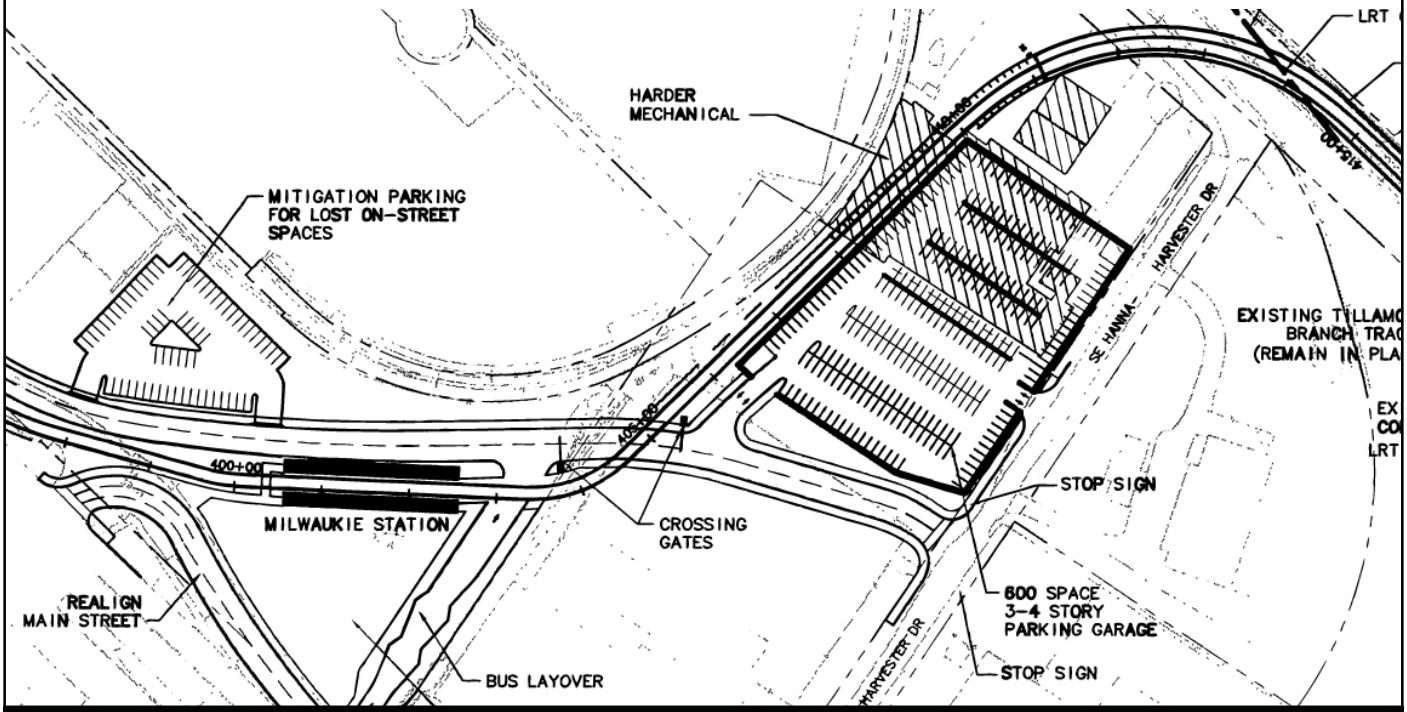


Portland-Milwaukie Light Rail Project ***Figure H.1-2***

Tacoma Park and Ride: Tillamook Branch alignment

Conceptual Design

one inch is equal to approximately 80 feet

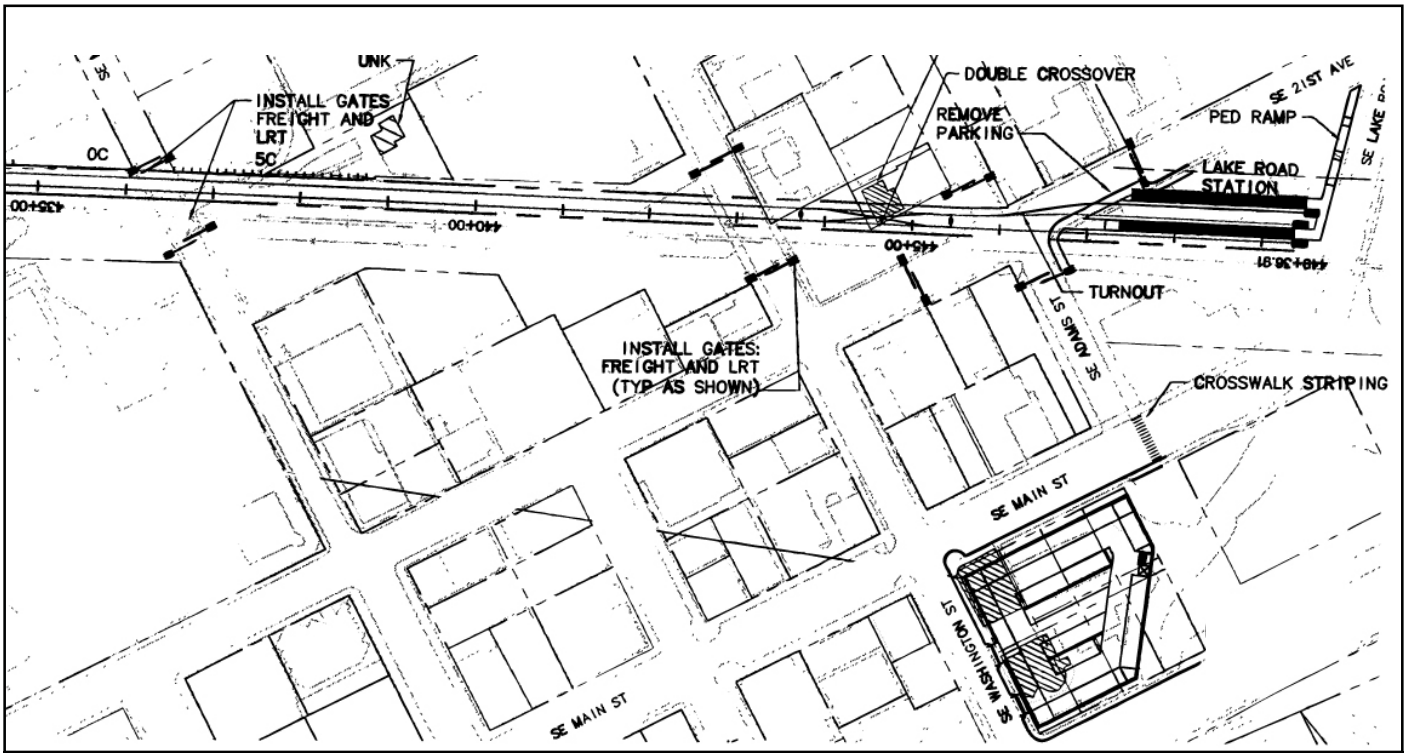


Portland-Milwaukie Light Rail Project ***Figure H.1-3***

Milwaukie Park and Ride: 2003 LPA and 2003 LPA to Park

Conceptual Design

one inch is equal to approximately 80 feet

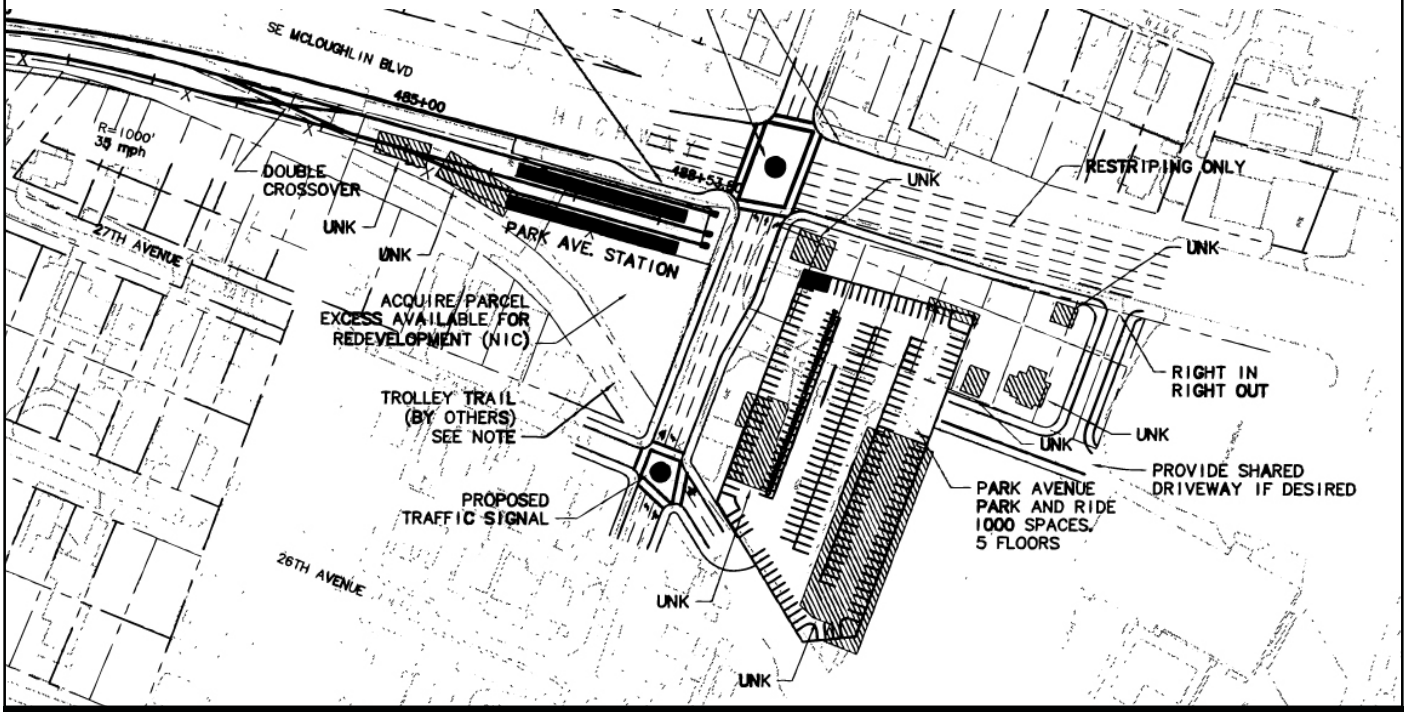


Portland-Milwaukie Light Rail Project ***Figure H.1-4***

Lake Road Park and Ride: 2003 LPA and Tillamook Branch with extension to Park

Conceptual Design

one inch is equal to approximately 80 feet

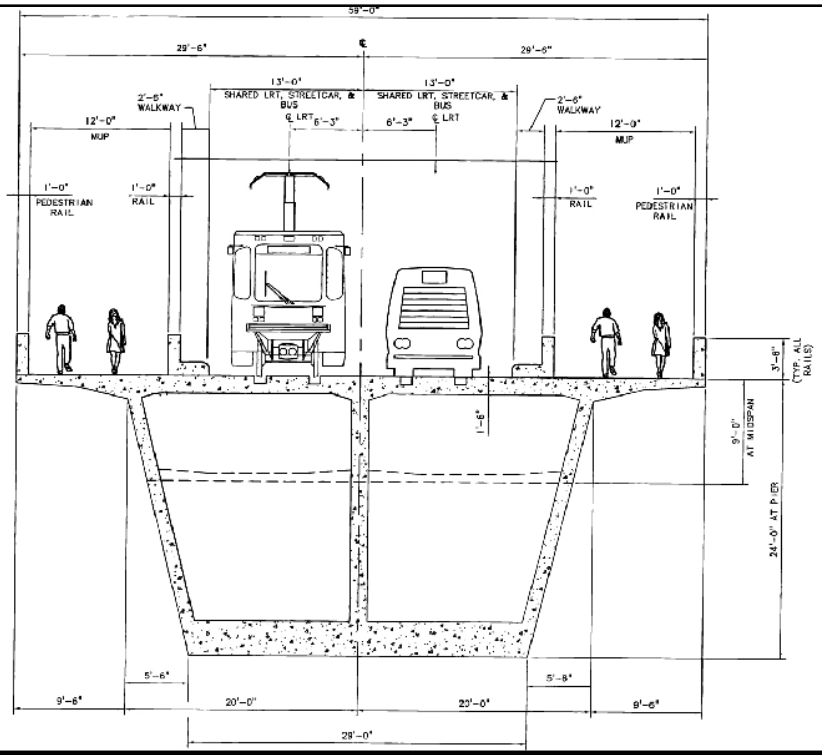


Portland-Milwaukie Light Rail Project ***Figure H.1-5***

Park Avenue Park and Ride: 2003 LPA to Park and Tillamook Brianch with extension to Park

Conceptual Design

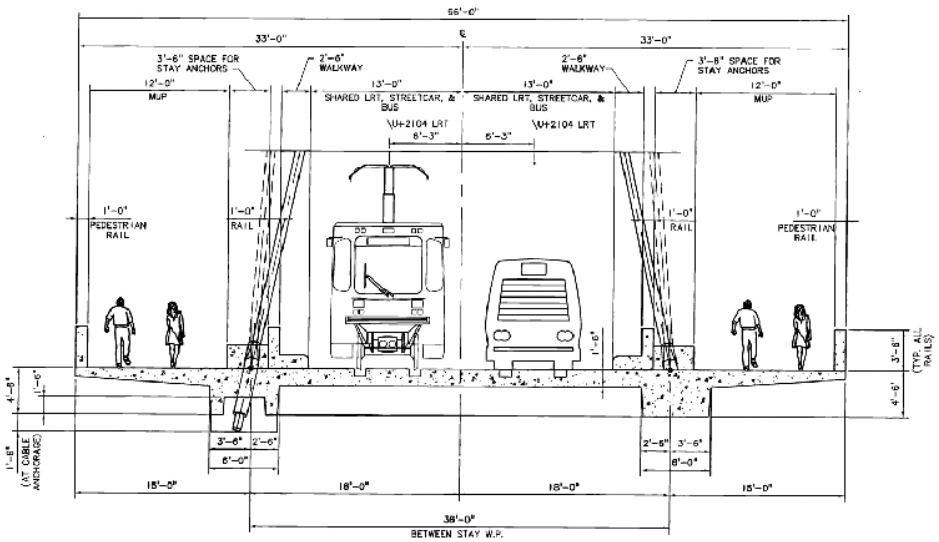
one inch is equal to approximately 80 feet



Portland-Milwaukie Light Rail Project ***Figure H.2-1***

Bridge assumptions: concrete segmental cross section

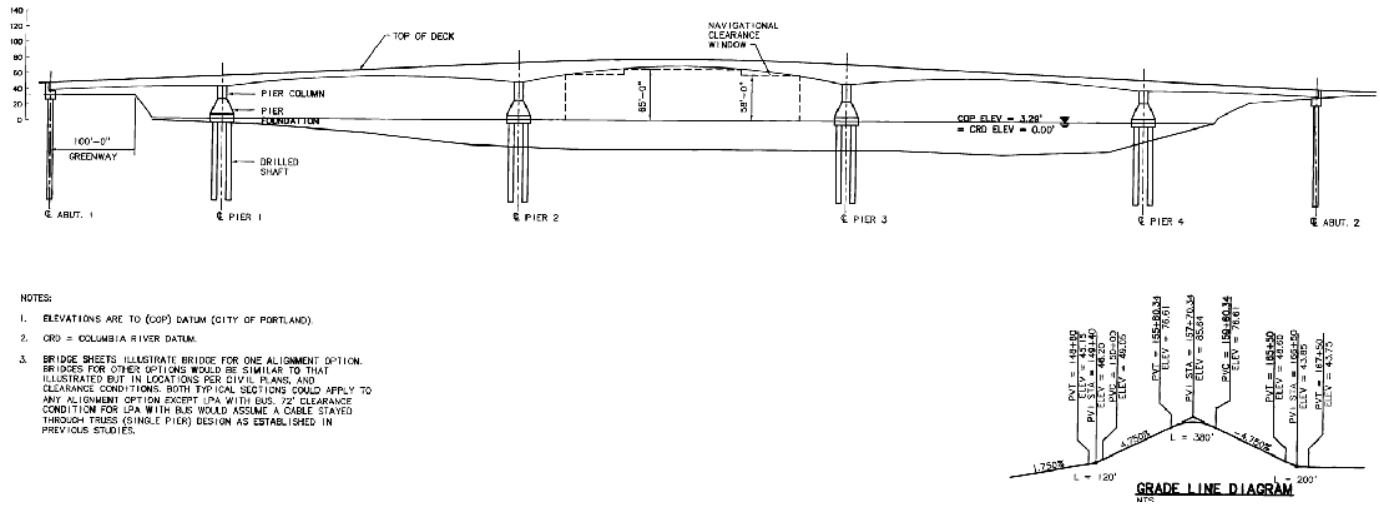
Conceptual Design



Portland-Milwaukie Light Rail Project ***Figure H.2-2***

Bridge assumptions: cable stay cross section

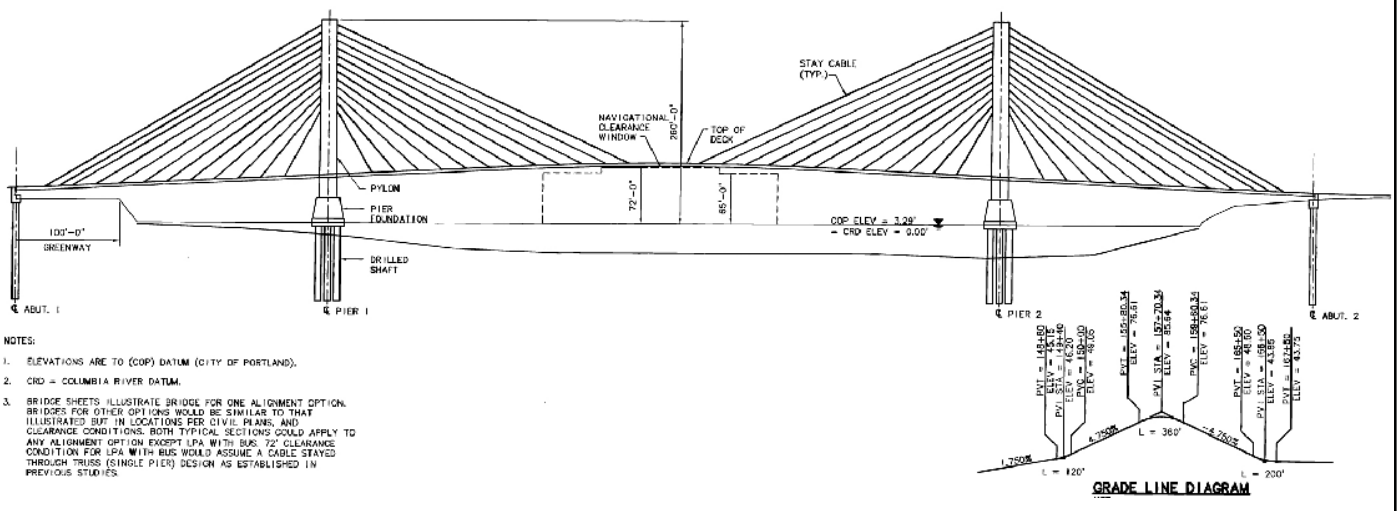
Conceptual Design



Portland-Milwaukie Light Rail Project ***Figure H.2-3***

Bridge assumptions: concrete segmental side view

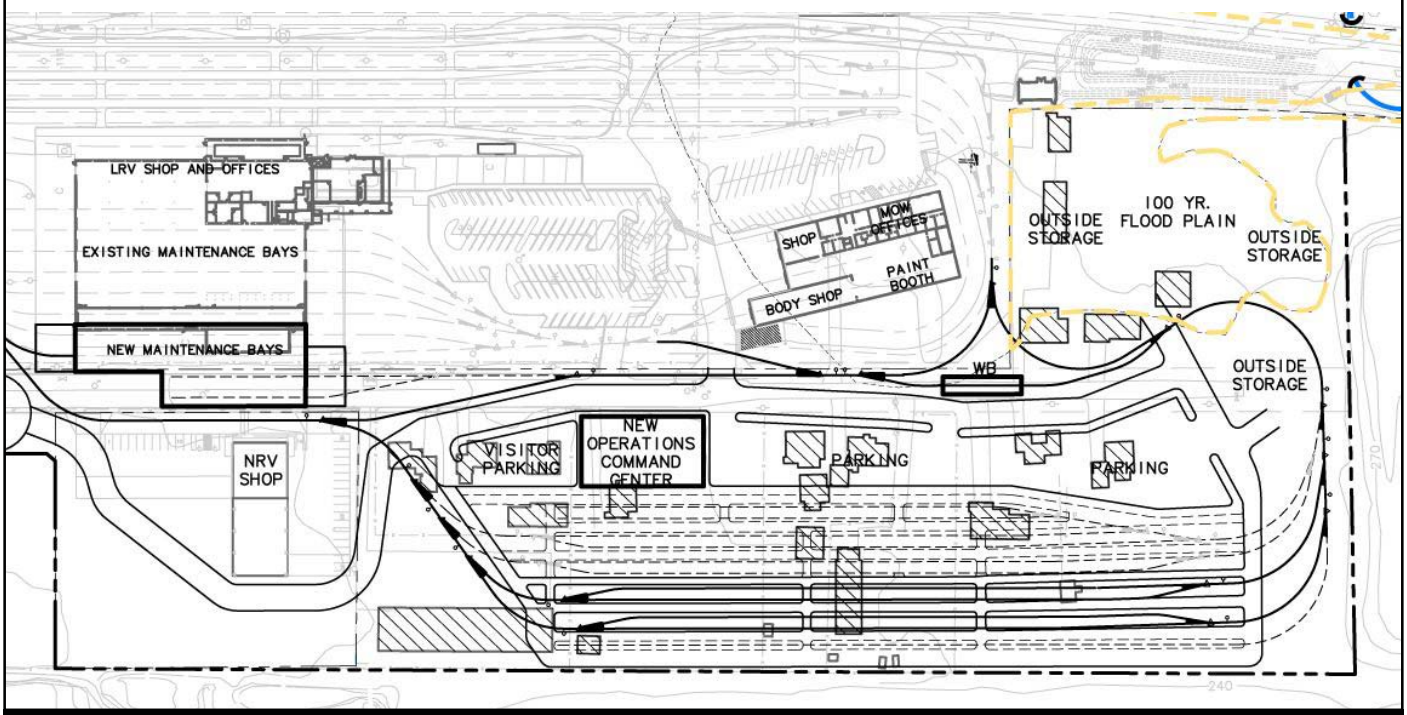
Conceptual Design



Portland-Milwaukie Light Rail Project ***Figure H.2-4***

Bridge assumptions: cable stay side view

Conceptual Design

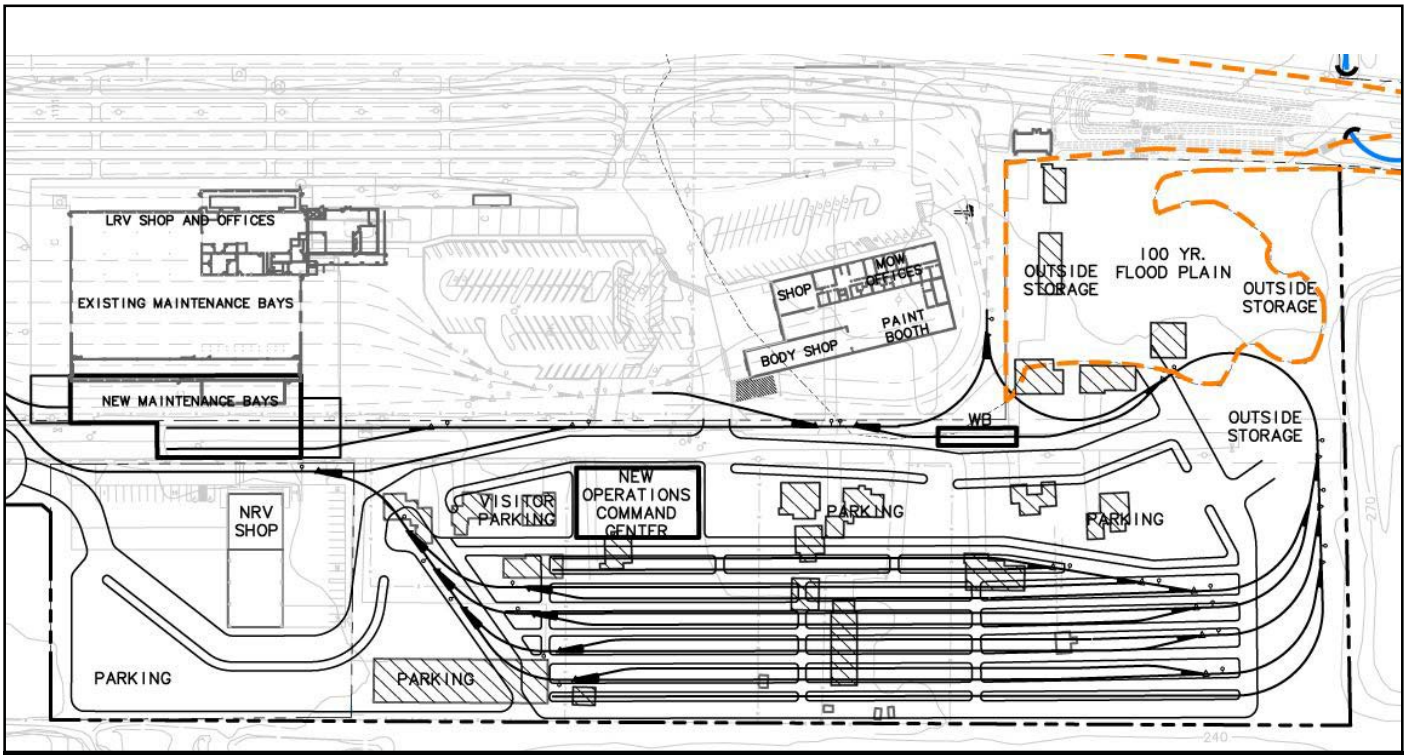


Portland-Milwaukie Light Rail Project ***Figure H.3-1***

Ruby Junction: Portland-Milwaukie Light Rail Project

Conceptual Design

one inch is equal to approximately 80 feet

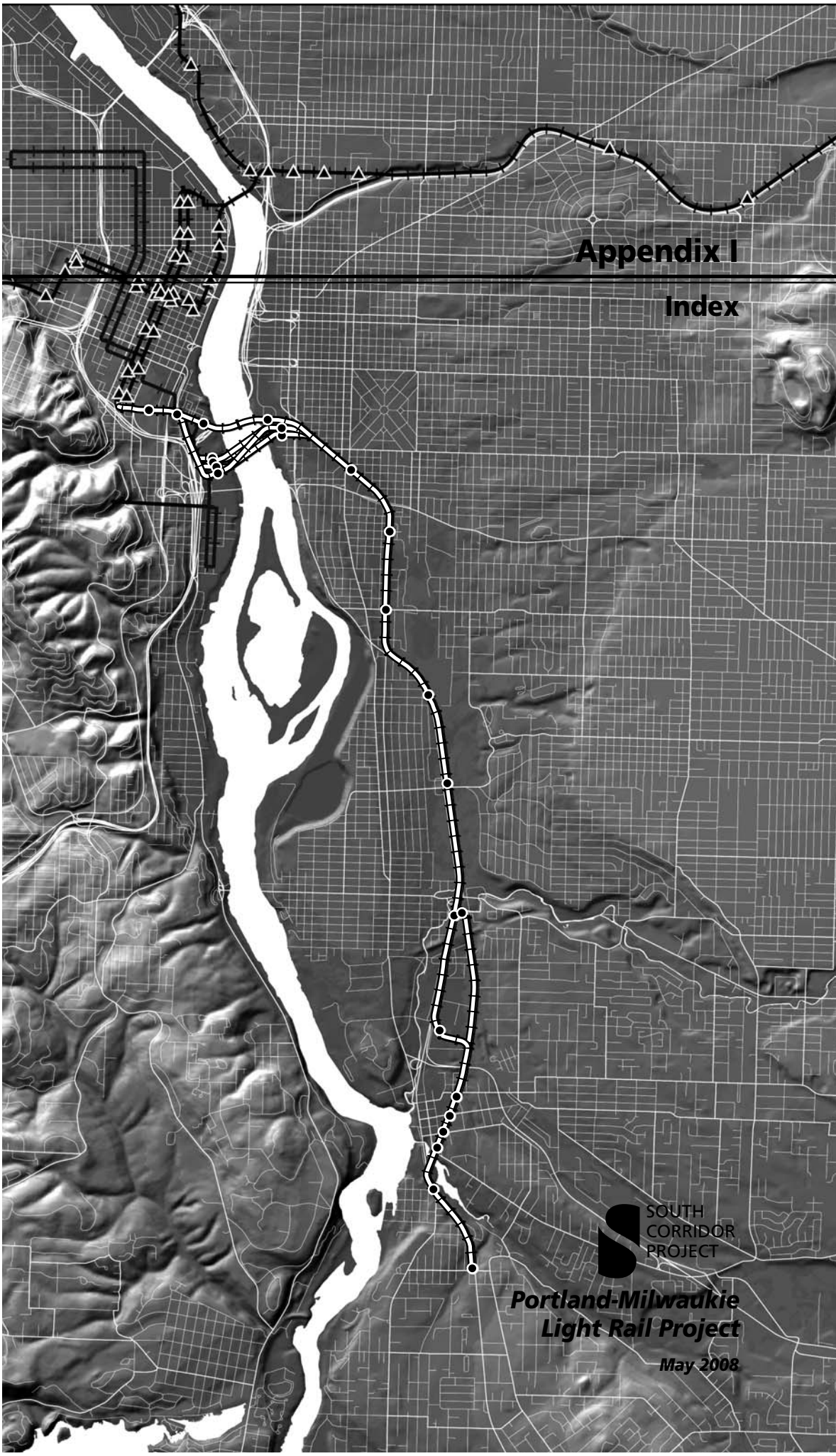


Portland-Milwaukie Light Rail Project ***Figure H.3-2***

Ruby Junction: Portland-Milwaukie Light Rail Project and Columbia River Crossing

Conceptual Design

one inch is equal to approximately 80 feet



Appendix I

Index

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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APPENDIX I

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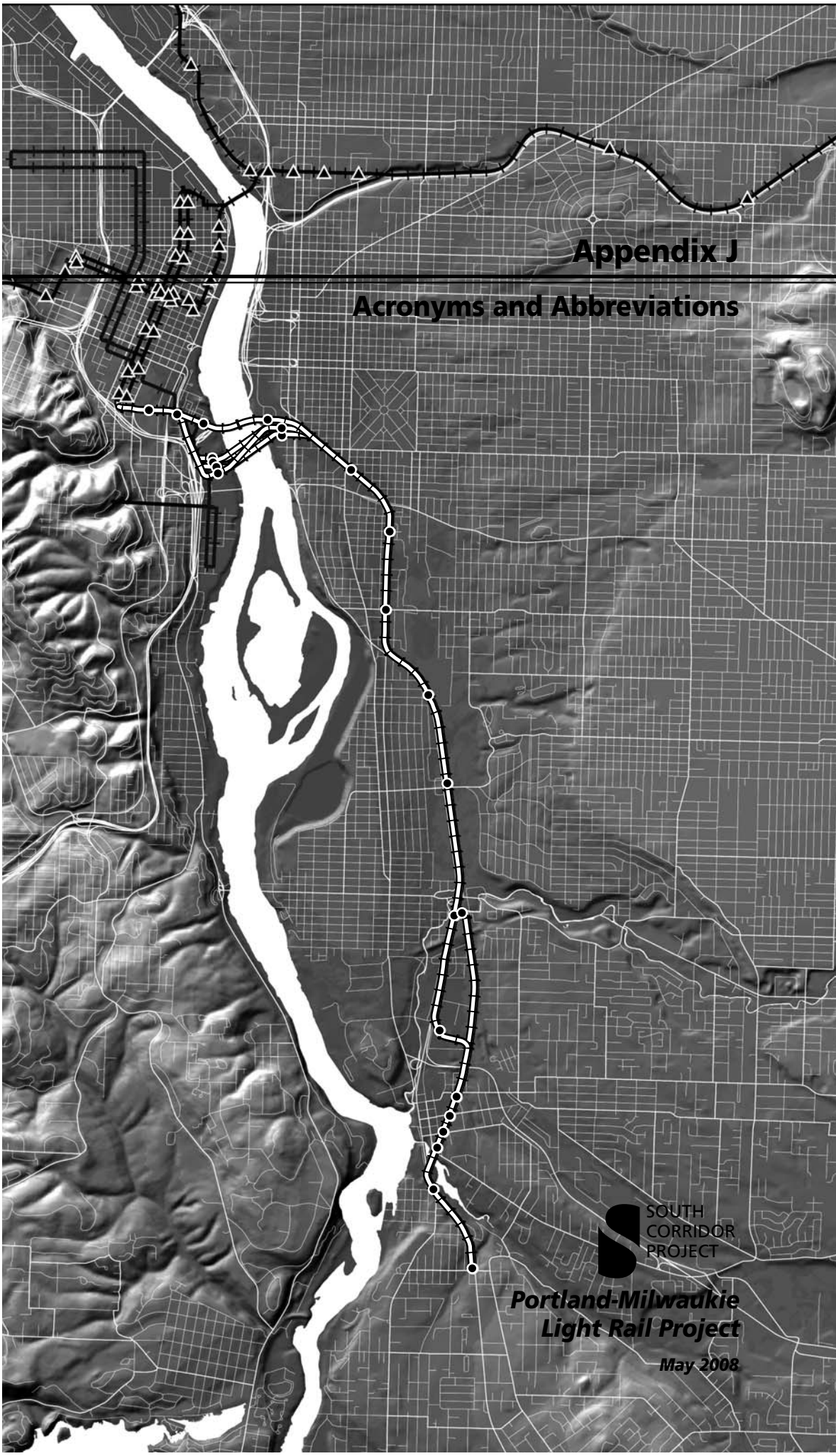

Appendix J

Acronyms and Abbreviations

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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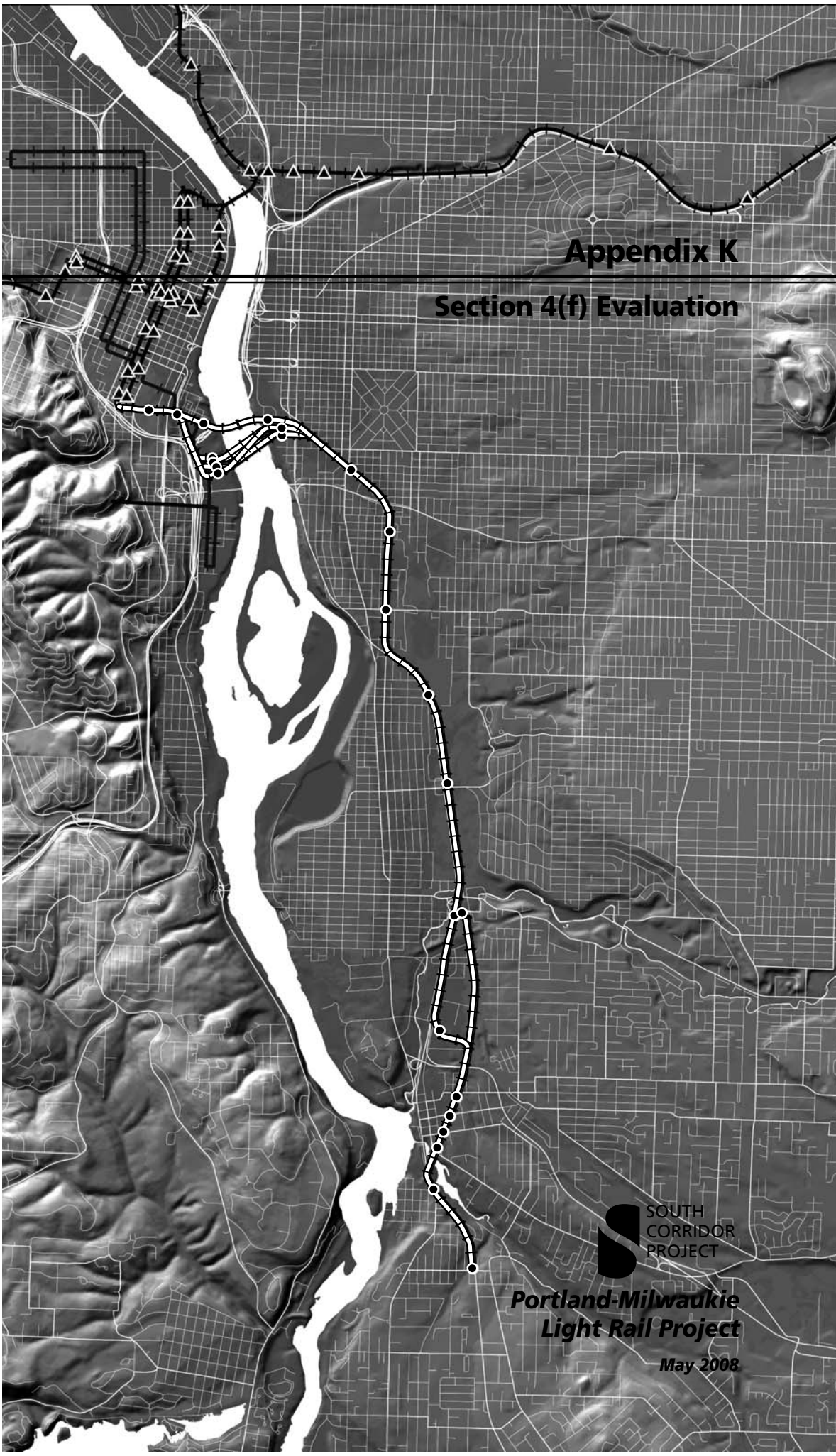
Appendix J: Acronyms and Abbreviations

Acronym	Meaning
AA	Alternatives Analysis
AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council for Historic Preservation
ACM	asbestos containing material
ACS	American Community Survey
APE	Area of Potential Effect
AQMA	Air Quality Maintenance Area
BG	Block Group
BMP	Best Management Practice
BRT	Bus Rapid Transit
Btu	British Thermal Unit
C	Candidate for listing as Threatened or Endangered
CAA	Clean Air Act
CBD	Central Business District
CCFD #1	Clackamas County Fire District #1
CCSO	Clackamas County Sheriff's Office
CCTV	closed circuit television
CEID	Central Eastside Industrial District
CERCLIS	Comprehensive Environmental Response and Liability Information System
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CPTED	Crime Prevention Through Environmental Design
CRAG	Columbia Region Association of Governments
CRBG	Columbia River Basalt Group
CT	Census Tract
CWA	Clean Water Act
CWM	compensatory wetland mitigation
dB	decibel
dBA	A-weighted decibel
DDE	Dichloro-Diphenyl-Dichloroethylene
DDT	Dichloro-Diphenyl-Trichloroethane
DEA	David Evans and Associates, Inc.
DEIS	Draft Environmental Impact Statement
DEP	Depressional (wetland)
DEQ	Oregon Department of Environmental Quality
DL	Delisted
DLCD	Oregon Department of Land Conservation and Development
DOE	Determination of Eligibility
DPS	Distinct Population Segment
DSL	Oregon Department of State Lands
EDR	Environmental Data Resources

Acronym	Meaning
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJ	Environmental Justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESCP	erosion and sediment control plan
ESU	Evolutionarily Significant Unit
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FFGA	Full Funding Grant Agreement
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FRA	Federal Railroad Administration
ft	feet / foot
FY	fiscal year
FTA	Federal Transit Administration
GIS	Geographic Information System
HGM	hydrogeomorphic
HOT	High Occupancy Toll
HOV	High Occupancy Vehicle
HPA	high probability areas
I-205	Interstate 205
I-405	Interstate 405
I-5	Interstate 5
ITS	Intelligent Transportation Systems
JPACT	Joint Policy Advisory Committee on Transportation
LCDC	Land Conservation Development Commission
L_{dn}	24-hour, Time Averaged, A-weighted Sound Level
LE	Listed Endangered
L_{eq}	Equivalent Continuous Sound Levels
LIFT	Transit vehicle with lift capabilities
LOS	Level of Service
LPA	Locally Preferred Alternative
LRT	Light Rail Transit
LT	Listed Threatened
LUFO	Land Use Final Order
LWCF	Land and Water Conservation Fund
MAX	Metropolitan Area Express
MFR	Multi-family Residence
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MTIP	Metropolitan Transportation Improvement Program
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NCPRD	North Clackamas Parks and Recreation District
NEPA	National Environmental Policy Act

Acronym	Meaning
NMFS	National Marine Fisheries Service
NO_X	Nitrogen Oxides
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
OCS	Overhead Catenary System
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OEA	Office of Economic Analysis for the State of Oregon
OHSU	Oregon Health and Science University
OHW	ordinary high water
OMSI	Oregon Museum of Science and Industry
ONHP	Oregon Natural Heritage Project
OPR	Oregon Pacific Railway
ORNHIC	Oregon Natural Heritage Information Center
OTIA	Oregon Transportation Improvement Act
PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyl
PD	Police Department
PF&R	Portland Fire and Rescue
pH	measure of the acidity or alkalinity of a solution
PM_x	Particulate Matter, particulates with aerodynamic diameter of x micrometers
PP&R	Portland Parks and Recreation
PPB	Portland Police Bureau
ppm	Parts Per Million
PSU	Portland State University
RA	Remedial Action
REC	Recognized Environmental Condition
RFP	Regional Framework Plan
RFT	Riverine Flow-Through
RI	Riverine Impounding
RISG	Ross Island Sand and Gravel
RMS	Root Mean Square
RTP	Regional Transportation Plan
SAAQS	State Ambient Air Quality Standards
SC	Sensitive Critical
SDEIS	Supplemental Draft Environmental Impact Statement
S/F	Slope/Flat
SFR	Single-family Residence
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMSA	Standard Metropolitan Statistical Area
SOC	Species of Concern
SOV	Single-Occupant Vehicle
SCTAS	South Corridor Transportation Alternatives Study
SV	Sensitive Vulnerable
SWCAA	Southwest Clean Air Agency (Vancouver, WA)
TCDD	Tetrachlorodibenzo-*p*-Dioxin

Acronym	Meaning
TES	Threatened, Endangered and Sensitive
TMDL	Total Maximum Daily Load
TPD	Transit Police Division
TPR	Transportation Planning Rule
TriMet	Tri-County Metropolitan Transportation District of Oregon
TSP	Transportation System Plan
UGB	Urban Growth Boundary
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers – ck docs replace Corps
USC	United States Code
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USPS	United States Postal Service
VdB	Vibration decibels
VHD	vehicle hours per day
VHT	vehicle hours traveled
VMT	Vehicle Miles Traveled
VOC	Volatile organic compound
YOE	Year of Expenditure



Appendix K

Section 4(f) Evaluation

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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APPENDIX K. SECTION 4(F) EVALUATION

1.1 INTRODUCTION

This document discusses Section 4(f) resources, in response to the requirements of Section 4(f) of the 1966 Department of Transportation (DOT) Act. Section 4(f) applies to the protection and preservation of significant parks, recreation, nature refuges, and cultural resources found to be important to the American public that must be considered during planning and construction of federally funded transportation projects. As stated in the 1983 amended version of the DOT Act:

> *"It is the policy of the United States Government that special effort be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."*

Section 4(f) resources include publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic sites. The parks, recreation areas, and refuges must be publicly owned, and the historic sites must be historic properties that are listed or eligible for listing in the National Register of Historic Places. Archaeological sites that are in or eligible for inclusion in the National Register of Historic Places and that warrant preservation in place may also be considered as Section 4(f) resources.

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) amended existing Section 4(f) requirements to allow the USDOT to determine that certain uses of Section 4(f) land would have no adverse effect (i.e., a *de minimis* determination) on the protected resource. When this is the case, and the responsible official(s) with jurisdiction over the resource agree(s) in writing, compliance with Section 4(f) is simplified (i.e., an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete). The provision is codified as 49 United States Code (USC) Section 303(d) and 23 USC Section 138(b) of Section 6009(a) of SAFETEA-LU. *De minimis* impacts related to historic sites are defined as the determination of either "no adverse effect" or "no historic properties affected," in compliance with Section 106 of the National Historic Preservation Act (NHPA). When FTA determines that an impact is *de minimis* and the responsible official(s) with jurisdiction over the resource agrees in writing, compliance with Section 4(f) is complete. The provision is codified as 49 USC Section 303(d) and 23 USC Section 138(b). No analysis of avoidance alternatives is necessary as part of a *de minimis* determination.

Section 4(f) resources require special review in relation to the various potential project-related effects. In the absence of a *de minimis* determination, the approval for use of these resources in transportation projects can only be made if there are no prudent and feasible alternatives, and if all possible planning efforts have been used to minimize the harm to these resources.

The Area of Potential Effect (APE) for this project is based on the APE used for the historic, cultural and archaeological resources investigations. This area extends 150 feet on either side of the proposed LRT alignment, or at least one block from areas with a defined street grid pattern. However, the evaluation of potential impacts to parks and recreation resources also incorporates findings from other SDEIS analyses, particularly visual and aesthetic, and noise and vibration analyses.

1.2 GUIDELINES FOR SECTIONS 4(F) RESOURCES

1.2.1 Section 4(f) Overview

Section 4(f) of the Department of Transportation Act of 1966 (49 USC 303) establishes a national policy "to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." This act applies to three types of resources:

1. Significant publicly owned parks, and recreation areas that are open to the public;
2. Significant publicly owned wildlife and waterfowl refuges, whether or not they are open to the public; and
3. Historic sites of national, state or local significance, whether or not these sites are publicly owned or open to the public. In most cases, only historic properties listed in or eligible for inclusion in the National Register of Historic Places are protected under Section 4(f).

Section 4(f) resources are presumed to be significant unless the official having jurisdiction over the site concludes that the entire site is not significant.[1] Additionally, FTA must confirm that the official's finding of significance or non-significance is reasonable.

1.2.2 Impacts or "Uses" to Section 4(f) Resources

Under Section 4(f), USDOT agencies cannot approve a transportation program or project that involves the use of a significant Section 4(f) resource, except under specific circumstances, defined in the following section.[2] A use occurs when:

1. Land from a Section 4(f) site is permanently incorporated into a transportation facility;
2. There is a temporary occupancy of land that is adverse in terms of the Section 4(f) statute's preservationist purposes (23 CFR 771.135(p)(7)); or
3. There is a constructive use of land (23 CFR 771.135(p)(2)).

In the first case, land is permanently incorporated into a transportation project when it has been purchased as right-of-way, or when sufficient property has been acquired for the project. A permanent easement for project construction, or for maintenance by the transportation agency, would be considered a permanent incorporation of land into a transportation facility.

Additionally, there is temporary occupancy, and use of a Section 4(f) resource, when:

- The duration of the occupancy exceeds the time needed for project construction;
- Changes to the 4(f) resource (both in nature and in magnitude) are more than minimal;
- The project may have permanent adverse physical impacts, and will interfere with the activities or purpose of the resource on either a temporary or permanent basis;

[1] 23 CFR 771.135 (c)
[2] Section 4(f) "use" is defined and addressed in the FHWA/FTA Regulations at 23 CFR 771.135(p).

- The resource is not returned to a condition at least as good as that which existed prior to the project; and
- The project lacks a documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the above conditions.

Finally, constructive use occurs when impacts from a nearby project are so severe that the activities, features or attributes that qualify the property or resource for protection under Section 4(f) are substantially impaired. Substantial impairment occurs when significance of the resource is meaningfully reduced or lost. The degree of impact and impairment is determined in consultation with the officials having jurisdiction over the resource. Constructive use is only possible when Section 4(f) land is not permanently incorporated or temporarily occupied by a transportation project. An example might be the traffic noise resulting from a new or improved highway facility proposed near an amphitheater that substantially interferes with the use and enjoyment of the noise-sensitive resource.

1.2.3 Permitted Uses to Section 4(f) Resources

A use to a Section 4(f) resource may occur if the project proponent demonstrates that:

- The use will have no more than a *de minimis* impact on the area; or
- There is no feasible and prudent alternative to using the property; and
- The program or project includes all possible planning to minimize harm to the property resulting from the use.

Before approving use of these lands for a transportation project, supporting information must demonstrate that there are unique problems or unusual factors involved in the use of alternatives that avoid these properties, or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitude.

De minimis impacts relate to publicly owned parks, recreation areas, and wildlife and waterfowl refuges. *De minimis* impacts do not "adversely affect the activities, features and attributes" of a Section 4(f) resource.[3] Once the USDOT determines that a transportation use of Section 4(f) property results in a *de minimis* impact, the project does not need to analyze avoidance alternatives, and the Section 4(f) evaluation process is complete.

When a project impact is greater than *de minimis*, the project proponent must determine whether there are feasible and prudent alternatives that would not result in that impact. An alternative is feasible if it is technically possible to design and build. An alternative is prudent if:

- It meets the project purpose and need;
- It does not require extraordinary operational or safety problems;
- It carries no unique problems or truly unusual factors;

[3] For historic and archaeological sites, a de minimis impact is defined as a "no adverse effect" or "no historic or archaeological properties affected" in compliance with Section 106.

- It has no other unacceptable or severe adverse economic or environmental impacts;
- It would not cause extraordinary community disruption;
- It does not have construction costs of an extraordinary magnitude; or
- There are no other factors that collectively have adverse impacts that present unique problems or reach extraordinary magnitudes.

Once a project proponent demonstrates that an alternative is not feasible and prudent, that alternative may be removed from consideration. If there are multiple alternatives that use Section 4(f) resources, the project proponent must determine which alternative—with any planned mitigation—results in the least overall harm to the Section 4(f) resource(s). The alternative that results in the least net harm must be selected.[4]

The project proponent must also consider "all possible planning to minimize harm" to the Section 4(f) resource. This may include design modifications or mitigation measures that lessen residual impacts. For public parks, recreation areas, or wildlife and waterfowl refuges, this may include replacement with land or facilities of comparable value or function, or monetary compensation.

1.2.4 Historic Resources

Historic properties that may qualify as Section 4(f) resources include buildings and structures that have been listed in the National Register of Historic Places, those that have been determined eligible for listing in the National Register, and those considered likely to be eligible for listing in the National Register. The APE for historic properties was defined as extending one-half block on each side of the study alternatives in the central business districts that are characterized by a defined grid street pattern. Outside of the defined grid pattern, the APE extends 150 feet from the proposed improvements of the study alternatives.

1.2.5 Cultural Resources

Archaeological investigations conducted within the project area did not identify any known sites containing archaeological resources, but there are areas with a moderate to high potential to contain archaeological sites. There is the potential for adverse effects to significant archaeological resources encountered during construction, as discussed in more detail below.

1.3 DATA COLLECTION METHODS

The identification of publicly owned parks, recreation areas, and wildlife and waterfowl refuges in the project corridor was based on a review of existing published information, a field inspection, and discussions with various public agency representatives. This includes research, analysis, and coordination for the Portland-Milwaukie Light Rail Project SDEIS as efforts documented in previous reports prepared for the South Corridor Project DEIS (2002) and the South/North Corridor Project DEIS (Metro 1998). Maps were reviewed and potential parks, recreation areas, and refuges were

[4] The net harm should be determined in consultation with the agency having jurisdiction over the resource or, in the case of historic sites, the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), as appropriate.

noted. A field inspection of the project area was conducted, and potential Section 4(f) resources within each segment were identified. Public agency representatives were contacted, and the agencies also provided additional information about the status of several of the potential Section 4(f) resources within the vicinity of the study alternatives.

The study corridor for parklands, recreation areas, and wildlife and waterfowl refuges included an area approximately 150 feet on each side of Locally Preferred Alternative (LPA) and its related design options. Potential resources included some parks and recreation areas that were later determined to be either previously dedicated as transportation corridors that were temporarily being used as open space, were undeveloped areas, or were privately owned facilities, and did not qualify as Section 4(f) resources. Potential resources included both formal and informal parks and open spaces, boat ramps, recreation areas, trails, and one wildlife refuge. Section 4(f) park resources in the project APE are shown on Figure K-1.

Several municipal and county agencies were contacted for information about potential Section 4(f) resources within the project area. The North Clackamas Parks and Recreation District and the City of Milwaukie were contacted for information about parklands in and around Milwaukie. The City of Portland Parks and Recreation, the Planning Department, and the Portland Department of Transportation were contacted for information about potential Section 4(f) resources within the Portland. Individuals knowledgeable about bicycle trails, parks, and planned recreational trails were contacted and provided useful information about specific resource locations within the study corridor.

1.3.1.1 Methods for Historic and Cultural Properties

The Historic, Archaeological, and Cultural Resources Results Report describes the methods used for identifying and evaluating known and potential resources within the project area. Those findings are incorporated directly into this analysis.

1.4 AFFECTED ENVIRONMENT

1.4.1 Agencies Involved in Parks Ownership and Management

1.4.1.1 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 6 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.


Portland-Milwaukie Light Rail Project
Section 4(f) Resources
Figure K-1
Parkland Resources
1. South Waterfront Park
2. Eastside Willamette River Greenway
3. Eastmoreland Golf Course
4. Springwater Corridor/ Portland Traction Trail
5. Dogwood Park
6. Milwaukie Local Share Parcel
7. Robert Kronberg Park
8. Trolley Trail
Light Rail alternative
Railroad
County line
Portland
Milwaukie
Lake Oswego
HAWTHORNE BLVD
DIVISION ST
POWELL BLVD
HOLGATE BLVD
STEELE ST
WOODSTOCK BLVD
BYBEE BLVD
TACOMA ST
HARRISON ST
MONROE ST
WASHINGTON ST
RAILROAD AVE
LAKE RD
HWY 224
ALDERCREST RD
PARK AVE
COURTNEY AVE
HILL RD
MULTNOMAH CO
CLACKAMAS CO
SELLWOOD BRG
ROSS ISLAND BRG
MARQUAM BRG
HAWTHORNE BRG
TAYLORS FERRY RD
BOONES FERRY RD
MACADAM AVE
MILWAUKIE AVE
MCLOUGHLIN BLVD
RIVERSIDE DR
TERWILLIGER BLVD
RIVER RD
STATE ST
A AVE
CHANDLER RD
COUNTRY CLUB RD
BOCA RATAN DR
KELLY AVE
BARBUR BLVD
AERIAL TRAM
PACIFIC HWY
GRAND AVE
MLK BLVD
12TH AVE
17TH AVE
20TH AVE
21ST AVE
28TH AVE
39TH AVE
42ND AVE
43RD AVE
32ND AVE
34TH AVE
37TH AVE
Portland – Milwaukie
LIGHT RAIL PROJECT
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0
0.5
1
Miles
May 2008

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 (CRM) as a component of its 2006 Asset Management Plan.[5] The CRM 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, 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.

1.4.1.2 North Clackamas Parks and Recreation District

Parks and recreational resources within the City of Milwaukie and in North Clackamas County are, for the most part, owned and managed by the North Clackamas Parks and Recreation District (NCPRD), a service district of Clackamas County created in 1990. NCPRD's service area extends over 32 square miles, roughly from the Clackamas/Multnomah county line at the north to the Clackamas River at the south.

NCPRD has about 500 acres of parkland in its inventory. It owns and maintains about 320 acres of parks and open space, and manages an additional 1,880 acres through various intergovernmental agreements with the City of Milwaukie, Clackamas County and the North Clackamas School district.

NCPRD is managed by a director and staff, with an 11-member volunteer advisory board of citizens from throughout the District. NCPRD's Board of Directors is the Clackamas County Board of Commissioners. NCPRD's actions and decisions are guided by its 2004 Master Plan. This plan outlines the districts vision and goals, as well as recommendations for funding, internal management, facilities management, and partnerships.

NCPRD uses a district-wide classification system, with six designations: Neighborhood Parks, Community Parks, Regional Parks, Linear Parks, Pocket-Mini-Parks, and Miscellaneous Open Spaces.

1.4.1.3 City of Milwaukie

While the City of Milwaukie owns a number of parks near the project area, the majority are managed by the North Clackamas Parks and Recreation District. Parks Planning within the city is still guided by Chapter 3 of its Comprehensive Plan, Environmental and Natural Resources.

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[5] Cultural Resources Management Plan. Portland Parks and Recreation, July 2007.

1.4.1.4 Metro Parks and Greenspaces

Metro 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. As of January 23, 2007, Metro has acquired more than 8,175 acres of regional natural areas, trails and greenways in 266 separate property transactions. This includes 76 miles of stream and river frontage, and six regional trails and greenway corridors. A local portion of the bond monies is also funding more than 100 park projects.

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. These 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.

1.5 SECTION 4(F) PARKS AND RECREATION RESOURCES

1.5.1 2003 LPA

South Waterfront Park – The 2003 LPA APE contains the South Waterfront Park on the west side of the Willamette River, which is an extension to the Tom McCall Waterfront Park. The South Waterfront Park, acquired in 1999, is owned and managed by the City of Portland's Parks and Recreation Bureau (PP&R) and is a recreational resource. It is about 2.3 acres in size, and runs 1,000 feet along the bank of the Willamette River at SW River Parkway. Once the site of a lumber mill and the City's steam plant, today the South Waterfront Park completes the City's 25-year goal of reclaiming its waterfront. It provides direct public access to the river throughout the year.

Built primarily to anchor commercial and residential properties built in the mid-1990s, the park also stems further erosion of the river bank that occurred during the 1996 winter flood. It was designed by the landscape architectural firm of Walker Macy. Walkways extend the city's block grid through South Waterfront Park to the water's edge. The walkways lead to overlooks with views of the river, the city, Mt. Hood, and Mt. St. Helens. The park includes disabled access, restrooms and paved paths. It also includes a basalt, concrete, and steel sculpture by Mathieu Gregoire, entitled River Shift, which was installed in 1999.

Eastside Willamette Greenway Trail – The Eastside Willamette Greenway Trail provides for a connection to the Springwater Corridor Trail (described in more detail below). Immediately south of the Eastbank Esplanade, and ending at SE Caruthers Street, the trail is located within easements from private landowners. The trail area is within an easement granted to the City of Portland for recreational purposes.

For areas south of SE Caruthers Street and south to SE Ivon Street, the City envisions additional connections to be provided through future development or redevelopment actions, which are subject to the City's greenway overlay code requirements. Although the City envisions the area south of SE Caruthers Street as a future segment of the Greenway Trail, this area is on private land, there are not

yet permanent easements provided for the trail, and the existing land is not used for recreational purposes.

The Eastside Willamette Greenway Trail is within the APEs of all of the River Crossing Options; however, the Meade-Caruthers and Porter-Caruthers River Crossing Options do not actually cross the Eastside Willamette Greenway Trail.

Eastmoreland Golf Course – Constructed in 1917, Eastmoreland is Oregon's second oldest golf course and is owned and operated by PP&R. The Eastmoreland Golf Course site also includes the Crystal Springs Rhododendron Garden. Both facilities have access from SE Bybee Boulevard, which connects with McLoughlin Boulevard. The golf course is also an historic resource.

Springwater Corridor Trail – The Springwater Division Line was developed for rail service in 1903. By 1906, under a joint ownership with Portland General Electric and the Portland Railway Light and Power Company, the line reached its peak usage. By 1910, the company had six electric plants and 161 miles of rail, carrying 16,000 passengers each year on a citywide system.

The Springwater Corridor is a railbanked corridor and, under Section 8(d) of the National Trails Act, is still under jurisdiction of the Surface Transportation Board. Today, the trail is the major southeast segment of the 40-Mile Loop which was inspired by the 1903 Olmsted plan for a parkway and boulevard loop to connect park sites. When the Springwater Corridor trail is fully developed, it will be over 21 miles long.

For the most part, the trail is separated from public roadways. A project constructing three bridges along the Springwater Corridor Trail was completed in early 2007. These bridges provide elevated crossings over Johnson Creek, as well as over the busy transportation corridors of McLoughlin Boulevard, and the UPRR line in the Milwaukie.

The Springwater Corridor is a multi-use trail. The paved surface is generally 10 to 12 feet wide with soft shoulders. The hard surface trail is designed to accommodate walkers, joggers, hikers, bicycles, wheelchairs, and strollers. Equestrian use is more common east of I-205, where a separate, soft-surface path meanders away from the main trail where topography allows.

1.5.2 Willamette River Crossing Options

Eastside Willamette Greenway Trail - Like the 2003 LPA, the Willamette River Crossing Options APE to the south contains portions of the South Waterfront Park and Eastside Willamette Greenway Trail. These resources are described above under the 2003 Locally Preferred Alternative.

1.5.3 Tillamook Branch Line Alignment

Springwater Corridor Trail - The Tillamook Branch Line alignment crosses under the Springwater Corridor Trail in a different location than the 2003 LPA with both at-grade and elevated design options at the SE McLoughlin Boulevard, SE River Road, and SE 22nd Street crossings. Refer to the description of this resource under the 2003 LPA section above.

Dogwood Park – Dogwood Park is adjacent to Kellogg Lake, on Main Street. This 0.75-acre pocket park is owned by the City of Milwaukie and maintained by NCPRD. It is a recreational resource. It includes two picnic tables, irrigated lawn, standard site furnishings, and signage. This park was acquired in 1992, and is included in the City of Milwaukie's Riverfront Plan.

Milwaukie Local Share Parcel (Planned). This parcel is adjacent to the planned Robert Kronberg Park, and is intended for development for parks purposes, as part of the overall plan to restore Kellogg Creek and provide improved connections to the waterfront.

Robert Kronberg Park (Planned) – The City of Milwaukie is planning the development of land currently owned by the City adjacent to Kellogg Lake Park, in the open space area south of the railroad trestle on SE McLoughlin Boulevard and adjacent to Kellogg Lake. This area was named Robert Kronberg Park in 2006 and was sold by the Kronberg family to the City for parks purposes. The park is part of proposed plans that would restore a creek that is now impounded as Kellogg Lake with improved connections between the city and the Willamette River waterfront area.

Trolley Trail (Planned). The NCPRD is planning the Trolley Trail along a 6-mile stretch of a historic corridor once used by a streetcar line traveling between Portland and Oregon City. Although the trolley corridor purchased by NCPRD and Metro in 2001 is approximately 40 feet wide, the trail itself will only be between 12 and 15 feet wide. When completed, the Trolley Trail will be part of a continuous 20-mile loop connecting Portland, Milwaukie, Gladstone, Oregon City, and Gresham.

Many citizen, community, and agency partners have been involved in the Trolley Trail master planning process, including Metro and the Cities of Milwaukie, Gladstone, Oregon City, Clackamas County, and Oak Lodge Sanitary and Water Districts. Friends of the Trolley Trail is a citizen-based advocacy group for the trail project.

The trail is expected to have an asphalt or concrete surface and soft shoulders to accommodate pedestrian, recreational and commuting bicyclists, horses, wheelchairs, and other non-motorized uses. The Trolley Trail will have 25 pedestrian access points from neighborhood roads. The trail will provide connections to community facilities, parks, and public transit. Intersection improvements will be designed to provide safe trail crossings at existing roads. The trail project will include safety and security features such as lighting and good definition between the trail and adjacent neighbors.

NCPRD was awarded federal funding to conduct preliminary engineering work for the trail and to start the first phases of construction between SE Jefferson Street south to SE Courtney Road. Design efforts were initiated in late 2007 and construction is expected to begin later in 2008.

1.5.4 2003 LPA with Extension to Park

The 2003 LPA to Park alignment would encounter the same parkland resources affected by the 2003 LPA from downtown Portland to downtown Milwaukie. It also includes impacts similar to those described above for the Tillamook Branch Line alignment for the areas south of SE Lake Road, including Robert Kronberg Park, Dogwood Park, and the Milwaukie Local Share parcel. and the Trolley Trail.

1.6 HISTORIC AND CULTURAL RESOURCES

1.6.1 Historic Resources

The project surveyed more than 80 possible historic resources. The project identified 17 historic resources including 13 that were previously determined eligible (DOE) for listing in the National Register, and four that were recommended as eligible. The 17 resources listed below are also shown on Figure K-2.

- Portland State School Building at 2000 SW 5th Avenue, Portland, Eligible
- Hawthorne Bridge, located Downtown Portland, DOE
- Ross Island Bridge at SE Powell Boulevard, Portland, DOE
- Royal Foods Warehouse & Office at 2425-2445 SE 8th Avenue, Portland, Eligible
- Iron Fireman Building (now PECO Warehouse) at 4784 SE 17th Avenue, Portland, DOE
- Ford Motor Assembly Plant at 2505 SE 11th Avenue, Portland, DOE
- Westmoreland Park at 7605 SE McLoughlin Boulevard, Portland, DOE
- Eastmoreland Golf Course at 2425 SE Bybee Boulevard, Portland, DOE
- Brooklyn Yard & Railroad at 2001 SE Holgate Boulevard, Portland, DOE
- State Highway Division Office &Garages at 9002 SE McLoughlin Boulevard, Milwaukie, DOE
- R. Derwey House at 2206 SE Washington Street, Milwaukie, DOE
- Milwaukie Middle School (now Portland Waldorf School) at 2300 SE Harrison Street, Milwaukie, DOE
- Residence at 2405 SE Harrison Street, Milwaukie, DOE
- Spanish Revival Residence at 2326 SE Monroe Street, Milwaukie, Eligible
- Oregon Pacific and Union Pacific Railroads & Trestle, Downtown Milwaukie, Eligible
- Kellogg Lake Outlet at approximately 11205 SE McLoughlin Boulevard, Milwaukie, DOE
- Birkemeier-Sweetland Home, 12006 SE McLoughlin Boulevard, Milwaukie, DOE


Portland-Milwaukie Light Rail Project
Historic and Archaeological Resources
Figure K-2
Historic Resources
Historic Resource taxlot
1. Portland State/School
2. Hawthorne Bridge
3. Ross Island Bridge
4. Royal Foods/ Warehouse/Office
5. Iron Fireman Building (PECO)/Warehouse
6. Ford Motor Assembly Plant
7. Westmoreland Park
8. Eastmoreland Golf Course
9. Brooklyn Yard/Railroad
10. State Highway Division Office/garages
11. R. Derwey House
12. Milwaukie Middle School (Portland Waldorf School)
13. Residence
14. Spanish Revival Residence
15. Oregon Pacific and Union Pacific Railroads and Trestle
16. Kellogg Lake Outlet
17. Birkemeier-Sweetland Home
Archaeological Probability Area
High
Moderate
Light Rail alternative
Railroad
County line
Portland – Milwaukie LIGHT RAIL PROJECT
METRO
0
0.5
1
Miles
November 2007
Portland
Milwaukie
Lake Oswego
High Probability Area 1
High Probability Area 2
High Probability Area 3
High Probability Area 4
High Probability Area 5
High Probability Area 6
High Probability Area 7
High Probability Area 8
Moderate Area
HAWTHORNE BRG
HAWTHORNE BLVD
GRAND AVE
MARQUAM BR
KELLY AVE
ROSS ISLAND BRG
BARBUR BLVD
PACIFIC HWY
MILWAUKIE AVE
17TH AVE
20TH AVE
21ST AVE
POWELL BLVD
39TH AVE
DIVISION ST
HOLGATE BLVD
28TH AVE
STEELE ST
WOODSTOCK BLVD
MACADAM AVE
BYBEE BLVD
MCLOUGHLIN BLVD
13TH AVE
TAYLORS FERRY RD
SELLWOOD BRG
TACOMA ST
BOONES FERRY RD
RIVERSIDE DR
42ND AVE
32ND AVE
43RD AVE
MAIN ST
WASHINGTON ST
RAILROAD AVE
LAKE RD
HWY 224
TERWILLIGER BLVD
MULTNOMAH CO
CLACKAMAS CO
BOCA RATAN DR
RIVER RD
PARK AVE
ALDERCREST RD
COUNTRY CLUB RD
STATE ST
A AVE
CHANDLER RD
COURTNEY AVE
HILL RD

1.6.2 Cultural Resources

There are no known archaeological resource sites within the APE. However, there are locations along the corridor that have the potential to contain significant archaeological resources. The project inventory identified areas with high to moderate probabilities for encountering archaeological resources.

Five archaeological sites have been recorded near the project APE; all five are historic-period resources, and a Native American artifact was found at one of the sites. Eight high probability areas and one moderate probability area for the presence of Native American and historic-period Euroamerican archaeological sites have been identified within the APE. The general location of these areas is shown on Figure K-2. The areas include:

- Two high probability areas (HPA-1, -2) in downtown Portland near other recorded archaeological sites.
- A high probability area (HPA-3) near a recorded archaeological site on the east side of the Willamette River and would be encountered by all of the crossing options.
- Three high probability areas (HPA-4, -5, -8 [partial]) that were previously noted as part of the South Corridor SDEIS. They are in the vicinity of Crystal Springs, Johnson Creek, and a stream near SE Park Avenue south of Milwaukie, near SE McLoughlin Boulevard. The latter site is also encompassed by a larger area that contained a historic-period streetcar line connecting Portland to Oregon City.
- Two high probability areas (HPA-6, -7) on Kellogg Creek, as previously noted by the South Corridor Project.
- One moderate probability area (M-1) is along SW Lincoln Street where the corridor is wider than the historic-period street.

1.7 EVALUATION OF SECTION 4(F) RESOURCE USE BY ALTERNATIVE

1.7.1 No-Build Alternative: Recreational, Cultural, and Historic Uses

With the No-Build Alternative, transportation improvements would be limited to those included in the *2000 Regional Transportation Plan* (RTP) 2020 financially constrained transit and road network. There are no long-term adverse effects anticipated because of South Corridor Project improvements to identified Section 4(f) resources with the No-Build Alternative.

There would be no direct long-term impacts to historic-period or Native American archaeological sites consequent to selection of the No-Build alternative. There is the potential for indirect effects to unidentified archaeological resources due to piecemeal development of local transportation projects that may have been addressed by the Light Rail Alternative. These potential indirect effects cannot be quantified.

1.7.2 Summary of Section 4(f) Resource Use

This section lists the section 4(f) resources in the project corridor where uses may occur. More details are provided in sections 1.7.3 for recreational resources, and in Section 1.7.4 for cultural and historic resources.

Two existing recreational resources, South Waterfront Park, and Eastmoreland Golf Course, and two planned resources, Robert Kronberg Park and the Trolley Trail, would have direct use through right-of-way acquisition for the Light Rail Alternative, as represented by the 2003 LPA or the options to extend light rail to Park Avenue. These impacts are indicated in Table K-1.

Table K-1
Summary of Direct Impacts to Park and Recreation Resources

Name	Owner/Custodian	Alignment	Estimated Impacted Acres	Total Acreage of Resource
South Waterfront Park	City of Portland	2003 LPA, 2003 LPA to Park, and 2003 LPA with Tillamook	0.06	4.27
Eastmoreland Golf Course	City of Portland	2003 LPA, 2003 LPA to Park, and 2003 LPA with Tillamook	>0.02	148
Robert Kronberg Park (Planned)	City of Milwaukie	2003 LPA to Park and 2003 LPA with Tillamook (range reflects elevated and at-grade options)	0.05 to 0.10	3.50
Trolley Trail (Planned)	North Clackamas Parks and Recreation District	2003 LPA to Park and 2003 LPA with Tillamook	0.87	17.41

Many impacts to recreational resources are secondary or indirect impacts, which can be caused by the proximity of light rail to the resource. These impacts are summarized in Table K-2 and are based on the effects found in other topic areas, including Visual and Aesthetics, Noise and Vibration, and Transportation. It is not anticipated that any of these secondary impacts will be substantial enough to be considered a constructive use of a Section 4(f) resource.

Table K-2
Recreational Resources with Potential Secondary Impacts by the Build Alternative

Name	Owner/Custodian	Alignments Impacting Park	Potential Impact
South Waterfront Park	City of Portland	2003 LPA, 2003 LPA to Park, and 2003 LPA with Tillamook	Visual
Eastside Willamette River Greenway	City of Portland	2003 LPA, 2003 LPA to Park, 2003 LPA with Tillamook, and all River Crossing Options	Visual
Springwater Corridor Trail	City of Portland Parks and Recreation	2003 LPA, 2003 LPA to Park, and 2003 LPA with Tillamook	Visual
Dogwood Park	City of Milwaukie/North Clackamas Parks and Recreation Department	2003 LPA to Park, 2003 LPA with Tillamook	Visual
Milwaukie Local Share Parcel	City of Milwaukie/North Clackamas Parks and Recreation Department	2003 LPA to Park, 2003 LPA with Tillamook	Visual
Robert Kronberg Park (Planned)	City of Milwaukie	2003 LPA to Park, 2003 LPA with Tillamook	Visual
Trolley Trail (Planned)	North Clackamas Parks and Recreation Department	2003 LPA to Park, 2003 LPA with Tillamook	Visual

The Portland-Milwaukie Light Rail Project may adversely affect up to four historic built environment resources, depending on the alternative and options selected. Specific impacts and mitigation commitments for the new Locally Preferred Alternative (to be selected after this SDEIS is released) will be addressed in a formal Memorandum of Agreement (MOA) with the SHPO and executed for inclusion in the FEIS. If adverse effects cannot be further minimized through design, avoidance, or other measures, these resources will require further evaluation with regard to Section 4(f) requirements when further design information and a draft MOA has been developed.

Table K-3
Section 4(f) Historic Sites Used by the Build Alternative

Address	Alignment	Name/Type	Built Date
2000 SW 5th Ave	2003 LPA, 2003 LPA to Park	Portland State/School	1965
2425-2445 SE 8th	2003 LPA , 2003 LPA to Park, and all River Crossing options	Royal Foods/Warehouse/Office	1957
9002 SE McLoughlin	2003 LPA, 2003 LPA to Park	State Highway Division Office/garages	1920/1957
2326 SE Monroe	2003 LPA, 2003 LPA to Park, 2003 LPA w/ Tillamook	Spanish Revival Residence	1928
2206 SE Washington	2003 LPA, LPA to Park, 2003 LPA w/ Tillamook	R. Derwey House	1925
Oregon Pacific and Union Pacific Railroads	LPA to Park, Tillamook Branch Alignment,	Railroad Trestle	c. 1900

1.7.3 Light Rail Alternative: Recreational Uses

1.7.3.1 2003 LPA Use of Recreational Resources

South Waterfront Park. The 2003 LPA would cross over and could require a small portion of parkland along the southern boundary of the resource. Ownership of the actual property than would be crossed may be within right-of-way owned by ODOT. FTA, Metro, and TriMet are evaluating this use as a *de minimis* impact which is documented later in this document. The 2003 LPA would also have visual impacts to South Waterfront Park but these are not anticipated to be substantial enough to constitute a constructive use.

Eastside Willamette River Greenway. The 2003 LPA would cross over the Eastside Willamette River Greenway on an elevated structure. Construction of the new bridge could also require detours and a modification of the trail to provide adequate clearance. During further project design, it is anticipated that mitigation measures will be developed to address the visual impacts to the Eastside Willamette River Greenway. While the visual effects of the new bridge are considered high, the visual effects alone would not create impairments that would adversely affect the activities, features, and attributes of the trail, which is part of a riverfront system that crosses below a number of bridges. In addition, the new bridge would feature a new trail connecting to existing and planned greenway trails. Visual impacts to this resource are not considered substantial enough to be considered a constructive use.

Eastmoreland Golf Course. The 2003 LPA would require the use of a small portion of this resource for bus pullouts just east of the proposed Bybee Station, along SE Bybee Street. Most of the area to be used for pullouts is within street rights-of-way, but a portion may on park property. FTA, Metro and TriMet are evaluating this use as a *de minimis* impact.

Springwater Corridor Trail. The 2003 LPA would travel under the Springwater Corridor Trail at the SE McLoughlin Boulevard bridge. The trail already crosses over a transportation corridor that has substantial traffic and freight rail traffic. No appreciable noise or visual impacts have been identified, and it is not anticipated that the 2003 LPA would affect the use of the trail. The nearby stations would also improve access to the trail.

Dogwood Park. None of the park is needed for right-of-way acquisition. Noise impacts are low, considering existing conditions, and visual impacts are not substantial enough to be considered a constructive use of Section 4(f) resource.

Milwaukie Local Share Parcel. None of this currently undeveloped park parcel is needed for right-of-way acquisition. Noise impacts are low, considering existing conditions, and visual impacts are not substantial enough to be considered a constructive use of a Section 4(f) resource.

1.7.3.2 Willamette River Crossing Options Use of Recreational Section 4(f) Resources

The Willamette River Crossing Options would not require a use of land from any Section 4(f) resources. Like the 2003 LPA, two river crossings terminating at SE Sherman Street would cross over the Eastside Willamette River Greenway on an elevated structure, but would not require the permanent use of trail land. There could be a modification of the trail elevation to provide for adequate clearance below the bridge structures, but this would not constitute a constructive use of the trail.

Meade-Sherman and Porter-Sherman River Crossings

Eastside Willamette River Greenway. Like the 2003 LPA, river crossing options terminating at SE Sherman Street would cross over the Eastside Willamette River Greenway on an elevated structure. The Eastside Willamette River Greenway is located near several major transportation facilities and any visual impacts from the Meade-Sherman and Porter-Sherman River Crossings are not anticipated to substantially change the function of the trail enough to constitute a constructive use.

Meade-Caruthers and Porter-Caruthers River Crossing Options

Eastside Willamette River Greenway. The Eastside Willamette River Greenway is within the APE of the Meade-Caruthers and Porter-Caruthers options but these alignments do not actually cross the Eastside Willamette River Greenway. Visual impacts would be less than for the Meade-Sherman or Porter-Sherman crossing options and would not constitute a constructive use of a Section 4(f) resource.

1.7.3.3 Tillamook Branch Line Alignment Use of Recreational Section 4(f) Resources

Between downtown Portland and SE Tacoma St., the impacts of this option would be the same as in the 2003 LPA. The Tillamook Branch Line alignment crosses under the Springwater Corridor Trail in a different location than the 2003 LPA and has both at-grade and elevated design options at the SE McLoughlin Boulevard, SE River Road, and SE 22nd Street crossings. The Tillamook Branch Line alignment has potential use of Robert Kronberg Park in Milwaukie and to the planned Trolley Trail. Proximity of the light rail and associated stations under the Tillamook Branch Line alignment will increase multimodal access to these park resources and will benefit users.

Springwater Corridor Trail. The Tillamook Branch Line alignment crosses under the Springwater Corridor Trail in a different location than the 2003 LPA. Effects would be similar to those for the 2003 LPA. Because no right of way would be required from the Springwater Corridor Trail, there would be no direct use of this resource. Because the Springwater Corridor Trail already crosses over a rail line, it is not anticipated that any visual impacts caused by the Tillamook Branch Line Alignment would not be substantially different and would not constitute a constructive use.

Dogwood Park. None of the park is needed for right-of-way acquisition. Noise impacts are low, considering existing conditions, and visual impacts are not substantial enough to be considered a constructive use of Section 4(f) resource.

Milwaukie Local Share Parcel. None of the park is needed for right-of-way acquisition. Noise impacts are low, considering existing conditions, and visual impacts are not substantial enough to be considered a constructive use of Section 4(f) resource.

Robert Kronberg Park (Planned). The Tillamook Branch Line alignment would require a minor amount of right-of-way on the southern boundary of the park property, adjacent to the existing railroad trestle. FTA, Metro and TriMet are evaluating this potential use as a *de minimis* impact under the *de minimis* evaluation and documentation section. This could occur with either the at-grade or elevated options, although the at-grade option would require more property.

Trolley Trail (Planned). A portion of the land dedicated for the planned Trolley Trail would be used by the Tillamook Branch Line alignment where it extends to a station at SE Park Avenue. The trail would still exist after construction but light rail facilities would run alongside the trail. FTA,

Metro and TriMet are evaluating this potential use as a *de minimis* impact under the *de minimis* evaluation and documentation section.

1.7.3.4 2003 LPA Extension to Park Use of Recreational Section 4(f) Resources

The 2003 LPA to Park alignment would affect the same parkland resources affected by the 2003 LPA from downtown Portland to Highway 224. It also includes impacts similar to those described above for the Tillamook Branch Line alignment for the areas south of SE Lake Road. This option does not have the Lake Road Station and would not affect Dogwood Park or the Milwaukie Local Share Parcel, park resources adjacent to the light rail alignment.

Robert Kronberg Park (Planned) and Trolley Trail (Planned). The design options and impacts of the 2003 LPA to Park alignment to the planned Trolley Trail and the Robert Kronberg Park are similar to those described in the Tillamook Branch Line alignment. FTA, Metro and TriMet are evaluating this potential use as a *de minimis* impact under the *de minimis* evaluation and documentation section.

1.7.4 Light Rail Alternative: Uses of Historic and Cultural Resources

1.7.4.1 Historic Resources

Table K-4 provides a listing of the adverse effects to historic resources in the project corridor, by alternative. The Light Rail Alternative would result in 3 to 4 adverse effects, leading to a finding of 4(f) use of the resource.

2003 Locally Preferred Alternative (2003 LPA)

The 2003 LPA would have no effects or no adverse effects to 12 of the 15 historic resources and adverse effects to three historic building environment resources along its alignment. The three adversely affected resources are:

- Royal Foods Warehouse at SE 8th Avenue in Portland, which would require the full acquisition of the property and partial to full demolition of the building.
- Oregon State Highway Division administrative building on SE McLoughlin Boulevard in the north industrial district in Milwaukie, which would require the acquisition of approximately 15 feet of the land parallel to McLoughlin Boulevard, in front of and along the west side of the building.
- R. Derwey House at 2206 SE Washington Street which would require the acquisition of land along the west side to within approximately 10 feet of the historic house.

Willamette River Crossing Options

All of the Willamette River crossing options would have an adverse effect to a property (Royal Foods Warehouse) that would also be affected by the 2003 LPA.

2003 LPA Extension to Park Use of Historic Section 4(f) Resources

The 2003 LPA to Park would have three of the same adverse effects as the 2003 LPA (Royal Foods Warehouse, the Oregon State Highway Division building, and the R. Derwey House). The 2003 LPA

to Park would also involve one secondary effect that is potentially adverse by impacting the visual qualities of the railroad trestle (a primary contributing feature) south of SE Lake Road, where the extension would require a structure parallel to the existing trestle. Design options that are compatible with the historic resource and the Secretary of Interior Standards for the Treatment of Historic Properties will be considered to reduce the visual impacts to a level where the effects would be considered not adverse.

Tillamook Branch Alignment Use of Historic Section 4(f) Resources

The Tillamook Branch Line alignment avoids one adverse effect to an historic built environment resource (the Oregon State Highway Division building) that would be adversely affected by the 2003 LPA. It also requires acquisition of land associated with the Spanish Revival Residence at 2326 SE Monroe, changing direct secondary no adverse effects to direct no adverse effects. It would also include the same effects to the R. Derwey House.

Table K-4
Historic Resources and Effects leading to 4(f) Uses

					Alternatives		Options by Corridor Segments			
4(f) Use	**Address**	**Name/Type**	**Date Built**	**Status**	**No-Build**	**2003 LPA**	**Willamette River Crossings – All Options (PSU to Powell)**	**2003 LPA-Park (Hwy 224 to Park Ave)**	**2003 LPA w/Tillamook Branch Alignment**	**Ruby Junction**
	2000 SW 5th Ave	Portland State School Building	1965	PE	No effect	ROW acquisition; Not adverse	Not Applicable	ROW acquisition; Not adverse	ROW acquisition; Not adverse	Not Applicable
	1200 SW Naito Parkway	Hawthorne Bridge		DOE	No effect	Indirect – Visual; Not adverse	Indirect – Visual; Not adverse	Indirect – Visual; Not adverse	Indirect – Visual; Not adverse	Not Applicable
	600 SE Powell Blvd	Ross Island Bridge	1926	DOE	No effect	Indirect – Visual; Not adverse	Indirect – Visual; Not adverse	Indirect – Visual; Not adverse	Indirect – Visual; Not adverse	Not Applicable
X	2425-2445 SE 8th Ave	Royal Foods Warehouse & Office	1957	PE	No effect	Full or Partial Demolition; Adverse	Full or Partial Demolition; Adverse	Full or Partial Demolition; Adverse	Full or Partial Demolition; Adverse	Not Applicable
	4784 SE 17th Ave	Iron Fireman Building (now PECO Warehouse)	1927-28	DOE	No effect	Indirect – Visual; Not adverse	Not Applicable	Indirect – Visual; Not adverse	Not Applicable	Not Applicable
	2505 SE 11th Ave	Ford Motor Assembly Plant	1914	DOE	No effect	Indirect – Visual;Not adverse	Not Applicable	Indirect – Visual;Not adverse	Not Applicable	Not Applicable
	7605 SE McLoughlin Blvd	Westmoreland Park	1937-1939	DOE	No effect	Indirect – Visual; Not adverse	Not Applicable	Indirect – Visual; Not adverse	Not Applicable	Not Applicable
	2425 SE Bybee Blvd	Eastmoreland Golf Course	1916	DOE	No effect	Indirect – Visual; Not adverse	Not Applicable	Indirect – Visual; Not adverse	Not Applicable	Not Applicable
	2001 SE Holgate Blvd	Brooklyn Yard & Railroad	1912-1946	DOE	No effect	ROW acquisition; Not adverse	Not Applicable	ROW acquisition; Not adverse	Not Applicable	Not Applicable

					Alternatives		Options by Corridor Segments			
4(f) Use	**Address**	**Name/Type**	**Date Built**	**Status**	**No-Build**	**2003 LPA**	**Willamette River Crossings – All Options (PSU to Powell)**	**2003 LPA-Park (Hwy 224 to Park Ave)**	**2003 LPA w/Tillamook Branch Alignment**	**Ruby Junction**
X	9002 SE McLoughlin Blvd	State Highway Division Office & Garages	1920/1957	DOE	No effect	ROW acquisition – Impacts setting; Adverse	Not Applicable	ROW acquisition – Impacts setting; Adverse	No effect	Not Applicable
X	2206 SE Washington St	R. Derwey House	1925	DOE	No effect	ROW acquisition – Impacts setting; Adverse	Not Applicable	ROW acquisition – Impacts setting; Adverse	ROW acquisition – Impacts setting; Adverse	Not Applicable
	2300 SE Harrison St	Milwaukie Middle School (now Portland Waldorf School)	c. 1937	DOE	No effect	Indirect – Visual; Not adverse	Not Applicable	Indirect – Visual; Not adverse	Indirect – Visual; Not adverse	Not Applicable
	2405 SE Harrison St	Residence	1916	DOE	No effect	Indirect – Visual; Not adverse	Not Applicable	Indirect – Visual; Not adverse	Indirect – Visual; Not adverse	Not Applicable
	2326 SE Monroe St	Spanish Revival Residence	1928	PE	No effect	Indirect – Visual; Not adverse	Not Applicable	Indirect – Visual; Not adverse	ROW acquisition; Direct Not adverse	Not Applicable
X		Oregon Pacific and Union Pacific Railroads & Trestle	c.1900	PE	No effect	Indirect; Not adverse, railroad only (not trestle)	Not Applicable	Indirect – Visual; Impacts setting, potentially adverse, Trestle only	Indirect – Visual; Impacts setting, potentially adverse, Trestle only	Not Applicable
	Approx. 11205 SE McLoughlin Blvd.	Kellogg Lake Outlet	c.1930	DOE	No effect	Not Applicable	Not Applicable	No effect	No effect	Not Applicable
	12006 SE McLoughlin Blvd.	Birkemeier-Sweetland House	1878	DOE	No effect	Not Applicable	Not Applicable	No effect	No effect	Not Applicable
TOTAL						3 uses	3 uses (when combined with 2003 LPA)	4 uses	4 uses	

1.7.4.2 Cultural Resources

Selection of the Light Rail Alternative would result in construction-related impacts to eight high probability areas and one moderate probability area with the potential for Native American and historic-period Euroamerican archaeological resources within the APE. The majority of these areas would be likely to yield historic-period archaeological resources. In addition, many of these areas with potential for yielding archaeological resources are beneath sidewalks, buildings, parking lots and streets. The probability of encountering archaeological resources is based upon presence of preferred landforms or previous discoveries adjacent to or within the project area; however, it may usually not be possible to locate archaeological resources prior to construction when they are hidden under sidewalks and streets. Because archaeological resources in urban settings are often identified only during construction of the preferred alternative, avoidance through redesign is usually not practicable as the preferred alternative has been selected and the Record of Decision finalized.

After the selection of a Preferred Alternative, the project would conduct additional investigations, research (including ethnographic surveys or oral history interviews with tribal members), and other techniques to further assess the potential for encountering archaeological resources in high probability areas. In addition, exploratory excavations for buried archaeological sites could also minimize delays during general construction. The presence of archaeological sites at stream crossings could be determined during geotechnical or anticipatory explorations, as well as within other probability areas after street closures.

If resources are encountered, effects would result from the long-term (permanent) loss of the archaeological deposits due to displacement. The impacts are therefore considered long-term impacts.

Long-term effects to archaeological resources would result from the development of the light rail project with the high probability areas identified on each side of the Willamette River. The location of specific buried archaeological sites cannot be determined prior to selection of the preferred alternative and initiation of construction. As a consequence, potentially significant archaeological sites cannot be avoided or considered in planning the alternatives. Long-term effects could include the impacts of disturbances to buried archaeological sites encountered during construction and the permanent loss of the archaeological deposits from destruction, or removal prior to their destruction.

2003 Locally Preferred Alternative

Selection of the 2003 LPA could result in construction-related impacts to five high probability areas and one moderate probability area with the potential for Native American and historic-period Euroamerican archaeological resources within the APE. There is the potential for adverse effects to significant archaeological resources encountered during construction in this alternative. The effects could result from the long-term (permanent) loss of the archaeological deposits due to displacement.

Willamette River Crossing Options

There are long-term effects on high probability areas anticipated from selection of any of the Willamette River crossing options. One high probability area has been identified on the east side of the Willamette River that all of the options would encounter, although the Porter-Caruthers and Meade-Caruthers options are closest to the high probability area.

The crossing areas themselves have been subjected to sustained, heavy impacts during industrial developments and operations from approximately 1890 to the modern era. The crossing areas west of the Willamette River were occupied by lumber mills, steel mills, and other industrial enterprises for over 60 years. These areas were filled and were impacted by industrial operations during that time. The crossing areas east of the Willamette River were occupied by an electrical power plant and a lumber mill during the same period and were similarly subjected to extensive and intensive disturbances during these industrial operations. Both areas were subjected to further disturbances during the extensive dismantling, removal, and cleanup of these industrial areas. However, intact archaeological features associated with the former lumber mill have recently been encountered during construction activity in the area.

Other options related to the bridge crossing, including bridge type and elevation, are not likely to alter the effects of the crossings.

Meade-Sherman, Porter-Caruthers, Meade-Caruthers, and Porter-Sherman Options

Despite many years of disturbance in this area, archaeological sites have surfaced during recent construction in the area and there are known archaeological sites near all of these alignments on both sides of the river; therefore, high probability areas have been identified on the west and east sides of the Willamette River that would be affected by these options.

2003 LPA Extension to Park

This option affects eight high and one moderate probability areas that have the potential for Native American and historic period Euroamerican archaeological resources within the APE. The short-term impacts would be the same as the long-term impacts. The west side of SE McLoughlin Boulevard to SE Park Avenue also is the site of a former trolley line, which is a high probability area of historic archaeological resources but is also part of a larger high probability area for archaeological resources. This alignment option would have the potential to encounter these areas.

Tillamook Branch Line Alignment

For the portion of the Tillamook Branch Line alignment between SE Tacoma Street to downtown Milwaukie, there are no known archaeological sites and no high probability areas would be affected.

Maintenance Base

The expansion of the TriMet Ruby Junction facility in Gresham is not expected to affect any park or recreation resources or any historic or archeological resources. The planned Gresham/Fairview Trail through this area would run along the east side of the existing TriMet Ruby Junction facility, and therefore would not be impacted by the expansion, as it would occur to the west.

1.7.5 Temporary Use

Temporary use of Section 4(f) resources from construction could include changes or restrictions in access, and increases in noise, dust, or delays in traveling to events or recreational resources. The location and duration of these effects would differ depending on the project alignments chosen.

Mitigation measures such as signage, alternative traffic routing, and traffic control can mitigate delays and perceptions of decreased access.

Under certain scenarios, construction could temporarily close or limit bicycle or pedestrian access or require detours for the South Waterfront Park, Eastside Willamette River Greenway, the Springwater Corridor, Robert Kronberg Nature Park, and the planned Trolley Trail, which could affect the connection between multi-use trails that are part of the 40-Mile Loop. While the full extent of these temporary uses is not yet known, it is not anticipated that they would be substantial enough to constitute a "use" under the guidelines of Section 4(f).

1.7.6 Long-Term Mitigation

The design of the light rail project would be coordinated with park owners to minimize the effects of the light rail project. FTA, Metro, and TriMet are coordinating with the City of Milwaukie, the City of Portland, and North Clackamas County to define appropriate measures for reducing impacts, and the initial designs already incorporate measures designed to minimize impacts and to provide opportunities for benefits. For instance, the light rail route intersects several trails but is grade separated in all cases and provides stations nearby; the new bridge over the Willamette River would also include a trail connecting to existing and planned trails on both banks of the river. Where the use of park property is required, the project will work with the park owner to determine appropriate compensation or other agreements needed to allow use of the land for the light rail right-of-way. During design, additional design efforts will explore other potential design measures for the Preferred Alternative.

1.7.7 Short-Term Mitigation

Depending on the type of resource and the type of project-related impacts, 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 recreation resources are unavoidable, the project would work to minimize the duration.

2. PRELIMINARY SECTION 4(F) *DE MINIMIS* IMPACT EVALUATION AND DOCUMENTATION

Congress amended Section 4(f) in 2005 when it approved SAFETEA-LU. Section 6009 of SAFETEA-LU added a new subsection to Section 4(f) authorizing the FHWA to approve a project that results in a *de minimis* impact to a Section 4(f) resource without the evaluation of avoidance alternatives typically required in a Section 4(f) Evaluation.

2.1 COORDINATION

The Light Rail Alternative, as represented by the 2003 LPA, will require land from three historic NRHP-listed or eligible properties. These properties are described in the Historic Built Environment Resources Impact Results Report as the Royal Foods/Warehouse Office at 2425-2445 SE 8th, the State Highway Division Office at 9002 McLoughlin Boulevard, and the R. Derwey House at 2206 SE Washington Street.

In accordance with the FHWA/FTA *de minimis* guidance, FTA (or, through its agents, Metro and TriMet) must notify SHPO that it intends to make a *de minimis* finding based on the Section 106 finding of "no adverse effect". As stated in the Guidance for Determining *De Minimis* Impacts to Section 4(f) Resources (FHWA 2005), SHPO must concur in writing with FTA, Metro and TriMet's Section 106 "no adverse effect" finding for historic resources. At the time of this report, all of these impacts are described as "adverse" and therefore a *de minimis* determination does not apply. If future project design or mitigation reduces the required acquisition of land from these resources to one of "no adverse effect", a *de minimis* determination should be considered.

There are two existing and two planned recreational resources that could be minimally impacted by the Build Alternative. Metro and TriMet intend to pursue a finding of *de minimis* impact for these Section 4(f) resources. For a *de minimis* finding, the officials with jurisdiction over a park, recreation area, or wildlife or waterfowl refuge must also provide written concurrence that the project will not adversely effect the activities, features, and attributes that qualify the property for protection under Section 4(f).

Since initiating the SDEIS in late 2003, FTA, Metro and TriMet have coordinated with the City of Portland Parks and Recreation Department, the City of Milwaukie, and the North Clackamas Parks and Recreation Department. Metro has also submitted letters to these agencies requesting concurrence for a *de minimis* finding for impacts to the South Waterfront Park, the Eastmoreland Golf Course, the planned Robert Kronberg Nature Park, and the planned Trolley Trail. This continues the coordination that has been established between FTA, Metro and TriMet throughout the project development. Copies of key correspondence are included at the end of this section.

FTA, Metro and TriMet will solicit comments on the project including design options that could impact these resources. FTA, Metro and TriMet will conduct a public hearing and comment period for the SDEIS that will serve as the opportunity for public review and comments for these impacts.

No wildlife or waterfowl refuges would be converted to a transportation use by the Build Alternative. Currently, no archaeological resources that would be subject to Section 4(f) provisions have been discovered; however, archaeological investigations are continuing. Discovered archaeological resources will be assessed as to their potential protection under Section 4(f).

2.2 SUMMARY OF PROPOSED ACTION AND EXTENT OF ITS EFFECTS TO SECTION 4(F) RESOURCES

Table K-5 summarizes the Section 4(f) Resources for which *de minimis* impacts are being documented, as well as the use of these resources by the project.

Table K-5
Summary of Section 4(f) Park and Recreational Resource *De minimis* Impacts

Resource Name and Location	Resource Description	Design Option(s) Impacting Resource	Use Description
South Waterfront Park; North of Marquam Bridge on the west side of the Willamette	Open green space with pedestrian trail along the Willamette River north of the Marquam Bridge.	2003 LPA; 2003 LPA Extension to Park; and 2003 LPA with Tillamook	Less than a tenth of an acre of non-active space along the southern perimeter of the green space will be required for the 2003 LPA structure.
Eastmoreland Golf Course; 7605 SE McLoughlin Blvd, Portland	Publicly owned golf course including 18 holes of golf, a covered & lighted driving range, pro shop	2003 LPA; 2003 LPA Extension to Park; and 2003 LPA with Tillamook	A narrow strip of land immediately adjacent to the existing Bybee right-of-way will be required for the development of sidewalks with bus stops and for retaining walls.
Robert Kronberg Nature Park (planned)	Currently an undeveloped space including Kellogg Lake, approximately 3.5 acres in size. This area is planned as a nature park in conjunction with the reclamation of Kellogg Creek. It is adjacent to McLoughlin Boulevard. Plans for the park have been adopted by City Council and include an open space park.	2003 LPA Extension to Park and 2003 LPA with Tillamook	An area of approximately 1/10th of an acre along the western perimeter adjacent to McLoughlin will be required for the Bluebird Station under the at-grade scenario. The elevated scenario would use up to 0.05 acre.
Trolley Trail (planned)	Currently this is an undeveloped former streetcar corridor that is approximately 6 miles long and 17.41 acres in area. Plans have been adopted by Clackamas County for a multimodal trail of approximately 12-16 feet in this area. The planned trail will be paved with an adjacent soft-shoulder. The trail will have 25 pedestrian access points from local roads. Construction is expected to begin in 2009.	2003 LPA Extension to Park and 2003 LPA with Tillamook	Although final designs for the planned Trolley Trail and the Light Rail Alignment are not complete, it is anticipated that the Tillamook Branch and 2003 LPA Extension to Park Alignments will require approximately 0.87 acres along the corridor. Existing concepts vary in the placement of the light rail but it is anticipated that the light rail and trolley trail alignments for will be parallel for less than 0.75 miles of the trail's total planned 6 miles.

2.3 PRELIMINARY *DE MINIMIS* DETERMINATION – SOUTH WATERFRONT PARK

2.3.1 Property Description

South Waterfront Park stretches along the west bank of the Willamette River, in the southern downtown Portland area. It can be accessed from SW Moody Avenue and SW River Parkway. South Waterfront Park terminates under the Marquam Bridge, and is part of approximately two miles of public riverfront access in downtown Portland. South Waterfront Park provides access to the Willamette River. As part of the waterfront greenway, the park is a Section 4(f) resource and serves as open space for the neighborhood, while also serving regional recreational needs.

As part of the waterfront, there is an open space area of approximately 3.5 acres adjacent to the 2003 LPA alignment. This open space is vegetated with grass and a few tree clusters. There are no improvements such as park benches or play structures at the site. A portion of the Willamette Greenway Trail terminates in this park, under the Marquam Bridge.

2.3.2 Section 4(f) Use

The 2003 LPA, 2003 LPA Extension to Park, and 2003 LPA with Tillamook Branch Alignment will use a small narrow strip of less than a tenth of an acre along the southern boundary of the 3.5 acre open space for right-of-way for the footings of the raised alignment. It is anticipated that the 2003 LPA will cross above a section of the trail on an elevated structure. Metro and TriMet will continue to coordinate with the City of Portland during further project design to ensure impacts are minimal. The Willamette River Crossing Options would not require use of this park.

2.3.3 Mitigation and Enhancements

The 2003 LPA, 2003 LPA with Extension to Park, and 2003 LPA with Tillamook Branch Alignment are being designed in a manner that would avoid conflicts with recreational activities at the park which is located adjacent to and under the I-5 Marquam Bridge along the western bank of the Willamette River. The minimal use of the park land by the light rail structure will not inhibit recreational activities at the park or on the trail, but the City of Portland may require enhancements or other compensation as a condition of any temporary or permanent easement, including air rights.

2.3.4 Impact to South Waterfront Park

The primary recreational use of this park is the use of passive open space and the trail which currently terminates under the Marquam Bridge. Because the acquisition of land, noise and visual impacts will be minimal and recreational use of the park and trail will be maintained without negatively impacting the park's features and attributes, the minor modification to the southernmost boundary of the South Waterfront Park would result in a *de minimis* impact.

2.4 PRELIMINARY *DE MINIMIS* DETERMINATION – EASTMORELAND GOLF COURSE

2.4.1 Property Description

Constructed in 1917, Eastmoreland is Oregon's second oldest golf course and is owned and operated by PP&R. It is a Section 4(f) recreational resource because of its status as a recreational facility and

also because it is a historic resource. The 18-hole Eastmoreland Golf Course is open to the public from dawn until 10:00 p.m. during peak season. The golf course also has a driving range and a pro shop. The site also includes the Crystal Springs Rhododendron Garden. Much of the golf course is located adjacent to the eastern side of McLoughlin Boulevard, as well as all of the light rail alignments. The golf course has access from SE Bybee Boulevard, which connects with SE McLoughlin Boulevard.

2.4.2 Section 4(f) Use

The Light Rail Alternative includes a proposed Bybee Station, along SE Bybee Street. A narrow strip of land may be needed immediately adjacent to the existing Bybee right-of-way for the development of sidewalks with bus stops and for retaining walls. Because it is on the periphery of the course, the small area (less than 0.2 acre) required for additional right-of-way is not critical for active play on the golf course.

There are no alterations to the function of the resource that would significantly diminish recreational viability of the golf course or the club house. Therefore this acquisition and use of land is not anticipated to "adversely affect the activities, features, and attributes" of the property.
Because the golf course is adjacent to SE McLoughlin Boulevard, a heavy traffic arterial, the build alternative and design options are not likely to significantly increase the noise and visual impacts to the resource.

2.4.3 Mitigation and Enhancement

The improved sidewalks and landscaping associated with the new bus stop on Bybee Street will enhance the area. Additionally, the new Bybee Station will increase connectivity in this area and specifically to the golf course and Crystal Springs Rhododendron Garden. Because all impacts are expected to be minimal and will not have any negative effects on the "activities, features and attributes" of this recreational resource, there are no proposed mitigation measures.

2.4.4 Impact to the Eastmoreland Golf Course

The primary use of the Eastmoreland Golf Course is to play golf on the course's 18 links, as well as utilize the driving range. The Crystal Springs Rhododendron Garden is over 500 feet away from the project impact area. Because acquisition of land, as well as noise and visual impacts will be minimal, and the "activities, features and attributes" of the golf course will be maintained, it is expected that the minor modification to the golf course would result in a *de minimis* impact.

2.5 PRELIMINARY *DE MINIMIS* DETERMINATION – ROBERT KRONBERG PARK (PLANNED)

2.5.1 Property Description

The City of Milwaukie is planning park improvements on land it currently owns and that lies adjacent to Kellogg Lake in the open space area south of the railroad trestle on SE McLoughlin Boulevard. This area was named Robert Kronberg Park in 2006 and was transferred to the city by the Kronberg family for parks purposes. The park is part of proposed plans for downtown Milwaukie

that would restore a creek that is now impounded as Kellogg Lake and provide improved connections between the city and the Willamette River waterfront area. It is a Section 4(f) resource.

2.5.2 Section 4(f) Use

The 2003 LPA to Park and 2003 LPA with Tillamook alignments would require purchase of right-of-way that would use less than a tenth of an acre of parkland. The elevated option may also require a small acquisition of the parkland (an estimated 0.5 acre). The area of acquisition is directly adjacent to SE McLoughlin Boulevard and does not appear to constrain the city's ability to develop features in the currently available concept plans for the park. It is possible that the alignment could cross a planned trail in the park that will connect to the Willamette River, but an exact location of this trail is unknown at this time. A fully elevated structure in this area could provide easier access under the light rail alignment to reach a city park parcel to the west, but could have a higher level of visual impacts than the at-grade option.

2.5.3 Mitigation and Enhancement

Metro, TriMet and the City of Milwaukie have met to discuss possible ways the light rail project may mitigate any impacts to the planned park through enhancements in this general area that are consistent with the City of Milwaukie plan for downtown. Coordination discussions will continue throughout the light rail project development process. It is possible that agreements between the City and previous land owners could preclude the City's ability to voluntarily grant an easement or concurring with a *de minimis* finding, and in this case *de minimis* may not apply. However, this has not been determined.

As coordination and design for these two resources continues, it is anticipated that conflicts between the light rail project and the planned park can be avoided, and that additional mitigation and enhancement opportunities to minimize impacts will be defined by both parties in more detail.

2.5.4 Impact to the Planned Robert Kronberg Park

The primary use of the planned Robert Kronberg Park will be passive recreational open space, with the possibility of walking trails. Because acquisition of land and visual impacts will be minimal considering the full length of the new regional trail, and the "activities, features and attributes" of the planned park will be maintained, it is expected that the plan to share right of way for the development of the light rail and the trail together for a short section of the Trolley Trail would result in a *de minimis* impact.

Although *de minimis* impacts do not require an analysis of other alternatives, Metro and TriMet have previously explored a wider array of alignment options for serving Milwaukie and the areas to the south. The 2003 LPA avoids the impacts to Robert Kronberg Park, but it would not provide an opportunity to include an additional station and park and ride to serving the high demand in the southern portion of the corridor. Other options for following streets such as SE Main Street or SE McLoughlin Boulevard instead of the railroad alignment were found to have slower travel times and higher impacts to traffic, parking, and property. Additional details on other alignments are summarized in Chapter 2 of the SDEIS.

2.6 PRELIMINARY *DE MINIMIS* DETERMINATION – TROLLEY TRAIL (PLANNED)

2.6.1 Property Description

The NCPRD is planning the Trolley Trail along a 6-mile stretch of a historic corridor once used by a streetcar line traveling between Portland and Oregon City. Although the trolley corridor purchased by NCPRD and Metro in 2001 is approximately 40 feet wide, the trail itself will only be between 12 and 16 feet wide.

The trail is expected to have an asphalt or concrete surface and soft shoulders to accommodate pedestrian, recreational and commuting bicyclists, horses, wheelchairs, and other non-motorized uses. The Trolley Trail will have 25 pedestrian access points from neighborhood roads. The trail will provide connections to community facilities, parks, and public transit. Intersection improvements will be designed to provide safe trail crossings at existing roads. The trail project will include safety and security features such as lighting and good definition between the trail and adjacent neighbors.

NCPRD was awarded federal funding to conduct preliminary engineering work for the trail and to start the first phases of construction between SE Jefferson Street south to SE Courtney Road. Design efforts were initiated in late 2007 and construction is expected to begin in 2009. In addition to NCPRD plans for the Trolley Trail, ODOT is constructing roadway improvements to McLoughlin Boulevard, a state highway, in the project area. These improvements will include bike lanes.

2.6.2 Section 4(f) Use

The Tillamook Branch Alignment and the 2003 LPA Extension to Park would be located parallel to portions of McLoughlin Boulevard and the planned Trolley Trail. Because the Trolley Trail is still being planned and designed, FTA, Metro and TriMet are coordinating design efforts with the NCPRD to minimize any use to the 12- to 16-foot wide trail, which is within a 40-foot former streetcar corridor. At most it is anticipated that less than an acre spread over a half-mile length of trail would be required for the light rail line. It is anticipated that through coordination and other agreements with the NCPRD, the Trolley Trail and the light rail alignments can be sited and constructed at a location and time that minimizes disruptions to the trail, and allows the trail to be constructed consistent with NCPRD's plan for the full-length trail.

Secondary impacts may include the removal of trees along the planned Trolley Trail corridor to allow construction of the light rail project. Removal of the trees by the light rail construction may diminish the perceived buffer between SE McLoughlin Boulevard and the trail once it is constructed. A retaining wall against the hillside to the west of the trail could also have a visual impact compared to the hillside with trees and plants. Noise levels along the trail are relatively high due to SE McLoughlin Boulevard, and noise analysis has shown that the light rail project would not exceed federal criteria for sensitive areas such as parks.

2.6.3 Mitigation and Enhancement

Coordination to accommodate both the trail and the light rail line provides the opportunity to improve regional mobility while still allowing the development of the trail in a manner that would be consistent with the Trolley Trail Master Plan.

The light rail project and the planned Trolley Trail include several common elements, including measures to improve safety for sidestreet crossings that intersect the light rail line and the trail. Metro, TriMet and NCPRD have met to discuss possible ways the light rail project may mitigate any impacts to the trail through enhancements to these crossings and increased connectivity between the light rail and trail. Coordination discussions will continue throughout the light rail project development process.

NCPRD has indicated that it plans to conduct design for the full trail by 2008 and begin construction. Construction staging could enable better coordination between multi-modal projects and reduce disruptions to pedestrian and bike connectivity during construction.

To avoid fully building a portion of trail that might soon need to be relocated, the parties have discussed options for staging the project to provide a temporary or interim trail for the short segment that would be alongside the future light rail project. When the light rail project is developed, a permanent trail could then be built. Coordination with NCPRD is ongoing, and the agencies have indicated to NCPRD that they are proposing a *de minimis* determination of use. To allow a *de minimis* determination by FTA, NCPRD as the owner of the trail would need to concur, and as part of that concurrence, additional discussions would be necessary to define the District's requirements for the coordinated design of the parks, as well as any mitigation features or potential enhancements. These could include plans to provide for landscaping along the shared corridor and at entrance areas, and compensation to support the development of other trail features or amenities.

2.6.4 Impact to the Planned Trolley Trail

The primary use of the planned Trolley Trail will be walking and biking, with horseback riding in some areas along the trail. Because acquisition of land, noise and visual impacts will be minimal, and the "activities, features and attributes" of the trail will be maintained, it is expected that the Project's minor modification would result in a *de minimis* impact.

Although with a *de minimis* finding, an analysis of other alternatives is not required, Metro and TriMet, in coordination with NCPRD, explored a variety of options for aligning light rail near the planned Trolley Trail. These include:

1. The current proposal to locating light rail on the west side between SE McLoughlin Boulevard and the planned Trolley Trail. While it would require removing some trees, it would have the least impact to existing trees on the east side of SE McLoughlin Boulevard. This alignment was also found to have better access for a station to serve the adjacent neighborhoods, and it would provide improvements to side street access, which is also an element of the planned trail.

2. Locating light rail on the east side of SE McLoughlin Boulevard would require moving the roadway 19 feet to the west and closer to the planned Trolley Trail and would require removing more trees, including on the east side of SE McLoughlin Boulevard, compared to the current proposal for a west side alignment. An east side alignment would also require demolishing SE McLoughlin Boulevard improvements planned for construction in 2008, and would result in higher impacts to Robert Kronberg Nature Park.

3. Locating the light rail on an elevated structure in the center of SE McLoughlin Boulevard would require widening the roadway and modifying both sides of the road. This would also require removing trees on both sides of the road and would have higher costs.

4. Locating the light rail at-grade in the center of SE McLoughlin Boulevard would require widening and relocating the roadway 15 feet to the west. This would also require removing trees on both sides of the roadway, and would require pedestrians to cross SE McLoughlin Boulevard from both directions to reach the station.

REGIONAL SERVICES

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METRO

April 23, 2008

Ms. Sue Donaldson
Portland Parks and Recreation
1120 SE Fifth Avenue, Suite 1302
Portland, OR 97204

Dear Ms. Donaldson:

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

The Portland-Milwaukie Light Rail Project is planning an alignment that would connect downtown Portland to southeast Portland, the City of Milwaukie, and Clackamas County. The Portland-Milwaukie Light Rail Project plans on releasing the Supplemental Draft Environmental Impact (SDEIS) statement in May 2008. This document will be followed by a 45-day public comment period. A decision on a Locally Preferred Alternative (LPA) is expected to be reached in the summer of 2008. Preliminary engineering will begin after the adoption of the LPA, and a Final Environmental Impact Statement (FEIS) will be prepared beginning in 2009. While the SDEIS will disclose impacts and potential mitigation, the FEIS process will determine the mitigation strategies to be pursued by the project. The SDEIS considers resources across different disciplines for direct, indirect, and cumulative impacts and possible mitigation measures. Specific park resources addressed in the SDEIS are discussed below.

There are several existing and planned recreational resources near the proposed Portland-Milwaukie Light Rail Project. These include South Waterfront Park, the planned South Waterfront Greenway, the Vera Katz Eastbank Esplanade, the Eastside Willamette River Greenway, Eastmoreland Golf Course, Westmoreland Park, and the Springwater Corridor Trail. We recognize the considerable effort the parks department has spent in planning the South Waterfront Greenway, a future recreational trail and greenway system that would link South Waterfront Park to the South Waterfront District. Potential river crossing alignments under study

that are adjacent to the future Meade or Porter streets would intersect an area envisioned for the Greenway and a potential habitat area. We understand there have been concerns about the impacts a project could have on this area. We are committed to working with Portland Parks and Recreation to define a project that will achieve the essential themes of the South Waterfront Greenway Development Plan.

While all river crossing options are located to the south of the Vera Katz Eastbank Esplanade, the options will cross over the Eastside Willamette River Greenway on an elevated structure. Although the light rail project will create visual changes to the trail, we are committed to working with you to define mitigation measures. Because the trail will be preserved and currently crosses below several other bridges, we believe that the visual impacts alone would not adversely affect activities, features, or attributes of the trail. The new light rail crossing will also provide bicycle and pedestrian facilities to connect the South Waterfront Greenway and the Eastside Willamette River Greenway.

No options will require land or the use of either Westmoreland Park or the Springwater Corridor that would diminish their recreational viability.

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. (More information on 4(f) can be found in the enclosure to this letter.) There are two Section 4(f) park resources with potential use by the project, South Waterfront Park and the Eastmoreland Golf Course. Where there is a use of 4(f) resource for a project, the FTA can approve the project only if it is a minor use 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 use is minor, and the responsible official(s) with jurisdiction over the resource agree(s) in writing, compliance with a Section 4(f) evaluation is simplified. This condition of minor use is called a *de minimus* determination.

We seek to confirm our understanding of the City of Portland's park resources, and to inform the city that the project is evaluating the possibility of a *de minimus* impacts determination to South Waterfront Park and Eastmoreland Golf Course. Working with your agency to define mitigation

strategies, we believe that the project will not adversely affect the activities, features, or attributes of either park facility.

South Waterfront Park is about 4.3 acres in size, and runs 1,000 feet along the bank of the Willamette River at SW River Parkway, near RiverPlace in downtown Portland. Light rail alignment options using the 2003 LPA river crossing would require a small portion at the southern end of the park (approximately 0.06 acres). There could also be visual impacts to the park.

Eastmoreland Golf Course is Oregon's second oldest golf course and is located in southeast Portland adjacent to SE McLoughlin Boulevard north of SE Tacoma Street. It is a Section 4(f) resource because of its recreational facility status and its status as a historic resource. The light rail alignment would require bus pullouts just east of the proposed Bybee Station, along SE Bybee Street. A narrow strip of land, projected to be less than two hundredths of an acre, may be needed immediately adjacent to the existing Bybee right-of-way for the development of retaining walls and sidewalks with bus stops. There are no alterations to the function of the park that would affect the recreational viability of the golf course or the club house. The project options are not likely to significantly change the noise and visual environment of the park.

Metro is looking forward to coordinating planning efforts with Portland Parks and Recreation throughout the project design process. The Federal Transit Administration, Metro, and TriMet are committed to working with Portland Parks and Recreation to avoid impacts or conflicts from light rail. We recognize that further definition of design and implementation details will need to be discussed. The project will continue to work directly with your agency to propose mitigation strategies throughout preliminary engineering, the FEIS, and final design.

We hope to continue our relationship in four main ways. First, we will continue meetings between Metro, TriMet, and Portland Parks and Recreation in coordination with the Portland Office of Transportation, such as our meetings on November 26, 2007 and April 7, 2008. Second, we will continue to provide drafts of the SDEIS and supporting documents of the environmental analysis and respond to your agency's comments. Third, project staff will continue to provide opportunities for public review in coordination with parks staff. Finally, project design staff will continue to discuss design details and other engineering details with Portland Parks and Recreation staff.

We would like to request a letter from Portland Parks and Recreation agreeing in a willingness to continue to coordinate. This coordination would include a discussion of design, phasing, and mitigation strategies of park resources and the Portland-Milwaukie Light Rail Project. A determination of impacts and mitigation strategies will be defined in the FEIS. Further, we would like the city to concur on a finding that, if sufficient mitigation is provided, it may be possible to conclude that the light rail project would not adversely affect the activities, features, and attributes of South Waterfront Park or the Eastmoreland Golf Course. If an alignment involving the use of the City of Portland park and recreation resources is included as a Locally Preferred Alternative, discussion of mitigation strategies would continue through preliminary engineering and the development of the FEIS.

If you have any questions or have further information to share, please feel free to call me at 503-797-1775 or Mark Turpel at 503-797-1734.

Sincerely,

Bridget Wieghart
Project Manager
Portland-Milwaukie Light Rail Project

cc: Zari Santner, Portland Parks and Recreation
Robin Grimwade, Portland Parks and Recreation
Mark Turpel, Metro
Dave Unsworth, TriMet

Enclosure

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METRO

April 23, 2008

Ms. Michelle Healy
North Clackamas Parks and Recreation District
9101 Southeast Sunnybrook Boulevard
Clackamas, Oregon
97015-6666

RE: Trolley Trail and Light Rail Transit

Dear Ms. Healy:

Thank you for meeting with us to discuss the Portland-Milwaukie Light Rail Project and for your participation in reviews of products supporting the development of the project's Supplemental Draft Environmental Impact Statement (SDEIS).

With this letter, we reiterate our interest in coordinating with you during the planning processes of the Portland-Milwaukie Light Rail Project and the Trolley Trail. The letter also helps to confirm our mutual understanding of the both the light rail project and the Trolley Trail project, and discuss working together to the meet the goals and objectives of both projects. We see this as a potential opportunity to develop a great connection between our shared regional transit and regional trail systems.

The Portland-Milwaukie Light Rail Project is planning an alignment that would connect downtown Portland to southeast Portland, the City of Milwaukie, and Clackamas County. The Portland-Milwaukie Light Rail Project plans on releasing the Supplemental Draft Environmental Impact (SDEIS) statement in May 2008. This document will be followed by a 45-day public comment period. A decision on a Locally Preferred Alternative (LPA) is expected to be reached in the summer of 2008. Preliminary engineering will begin after the adoption of the LPA, and a Final Environmental Impact Statement (FEIS) will be prepared beginning in 2009. The FEIS will define mitigation strategies to impacts disclosed in the SDEIS.

We understand the North Clackamas County Parks and Recreation District (NCPRD) is developing the Trolley Trail along a six-mile corridor between Milwaukie and Gladstone. It will be part of a continuous 20-mile loop connecting Portland, Milwaukie, Gladstone, Oregon City

and Gresham as part of the regional trails system. The Trolley Trail has evolved through an extensive master planning process, which included the Cities of Milwaukie, Gladstone, Oregon City, Clackamas County, Oak Lodge Sanitary and Water Districts, and Friends of the Trolley Trail. The Trolley Trail will be constructed on land NCPRD and Metro purchased in 2001, and preliminary engineering is currently underway.

Goals of the Trolley Trail Project include: to provide a safe and inviting trail; to connect key destinations within the community and region; to provide an enriching experience through educational, historical, and public art along the trail; to accommodate a variety of non-motorized users including bicycle commuters and recreational users; and that the trail will be safe, environmentally friendly, and respectful to adjacent property owners. The trail is expected to be approximately 12 to 16 feet wide with an asphalt or concrete surface and soft shoulders to accommodate pedestrian, recreational and commuting bicyclists, horses, wheelchairs, and other non-motorized uses. The Trolley Trail will have access points from neighborhood roads and intersection improvements will be designed to provide safe trail crossings at existing roads. The trail project will include safety and security features such as lighting and good definition between the trail and adjacent neighbors.

As we discussed, there are currently light rail alignment options being studied that would be adjacent to the Trolley Trail project. The light rail project is considering an alignment to SE Park Avenue that would be adjacent for approximately ½ mile of the 6-mile trail between SE 22nd Avenue and SE Park Avenue along SE McLoughlin Boulevard. Light rail for these options would require right-of-way within part of the 40-foot width reserved for the trail. The most likely option for designing the two facilities together would be to place the light rail on the west side of the roadway. Locating the light rail on the west would require removal of some trees along SE McLoughlin Boulevard and construction of a retaining wall in some sections beside the trail. The two projects also include several common features, such as addressing potential safety impacts for cross streets, which provide opportunities for partnership.

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. (More information on 4(f) can be found in the enclosure to this letter.) Where there is a use of 4(f) resource for a

project, the FTA can approve the project only if it is a minor use 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 use is minor, and the responsible official(s) with jurisdiction over the resource agree(s) in writing, compliance with Section 4(f) evaluation is simplified. This condition of minor use is called a *de minimus* determination.

With this letter and in concert with city comments on the preliminary SDEIS sections provided in January 2008, we seek to confirm our understanding of the NCPRD's park resources and to inform that the project is evaluating the possibility of a *de minimus* impacts determination to the Trolley Trail.

Metro is looking forward to working with NCPRD to coordinate planning efforts throughout the project design process. We understand there have been concerns about the impacts an unmitigated light rail project would have on the Trolley Trail. The Federal Transit Administration, Metro, and TriMet are committed to working with the NCPRD to avoid impacts or conflicts from light rail. We recognize that further definition of design and implementation details will need to be discussed. The project would continue to work directly with NCPRD to propose mitigation strategies throughout preliminary engineering, the FEIS, and final design. We believe that the trail system and light rail have many common objectives, including providing travel options for residents in the corridor. We believe that a combined project can maintain the activities, features, and attributes of the trail, fulfilling the goals in the Trolley Trail Master Plan.

We hope to continue our relationship in four main ways. First, we will continue direct meetings between Metro, TriMet, and the North Clackamas County Parks and Recreation District (NCPRD), such as our meeting on October 27, 2007. Second, we will continue to provide drafts of the SDEIS and supporting documents of the environmental analysis. Third, light rail project staff will continue to brief groups such as the NCPRD Advisory Board and the Friends of the Trolley Trail, as well as participate in workshops, open houses, and other opportunities for public review of both projects. Finally, the design teams of both projects will discuss design details directly, as was done on March 20, 2008 with our project staff and Harper Houf Peterson Righellis, Inc., the engineering consultants for the Trolley Trail.
We would like to request a letter from North Clackamas Parks and Recreation District agreeing in a willingness to continue to coordinate the two projects. This coordination would include a discussion of design, phasing, and mitigation strategies. A determination of final impacts and

mitigation strategies will be defined in the FEIS. Further, we would like North Clackamas Parks and Recreation to concur on a finding that, if sufficient mitigation is provided, it may be possible to conclude that the light rail project would not adversely affect the activities, features, and attributes of the trail.

In addition to meeting with NCPRD, we have also met with the City of Milwaukie regarding parks near the alignment in downtown Milwaukie. They have indicated that while the city owns Robert Kronberg Nature Park and Dogwood Park, the NCPRD maintains these parks. We are working with the City of Milwaukie, as the jurisdiction with authority over these parks, to avoid impacts if possible, or to ensure any impacts to these parks are minimal. We are not aware of any resources in the project area other than the Trolley Trail for which NCPRD has jurisdictional ownership.

Our agencies are committed to ensuring that both projects are successful, as well as highlight the benefits of working together. If you have any questions or have further information to share, please feel free to call me at 503-797-1775 or Mark Turpel at 503-797-1734.

Sincerely,

Bridget Wieghart
Project Manager
Portland-Milwaukie Light Rail Project

cc: Mark Turpel, Metro
Dave Unsworth, TriMet

Enclosure

REGIONAL SERVICES

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METRO

April 23, 2008

Michael Swanson
City Manager
City of Milwaukie
10722 SE Main Street
Milwaukie, OR 97222

RE: Portland-Milwaukie Light Rail Project and City of Milwaukie Parks Resources

Dear Mr. Swanson:

Thank you for the City of Milwaukie's extensive participation in reviews of products supporting the development of the Portland-Milwaukie Light Rail Project's Supplemental Draft Environmental Impact Statement (SDEIS). With this letter, we reiterate our interest in coordinating with the city and the city park system during the planning processes of the Portland-Milwaukie Light Rail Project. The letter also helps to confirm our mutual understanding of both the light rail project and the city's park resources.

The Portland-Milwaukie Light Rail Project is planning an alignment that would connect downtown Portland to southeast Portland, the City of Milwaukie, and Clackamas County. The Portland-Milwaukie Light Rail Project plans on releasing the Supplemental Draft Environmental Impact statement in May 2008. This document will be followed by a 45-day public comment period. A decision on a Locally Preferred Alternative (LPA) is expected to be reached in the summer of 2008. Preliminary engineering will begin after the adoption of the LPA, and a Final Environmental Impact Statement (FEIS) will be prepared beginning in 2009. While the SDEIS will disclose impacts and potential mitigation, the FEIS process will determine the mitigation strategies to be pursued by the project.

City of Milwaukie staff have been working with both public involvement and technical staff over the last year to discuss the project and city resources. Portland-Milwaukie Light Rail project staff met with City of Milwaukie park staff on November 7, 2007 and March 17, 2008 to specifically discuss the City of Milwaukie park resources, possible light rail impacts, and possible mitigation strategies. We appreciate the city's extensive participation in subsequent technical coordination

meetings. We will continue to provide drafts of the SDEIS and supporting documents of the environmental analysis and respond to the City of Milwaukie comments.

We understand the City of Milwaukie has several ongoing plans for parks and other public areas in the downtown area. This includes redevelopment of several parcels near the proposed light rail alignment, as well as restoration of Kellogg Creek at the site of the current Kellogg Lake. These resources include Dogwood Park, Robert Kronberg Park, and adjacent parkland surrounding Kellogg Lake, including a park resource at taxlot 11E36CB02801 referred to as "Milwaukie Local Share Parcel" in the SDEIS. We also understand that these parcels contribute to a green space network in Milwaukie that includes Riverfront Park, and that though Riverfront Park is farther from the proposed light rail alignment, its success will in part rely on the functionality and connectivity of all of the open spaces in the network.

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. (More information on 4(f) can be found in the enclosure to this letter.) There is one Section 4(f) park resource with potential use by the project, Robert Kronberg Park. While we recognize that there could potentially be a visual impact to the park, we believe that the light rail project will not adversely affect the activities, features, or attributes of Robert Kronberg Park.

The SDEIS 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 4(f) resource for a project, the FTA can approve the project only if it is a minor use 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 use is minor, and the responsible official(s) with jurisdiction over the resource agree(s) in writing, compliance with Section 4(f) evaluation is simplified. This condition of minor use is called a *de minimus* determination.

With this letter and in concert with city comments on the preliminary SDEIS sections provided in January 2008, we seek to confirm our understanding of the City of Milwaukie's park resources

and plans for downtown, and to inform the city that the project is evaluating the possibility of a *de minimus* impacts determination to Robert Kronberg Park within the City of Milwaukie's jurisdiction.

As discussed with city staff, one light rail alignment option would have a terminus at SE Lake Road, north of Robert Kronberg Park, while other options would extend south to SE Park Avenue and run adjacent to a portion of Robert Kronberg Park, near the current Kellogg Lake. Alignment options to SE Park Avenue would place light rail on an elevated structure beside the existing railroad trestle, with an option to descend to at-grade for a crossing of SE McLoughlin Boulevard. Most of the light rail alignment for these options would reside within existing railroad right-of-way. However, both the elevated and at-grade options could require the use of between 0.05 and 0.10 acre of Robert Kronberg Park as light rail approaches the SE McLoughlin Boulevard crossing, and a temporary construction easement would likely be required during construction of the project. The current SDEIS analysis includes an initial finding that the minor amount of land used by these design options would not adversely affect the planned activities, features, and attributes of Robert Kronberg Park, although we acknowledge that this finding could change in the Final Environmental Impact Statement.

We would like to request a letter from the City of Milwaukie agreeing to continue coordination between the Portland-Milwaukie Light Rail Project and park plans. This coordination would include discussion of design, phasing, and mitigation strategies. A final determination of impacts and mitigation strategies will be defined in the FEIS. As the FEIS helps us conclude on impact issues, we will likely be asking the city to concur on a finding that the light rail project would not adversely affect the activities, features, and attributes of Robert Kronberg Park, subject to sufficient mitigation.

In addition to meeting with city staff, we have also met with the North Clackamas Parks and Recreation District (NCPRD) regarding the Trolley Trail and other facilities that they own an manage. They have indicated that while the city owns Robert Kronberg Park and Dogwood Park, the NCPRD maintains these parks. We will continue to coordinate with the City of Milwaukie and NCPRD to create a project that is consistent with city park plans.

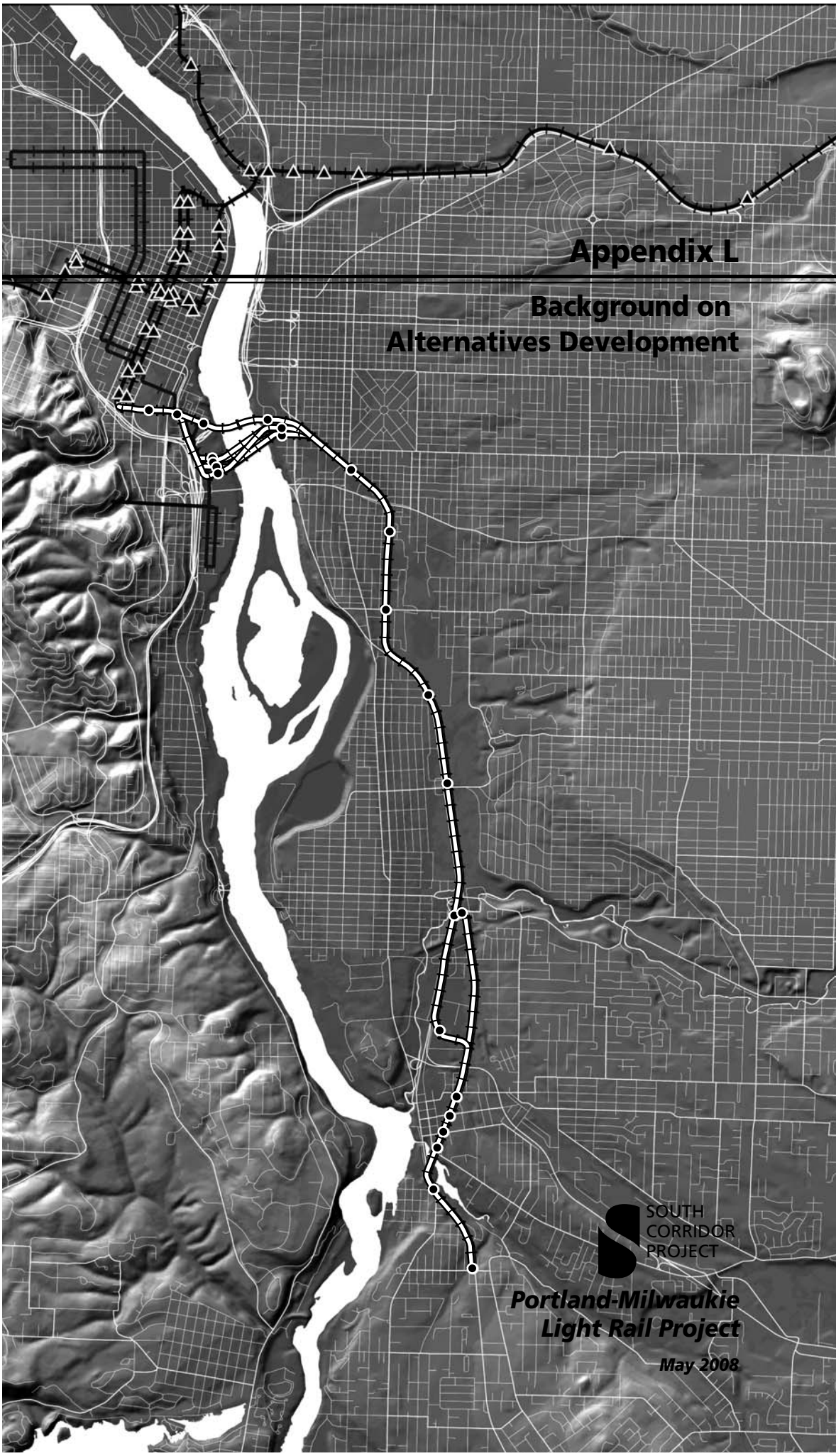
If you have any questions or have further information to share, please feel free to call me at 503-797-1775 or Mark Turpel at 503-797-1734.

Sincerely,

Bridget Wieghart
Project Manager
Portland-Milwaukie Light Rail Project

cc: Mark Turpel, Metro
Dave Unsworth, TriMet
Mr. Kenneth Asher, City of Milwaukie
Ms. JoAnn Herrigel, City of Milwaukie

Enclosure



Appendix L

Background on Alternatives Development

SOUTH CORRIDOR PROJECT

Portland-Milwaukie Light Rail Project

May 2008

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APPENDIX L. BACKGROUND ON ALTERNATIVES DEVELOPMENT

1.1 DETERMINATION OF ALTERNATIVES

The Light Rail Alternative selected for evaluation in this SDEIS is based on over thirty years of regional land use and transportation planning and an environmental alternatives analysis initiated in 1993. This section summarizes the alternatives that have been evaluated, the screening and selection process, and the reasons that alternatives were not brought forward for further evaluation. Alternative modes and alignments previously considered and the results of previous analysis are described.

1.1.1 Project Development Process

Planning and implementing transit improvements involves a series of steps required by NEPA and FTA. These steps ensure a thorough technical and environmental analysis, with the opportunity for community involvement, including public review and comments. The following are the key environmental processes completed:

- *1993 Tier I and Tier II South/North Alternatives Analysis* (1993 South/North AA)
- *1998 South/North Draft Environmental Impact Statement* (1998 South/North DEIS)
- *2000 South Corridor Transportation Alternatives Study* (2000 SCTAS)
- *2002 South Corridor Supplemental Draft Environmental Impact Statement* (2002 South Corridor SDEIS)
- *2003 Downtown Amendment to the South Corridor Project Supplemental Draft Environmental Impact Statement* (2003 Downtown Amendment)

Figure L-1 shows the detailed project development process for the project. In addition, in preparation for the Portland-Milwaukie SDEIS, the following documents were prepared during the Refinement Study Metro initiated in 2006:

- *Portland-Milwaukie Refinement Report* (Metro, May 2007)
- *Portland-Milwaukie Light Rail Project Downtown Milwaukie Alignments Review* (Metro, June 2007)
- *Portland-Milwaukie Light Rail Project Downtown Milwaukie Workshop Summary SE Main Streets/SE 21st Avenue* (Metro, August 2007)

1.1.2 Screening and Selection of Alternatives

The process of selecting alternatives involves decisions on

- Mode (for example, bus, river, commuter rail, and light rail)
- Alignment (the location within a specific corridor)

- Design options (such as bridge type or height)
- Termini

Mode and alignment options that have been evaluated are described below.

1.1.2.1 Modes Evaluated

This section describes the evaluation of the modes during the development of the South/North and South Corridor Projects. Figure L-2 illustrates the narrowing and refinement of modes. The modes that have been evaluated include:

- No-Build
- River transit
- Commuter rail
- High Occupancy Toll (HOT) and High Occupancy Vehicle (HOV) lanes
- Busway
- Bus Rapid Transit (BRT) including intelligent transportation management (ITS)
- Light rail

Tier I of the *1993 South/North Alternatives Analysis* evaluated a wide range of alternative High Capacity Transit (HCT) modes, including light rail, busway, river transit, and commuter rail. Through this analysis, the region identified light rail as the preferred mode. Light rail was found to provide the highest quality transit service and the greatest assurance of effective transit system operations, and it would best meet financial, growth accommodation, land use, and environmental objectives adopted for the corridor. Therefore, light rail was the only mode evaluated in the *1998 South/North DEIS*. Tier II of the *1993 South/North Alternatives Analysis* focused on identifying the light rail alignments that would be evaluated in the *1998 South/North DEIS*.

Following the defeat of a ballot measure that would have reaffirmed local funding for the South/North Light Rail Project, a wide range of HCT alternatives, including river transit, high occupancy vehicle lanes, high occupancy toll lanes, bus rapid transit and busway, but not light rail, were evaluated in the *2000 SCTAS*. Following completion of the study, the Policy Committee guiding the study determined that river transit, commuter rail, and HOT and HOV lanes failed to meet the project's goals and objectives, such as supporting land use goals, reflecting community values, and providing high-quality transit.

Figure L-1: South/North Corridor Project Development Process

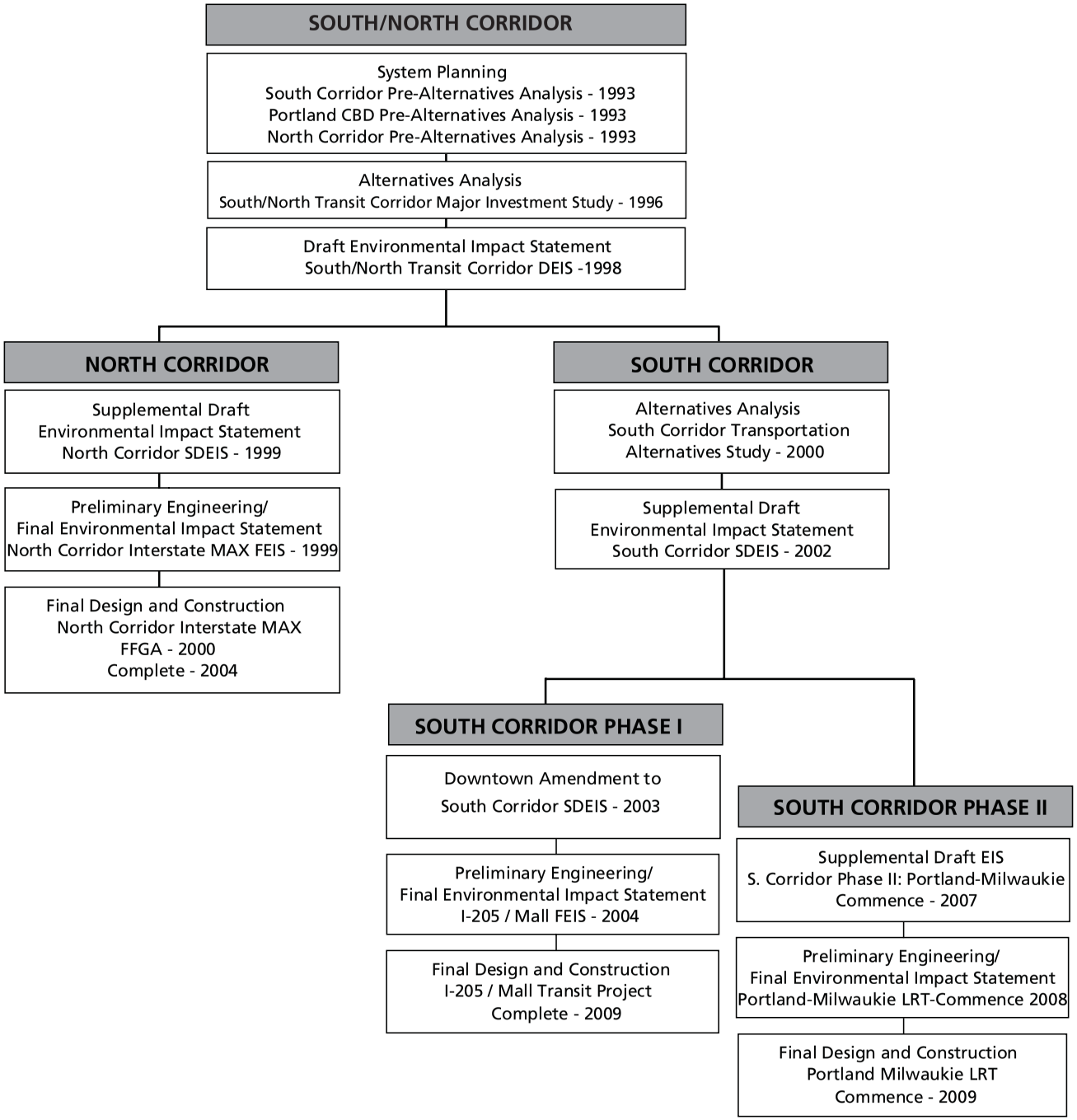
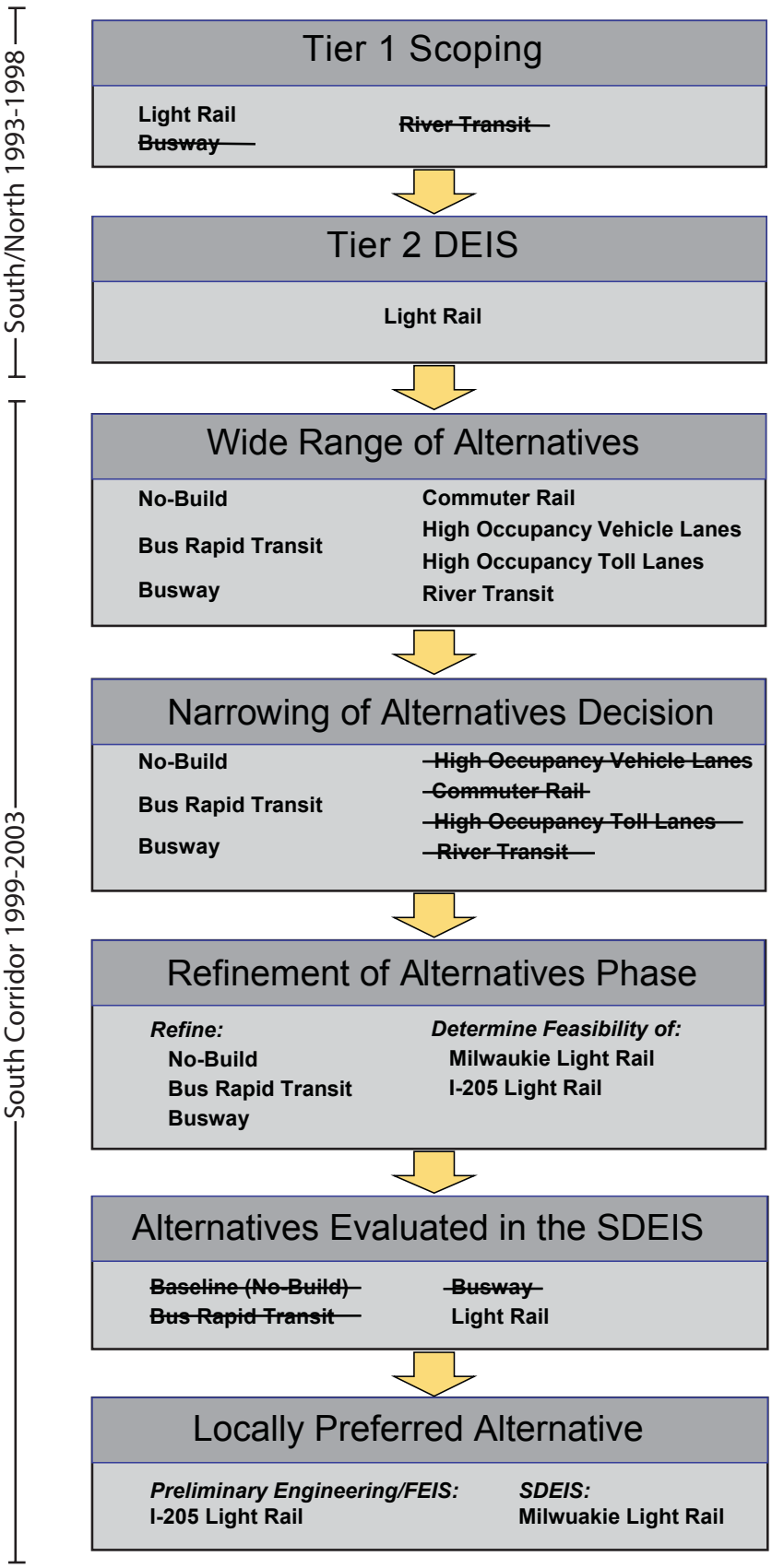


Figure L-2
Narrowing and Refinement of Modal Alternatives
1993-2003



The Policy Committee determined that the following alternatives best met the project's goals and objectives and should be studied in the *2002 South Corridor SDEIS*:

- No-Build
- Busway
- Bus Rapid Transit (BRT) including intelligent transportation management (ITS)

The Policy Committee also heard substantial testimony expressing support for including light rail alternatives in the *2002 South Corridor SDEIS.* The central and southeast Portland neighborhoods, City of Milwaukie neighborhoods, and Clackamas area citizens urged the Policy Committee to add Milwaukie and I-205 light rail as alternatives for further study in the *2002 South Corridor SDEIS.*

A lower-cost Milwaukie light rail alignment and a concept for I-205 light rail between the Clackamas Town Center and the Gateway Transit Center were developed and evaluated in *the 2002 South Corridor SDEIS* in response. Light rail was selected as the preferred mode for the LPA at the end of *the 2002 South Corridor SDEIS*.

Description of Modes

This section describes the modes that have been evaluated, including advantages and disadvantages and the rationale for selecting or removing options. Table 2.3-1 summarizes which study process evaluated each mode.

Table 2.3-1
Modes Evaluated in Previous Studies

	1993-95 South/North AA[1]	1997-98 South/North DEIS[2]	1999-2000 South Corridor AA[3]	2001-03 South Corridor SDEIS[4]
No-Build	**X**	**X**	**X**	**X**
River Transit	**X**		**X**	
Commuter Rail-Radial	**X**		**X**	
Busway	**X**		**X**	**X**
Bus Rapid Transit			**X**	**X**
HOV/HOT Lanes			**X**	
Light Rail	**X**	**X**		**X**

[1] *Tier 1 Description of Alternatives Report*, Metro, December 1993; Tier 1 Final Recommendation Report, Metro, October 1994; South/North Design Option Briefing Document, October 1995

[2] *South/North Corridor Project Draft Environmental Impact Statement,* Metro, Federal Transit Administration, February 1998

[3] *South Corridor Study Wide Range of Alternatives Report, Metro 2000, South Corridor Transportation Alternatives Study Evaluation Report,* Metro October 2000

[4] *South Corridor Supplemental Draft Environmental Impact Statement,* Metro, December 2002

River Transit

River Transit was studied the *1993 South/North AA* and *2000 SCTAS*. It was eliminated following both alternatives analysis studies rather than being advanced to either of the subsequent environmental impact statement (EIS) processes.

The River Transit Alternative would provide regularly scheduled point-to-point passenger-only boats operating over a defined route and could serve both commuter and recreational trips.

The River Transit Alternative studied in the *2000 SCTAS* would operate between Oregon City and downtown Portland on the Willamette River. River Transit would provide the primary transit service in the South Corridor with all-day service and approximately 5-minute headways during the peak period and 10 minute headways during the off-peak period.

River Transit was not recommended for study in the 2002 SC SDEIS because it did not meet the purpose and need. The reasons included that it would have:

- Poor service to the major activity center in the corridor
- Poor service to downtown Portland
- Potential impacts to threatened and endangered fish
- Poor accessibility for bus transfers and park and ride trips

Commuter Rail

Commuter rail service is typically passenger train service that has longer trip lengths and station spacing than light rail. Commuter rail service typically utilizes diesel locomotives or self-propelled diesel rail cars, and existing freight or passenger railroad tracks. . Operations are focused on peak commute periods serving peak directional flows from outlying communities to major employment centers.

Commuter rail was evaluated during the *1993 South/North Alternatives Analysis* and the *2000 SCTAS*. The *1993 South/North Alternatives Analysis* study evaluated a 47.4 mile corridor between Canby, Oregon, and Ridgefield, Washington, and used portions of the Burlington Northern and Southern Pacific Railroad rights-of-way.

Two commuter rail alignment alternatives were considered during the *2000 SCTAS*. One was a corridor connecting Oregon City to Clackamas Regional Center, Milwaukie and Portland via the UPRR mainline. The line would terminate near OMSI where dedicated shuttle buses would carry passengers across the Hawthorne Bridge to the transit mall and the center of downtown Portland. The line could operate only during peak periods, as the UPRR mainline is heavily used by Amtrak and freight operations.

The other commuter rail alternative proposed tested two roles for commuter rail. One was as a feeder route to boost ridership in the South Corridor, and the second was a circumferential transit link that would serve trips between Milwaukie and Beaverton. The line would serve stations in Milwaukie, Lake Oswego, and Lake Grove and connect with the Wilsonville to Beaverton commuter rail line between Tigard and Tualatin.

Reasons for removing Commuter Rail Alternatives from further study included:

- Commuter rail attracted only five percent of the ridership projected for light rail in the same corridor.
- Commuter rail would not directly serve the main trip generators in the corridor such as Clackamas Regional Center, Downtown Milwaukie, North Macadam/RiverPlace, South Downtown/ PSU, Central Downtown, and the Rose Quarter.
- Distribution of trips in downtown Portland would be slow with transfers required either at Union Station or at a Hawthorne Bridge/OMSI Station.
- Commuter rail would be unlikely to influence land use in the same manner as light rail given that stations would be located in heavy rail corridors, while light rail would offer more flexible station locations that could be integrated into the built environment.

While implementation costs would be less than for light rail, the cost-effectiveness of commuter rail in the South/North Corridor would be poor due to the low ridership potential.

High Occupancy Vehicle Lanes and High Occupancy Toll Lanes

High Occupancy Vehicle (HOV) lanes are reserved for vehicles that have a minimum number of passengers, including the driver. An HOV is a transit bus, vanpool, or any other vehicle that meets the minimum occupancy requirements. A High Occupancy Toll (HOT) lane would charge a toll to single occupant vehicles (SOV) for access a HOV lane. High occupancy lane alternatives were studied in the *2002 SCTAS.*

This alternative would increase transit capacity in the corridor by the addition of HOV lanes along SE McLoughlin Blvd and Highway 224. Bus service would be expanded between Milwaukie and Oregon City to meet the demand for transit service in the corridor and buses would operate in the HOV lane. Two-person carpools would also be allowed to use the HOV lanes.

The HOV Alternative between Portland and Milwaukie would include a reversible HOV lane in the center of SE McLoughlin Boulevard between the Ross Island Bridge and SE Harold Street. During the morning peak traffic hours, barriers would be positioned to provide an extra lane in the northbound direction for HOVs. Prior to the evening peak hours, the barrier would be relocated to provide an additional lane of traffic in the southbound direction. Prior to the next morning, the barrier would be reset. Between SE Harold Street and SE Tacoma Street, the HOV lane would operate with no barrier between the HOV lane and general-purpose traffic lanes.

HOT lanes operate in a manner and alignment similar to HOV lanes described above. Qualifying vehicles access a dedicated lane at no charge while SOVs would pay a toll to gain access to the HOT lane. This option can be implemented during peak periods only to regulate the capacity of the tolled express lane. In the study of this alternative, it was assumed that the payment of tolls would occur electronically, with SOVs operating in the HOT lane using a dashboard-mounted transponder that would be read by overhead readers across the roadway.

The rationale for removing the HOV and the HOT Lanes Alternatives from further study in the *2002 South Corridor SDEIS* included:

- Lowest public acceptance of all alternatives studied

- Lack of direct connection to Clackamas Regional Center
- Elimination and reduction of local access to Highway 224
- Lack of compatibility with land uses
- Environmental impacts
- High number of displacements
- Lack of downstream capacity to handle additional vehicles attracted to the facility

Bus Rapid Transit

Bus Rapid Transit (BRT) was studied in *2000 SCTAS* and in the *2002 South Corridor SDEIS*.

BRT describes a variety of capital improvements designed to reduce transit travel time and improve transit system reliability. BRT components studied have included exclusive bus lanes, simplified fare payment methods, special vehicles, limited stations with amenities, and intelligent transportation systems (ITS). ITS elements included real-time customer information, automatic bus stop announcement, and bus priority at traffic signals. The BRT Alternative evaluated in the *2002 South Corridor SDEIS* crossed the Willamette River on the Hawthorne Bridge and would generally operate on SE McLoughlin Boulevard, between the downtown Portland transit mall, Milwaukie and Oregon City.

The reasons for removing the BRT Alternative in the 2003 LPA decision were that, compared to the other alternatives, BRT had:

- The fewest number of corridor transit trips
- The worst reliability due to the lack of separated right of way
- The least number of protected intersections
- The less travel time-savings for most major origin and destination locations
- The second smallest reductions in vehicle miles traveled and vehicle hours of delay
- The greatest number of hazardous materials sites near the alignment
- Little public support

The BRT Alternative therefore failed to meet the following purpose and need statements to:

- Be environmentally sensitive
- Reflect community values
- Optimize the transportation system

Busway Alternative

A Busway Alternative was considered in both the *1993 South/North Alternatives Analysis* and *2000 SCTAS* and advanced for further study in the *2002 South Corridor SDEIS*. A busway is a roadway for the exclusive use of transit buses. Typically, a busway is differentiated from bus-only lanes by the degree of physical separation and protection provided to the buses from adjacent and intersecting mixed traffic, with a busway providing a more definitive barrier, such as a concrete curb, while a bus lane might be separated by a paint stripe and other lane markings. The typical configuration is two lanes (one for each direction), with pull-out lanes so express buses can pass local buses and ramps to provide access to and egress from other highways and streets. Busways are often operated to provide both local service and express service.

A grade-separated busway in the SE McLoughlin Boulevard/Highway 224 corridor was considered in the *1993 South/North DEIS*. Another busway concept was developed for the SE McLoughlin Boulevard corridor north of SE Tacoma Street during the *2000 SCTAS* that used portions of the proposed light rail alignment. This concept was advanced for analysis in the *2002 South Corridor SDEIS*.

The Busway Alternative evaluated in the *2002 South Corridor SDEIS* included a variety of components designed to increase the speed and reliability of trunkline bus service in the South Corridor. It would be located parallel to SE McLoughlin Boulevard, between the Hawthorne Bridge and the north Milwaukie Industrial Area and between the SE Lake Road on/off ramps to Highway 224 and the Clackamas Town Center Transit Center. The busway would be a two-way roadway for the exclusive use of transit vehicles. It would be physically separated from both adjacent and cross streets to ensure that transit buses would operate at relatively high speeds with a high degree of reliability.

Reasons the Busway Alternative was not recommended as the LPA included:

- Low public acceptance due to potential traffic impacts, displacements and noise impacts
- Strong opposition in the Milwaukie to Clackamas Regional Center segment due to traffic impacts
- Slower transit travel time than light rail
- Most noise impacts
- Most displaced businesses
- Greatest number of riparian and ecosystem impacts of all the alternatives considered
- Greatest amount of new impervious surfaces
- Concerns about the capacity of the Hawthorne Bridge and Portland Mall

The Busway Alternative therefore failed to meet the following purpose and need statements to:

- Maintain the livability of the region
- Be environmentally sensitive
- Reflect community values

- Optimize the transportation system

Streetcar

At public meetings held during the development and refinement of the options for the Portland-Milwaukie corridor for this SDEIS, several citizens asked why a streetcar option was not being proposed. Streetcar has not been studied during an environmental process in the South Corridor because it does not meet the purpose and need for this corridor. The reasons streetcar does not meet the purpose and need are discussed in this section.

Streetcars would not offer the higher speeds and reliability that light rail would in this congested corridor because of its protected right of way. Streetcars operate in mixed traffic so speed and reliability are affected by adjacent autos, thus slowing travel time and affecting reliability. In a congested corridor with longer trips it would be preferable to operate in a separated right of way rather than in mixed traffic.

Streetcars serve an important function within a transportation system, but are smaller and have significantly less capacity than light rail. The ridership forecast of 22,000 to 27,000 trips per day in this corridor exceeds the ability of streetcars to provide service efficiently. Meeting this demand would mean accommodating an afternoon peak demand of 1,300 to 2,280 passengers per hour in the peak direction. This would require eight light rail trains consisting of two light rail vehicles or 22 streetcars. The addition of the 22 streetcars could increase traffic issues in the corridor.

Riders would also need to transfer at a higher rate to reach destinations served by the MAX system, and transfer opportunities from streetcar to light rail would be more limited than if the corridor were served by an extension of the regional light rail system.

Because streetcars are nine inches narrower than light rail vehicles, streetcars cannot operate on the transit mall without modification to stations, vehicles or both. Through routing with the yellow line light would not be practical for the same reasons. Therefore, considering rider benefits, operating costs, integration with the existing light rail system, effects on traffic, and other environmental issues, streetcar would not be an effective option for this corridor, compared to light rail. In sum, streetcar does not "optimize the transportation system" for this corridor and, therefore, does not meet the project purpose and need for the corridor. However, streetcars are a mode that is being implemented in the region. The new bridge across the Willamette River will accommodate the planned Portland Loop Streetcar.

Light Rail

Light rail has been examined extensively in previous studies, including the *1993 South/North Alternatives Analysis* and the *1998 South/North DEIS*. This alternative would provide high-capacity light rail transit service, generally separated from traffic congestion, and include an expanded feeder bus network to residential areas and employment sites in southeast Portland and Clackamas County. The line would connect with the existing light rail system in downtown Portland.

In 1999, in response to the defeat of the November 1998 ballot measure that would have provided funding for the South/North light rail, non-light rail transportation options were developed to address the transportation problems in the Portland-Milwaukie corridor. Only alternatives other than light

rail were evaluated in the *2000 SCTAS*. However, the citizens of the central and southeast Portland neighborhoods, Milwaukie neighborhoods and Clackamas area advocated for adding light rail as alternatives for study. In the *2002 South Corridor SDEIS*, the following three light rail alignment alternatives were studied along with BRT and Busway alternatives:

Following completion of the *2002 South Corridor SDEIS* process, the Metro Council adopted a two-phased light rail strategy for the South Corridor. The Combined Light Rail Alternative was selected with the I-205 alignment as the first phase, to be followed by the Portland-Milwaukie alignment as the second phase. A two-phased strategy was adopted for the South Corridor because it would:

- Provide light rail to Clackamas Regional Center and Milwaukie Town Center
- Result in the greatest increase in corridor and system-wide transit trips
- Result in the greatest reduction in vehicle miles traveled and vehicle hours of delay
- Result in the greatest reduction in traffic infiltration into neighborhoods
- Better support activity centers as measured by access to fast and reliable transit service to town and regional centers
- Provide greater access to high quality transit service as measured by population located within one-quarter mile of fixed guideway stations, the number of park and ride spaces and lots, the ease of transfers, and the reliability of the alternative
- Result in the greatest reduction in air pollution
- Result in the most significant economic benefit in the region in both jobs created during construction and additional personal income

1.1.2.2 Light Rail Alignments Evaluated

This section describes the light rail alignments evaluated in the South Corridor between 1993 and 2003. The evaluation of alignment options was guided by the purpose and need for the project, and included evaluations of:

- Ridership potential based on access to population, employment and other key destinations
- Displacements and access impacts
- Environmental impacts
- Operating and capital costs
- Traffic impacts
- Travel time

Light rail alignment options that have been evaluated in the Portland-Milwaukie Corridor are described in two sections, Portland and Milwaukie. These are illustrated in Figures 2.3-3 through 2.3-6. Figure L-3 illustrates light rail alignments that have been evaluated in the Portland-Milwaukie Corridor. Figure L-4 focuses on Portland alignments; Figure L-5 focuses on Milwaukie alignments.

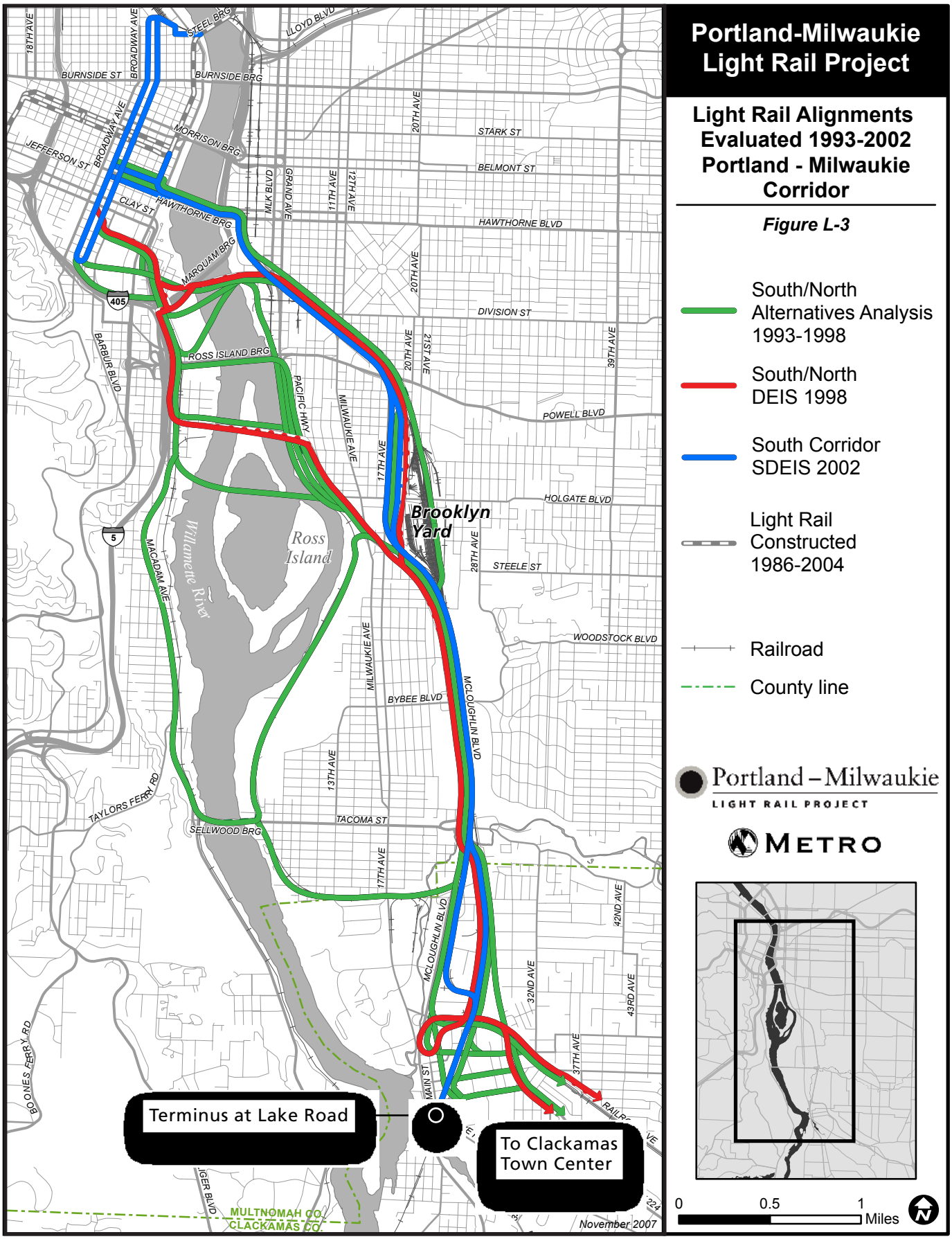
Figure L-6 illustrates the alignments evaluated in either the *1998 South/North DEIS* or the *2002 South Corridor SDEIS*.

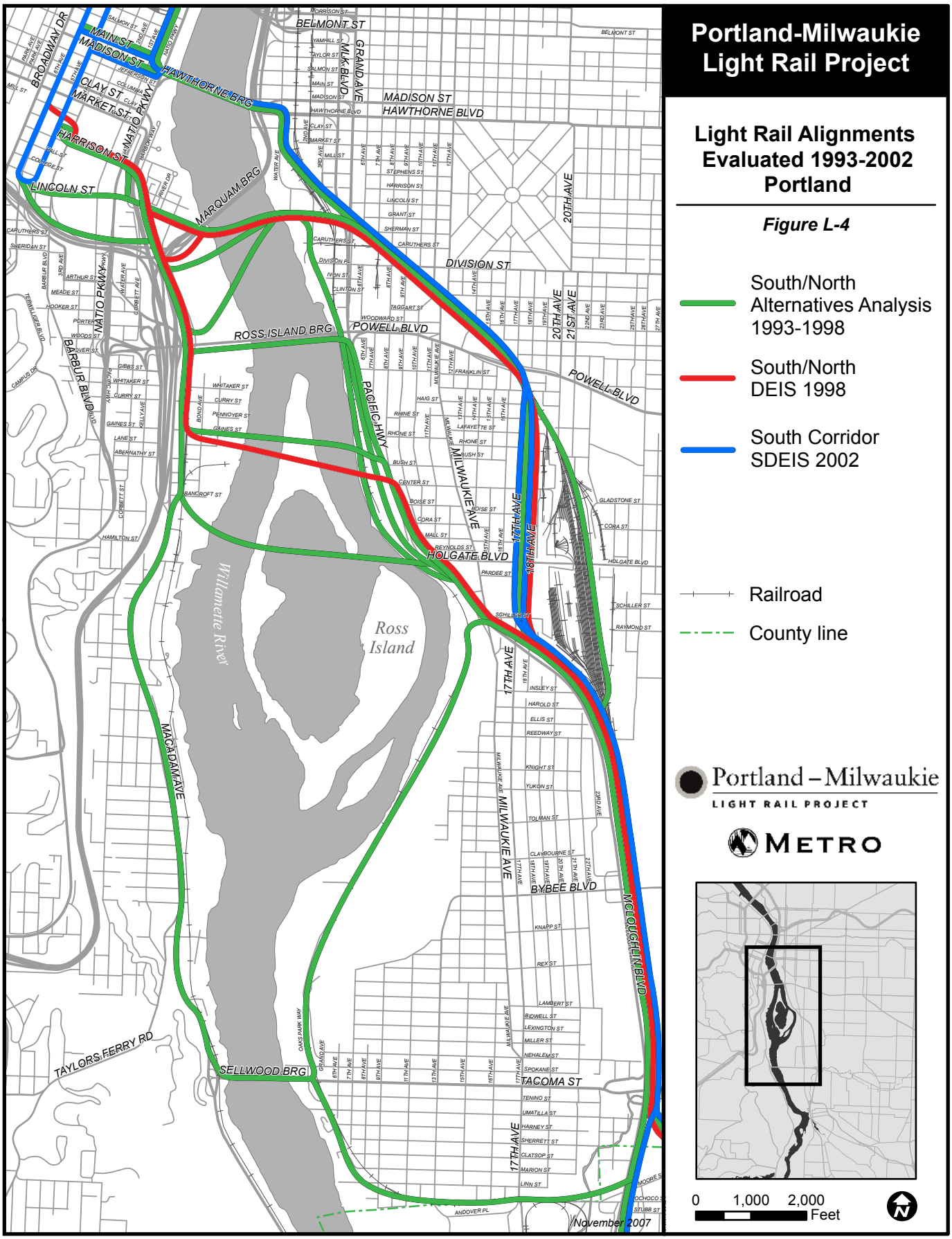
Portland Alignments

The alignments in Portland must consider the following three interrelated geographic areas:

- Downtown Portland
- Willamette River crossing
- SE Portland

The location of alignments in each of these areas affects the alignment possibilities for the other areas. Figure L-4 shows alignments that have been considered in Portland.


Portland-Milwaukie Light Rail Project
Light Rail Alignments Evaluated 1993-2002 Portland - Milwaukie Corridor
Figure L-3
South/North Alternatives Analysis 1993-1998
South/North DEIS 1998
South Corridor SDEIS 2002
Light Rail Constructed 1986-2004
Railroad
County line
Portland – Milwaukie LIGHT RAIL PROJECT
METRO
0 0.5 1 Miles
N
Terminus at Lake Road
To Clackamas Town Center
Brooklyn Yard
Ross Island
Willamette River
BURNSIDE ST
BURNSIDE BRG
STEEL BRG
LLOYD BLVD
BROADWAY AVE
MORRISON BRG
JEFFERSON ST
CLAY ST
HAWTHORNE BRG
MARQUAM BRG
ROSS ISLAND BRG
BARBUR BLVD
MACADAM AVE
TAYLORS FERRY RD
SELLWOOD BRG
BOONES FERRY RD
MLK BLVD
GRAND AVE
11TH AVE
12TH AVE
20TH AVE
STARK ST
BELMONT ST
HAWTHORNE BLVD
DIVISION ST
21ST AVE
39TH AVE
POWELL BLVD
PACIFIC HWY
MILWAUKIE AVE
17TH AVE
HOLGATE BLVD
28TH AVE
STEELE ST
WOODSTOCK BLVD
BYBEE BLVD
MCLOUGHLIN BLVD
13TH AVE
TACOMA ST
42ND AVE
43RD AVE
32ND AVE
37TH AVE
MAIN ST
MULTNOMAH CO.
CLACKAMAS CO.
November 2007


Portland-Milwaukie Light Rail Project
Light Rail Alignments Evaluated 1993-2002 Portland
Figure L-4
South/North Alternatives Analysis 1993-1998
South/North DEIS 1998
South Corridor SDEIS 2002
Railroad
County line
Portland – Milwaukie LIGHT RAIL PROJECT
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November 2007
Willamette River
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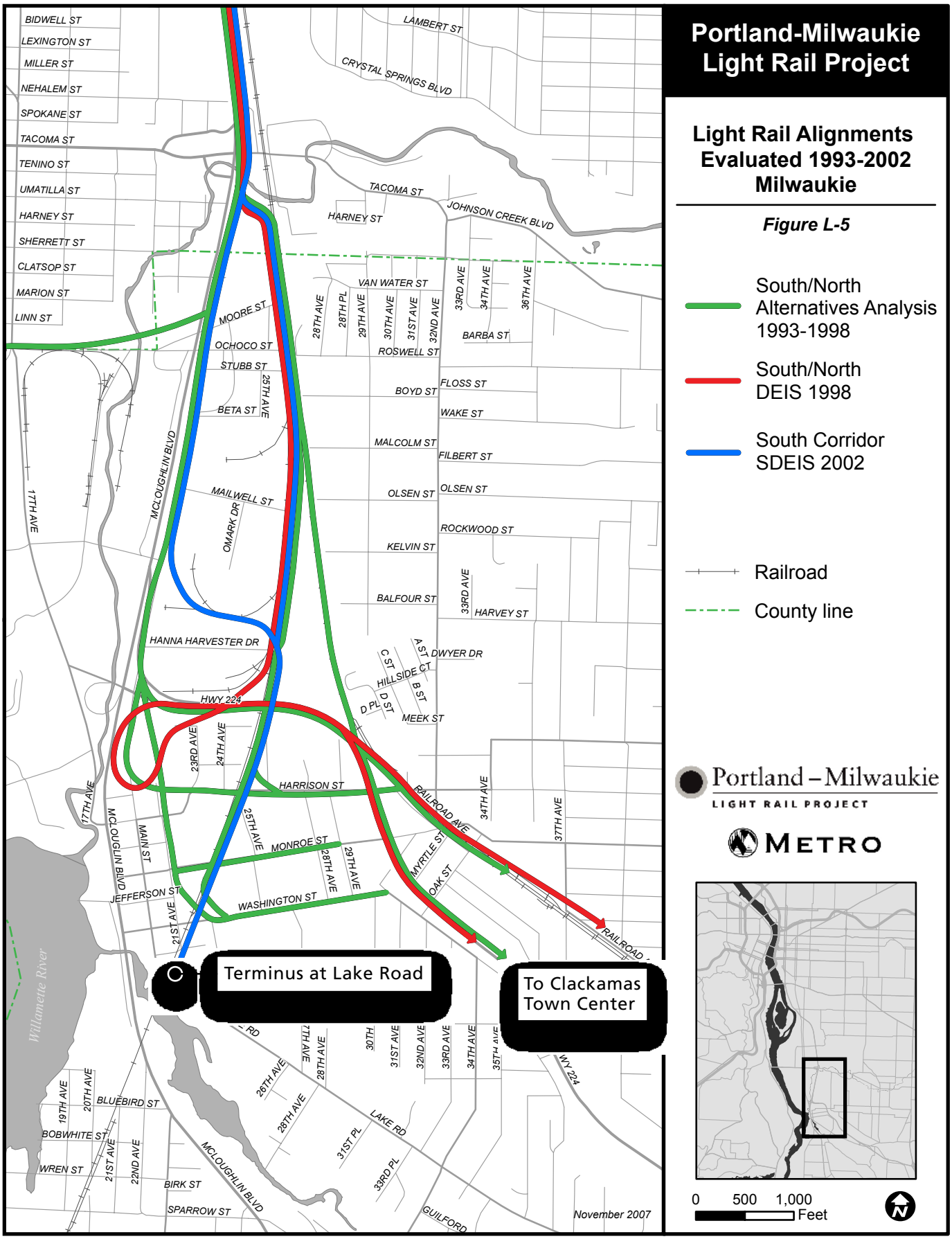
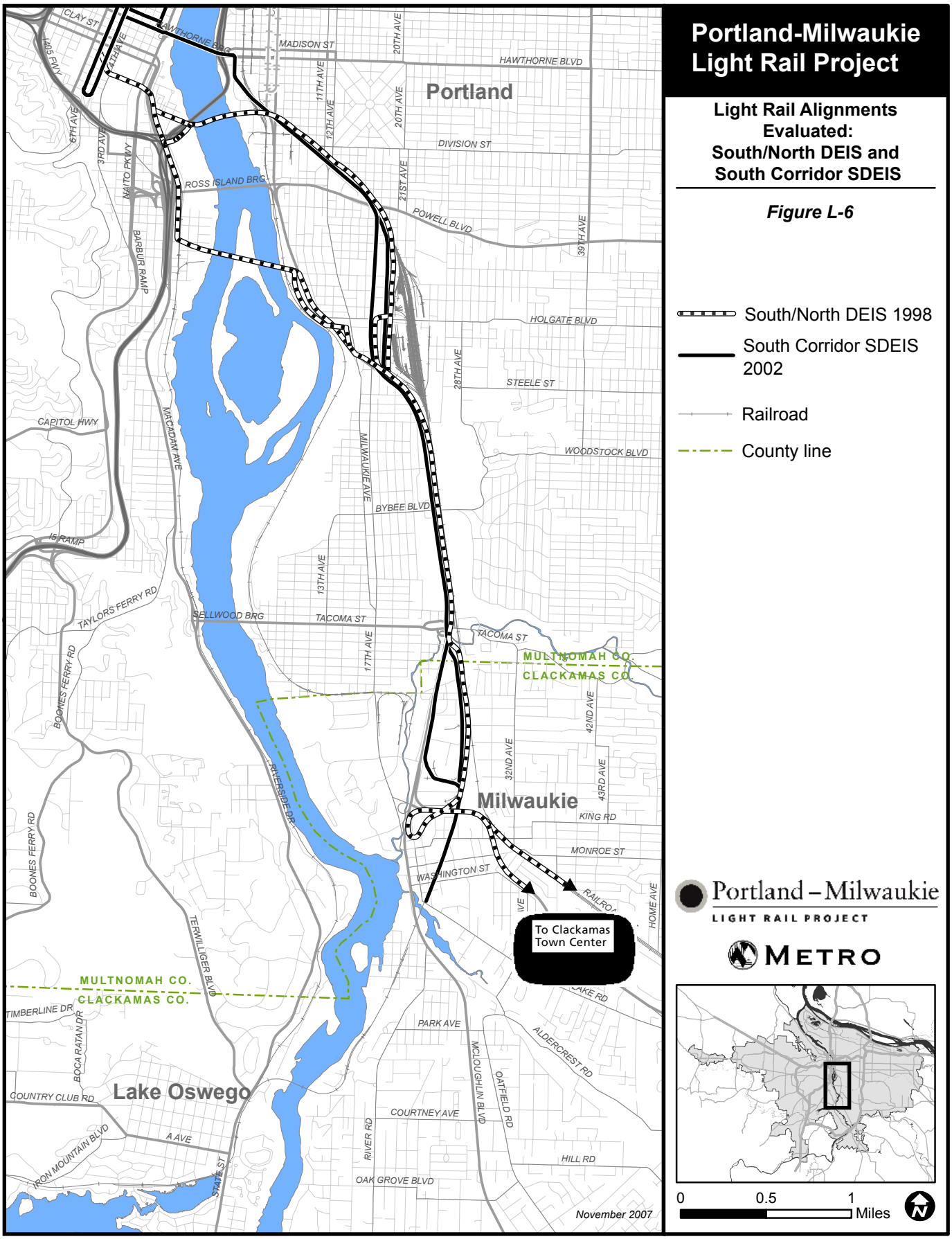
BELMONT ST
MADISON ST
HAWTHORNE BLVD
DIVISION ST
POWELL BLVD
HOLGATE BLVD
BYBEE BLVD
TACOMA ST
SELLWOOD BRG
ROSS ISLAND BRG
HAWTHORNE BRG
MARQUAM BRG
TAYLORS FERRY RD
MACADAM AVE
MILWAUKIE AVE
17TH AVE
16TH AVE
20TH AVE
21ST AVE
GRAND AVE
MLK BLVD
PACIFIC HWY
BARBUR BLVD
NATIO PKWY
BROADWAY DR
MAIN ST
MADISON ST
CLAY ST
MARKET ST
HARRISON ST
LINCOLN ST
MCLOUGHLIN BLVD


Portland-Milwaukie Light Rail Project
Light Rail Alignments Evaluated 1993-2002 Milwaukie
Figure L-5
South/North Alternatives Analysis 1993-1998
South/North DEIS 1998
South Corridor SDEIS 2002
Railroad
County line
Portland – Milwaukie
LIGHT RAIL PROJECT
METRO
Terminus at Lake Road
To Clackamas Town Center
BIDWELL ST
LEXINGTON ST
MILLER ST
NEHALEM ST
SPOKANE ST
TACOMA ST
TENINO ST
UMATILLA ST
HARNEY ST
SHERRETT ST
CLATSOP ST
MARION ST
LINN ST
LAMBERT ST
CRYSTAL SPRINGS BLVD
JOHNSON CREEK BLVD
VAN WATER ST
MOORE ST
OCHOCO ST
STUBB ST
BETA ST
ROSWELL ST
BARBA ST
BOYD ST
FLOSS ST
WAKE ST
MALCOLM ST
FILBERT ST
OLSEN ST
ROCKWOOD ST
KELVIN ST
BALFOUR ST
HARVEY ST
MAILWELL ST
OMARK DR
HANNA HARVESTER DR
A ST
DWYER DR
HILLSIDE CT
B ST
C ST
D PL
D ST
MEEK ST
HWY 224
HARRISON ST
RAILROAD AVE
MONROE ST
MYRTLE ST
OAK ST
JEFFERSON ST
WASHINGTON ST
MAIN ST
MCLOUGHLIN BLVD
17TH AVE
21ST AVE
22ND AVE
23RD AVE
24TH AVE
25TH AVE
26TH AVE
27TH AVE
28TH AVE
28TH PL
29TH AVE
30TH AVE
31ST AVE
32ND AVE
33RD AVE
34TH AVE
35TH AVE
36TH AVE
37TH AVE
LAKE RD
31ST PL
33RD PL
BLUEBIRD ST
BOBWHITE ST
WREN ST
BIRK ST
SPARROW ST
GUILFORD
19TH AVE
20TH AVE
Willamette River
November 2007
0 500 1,000 Feet


Portland-Milwaukie Light Rail Project
Light Rail Alignments Evaluated: South/North DEIS and South Corridor SDEIS
Figure L-6
South/North DEIS 1998
South Corridor SDEIS 2002
Railroad
County line
Portland
Milwaukie
Lake Oswego
To Clackamas Town Center
MULTNOMAH CO.
CLACKAMAS CO.
MULTNOMAH CO.
CLACKAMAS CO.
CLAY ST
MADISON ST
HAWTHORNE BLVD
DIVISION ST
ROSS ISLAND BRG
POWELL BLVD
HOLGATE BLVD
STEELE ST
WOODSTOCK BLVD
BYBEE BLVD
TACOMA ST
SELLWOOD BRG
CAPITOL HWY
TAYLORS FERRY RD
BOONES FERRY RD
MACADAM AVE
BARBUR RAMP
I5 RAMP
MILWAUKIE AVE
RIVERSIDE DR
KING RD
MONROE ST
WASHINGTON ST
RAILROAD
HOME AVE
42ND AVE
32ND AVE
43RD AVE
17TH AVE
13TH AVE
11TH AVE
12TH AVE
20TH AVE
21ST AVE
28TH AVE
39TH AVE
TERWILLIGER BLVD
TIMBERLINE DR
BOCA RATAN DR
COUNTRY CLUB RD
IRON MOUNTAIN BLVD
A AVE
STATE ST
RIVER RD
COURTNEY AVE
OAK GROVE BLVD
PARK AVE
MCLOUGHLIN BLVD
OATFIELD RD
HILL RD
ALDERCREST RD
LAKE RD
Portland – Milwaukie
LIGHT RAIL PROJECT
METRO
0
0.5
1
Miles
November 2007

Downtown Portland

An alignment on the Portland Mall was selected as the light rail alignment in downtown Portland following the *1998 South/North DEIS*. In the *2002 SC SDEIS*, the Hawthorne Bridge was evaluated as a low cost alternative for the river crossing option. This option would have continued the existing alignment in downtown Portland on SW 1st Street south to cross on the Hawthorne Bridge.

The *Downtown Light Rail Systems Analysis* (Metro and TriMet, 2002), prepared in conjunction with the *2002 South Corridor SDEIS*, assessed the ability of downtown Portland to accommodate future light rail lines. The analysis found that the I-205 light rail project, together with the Hillsboro/City Center/Gresham Blue Line, Airport Red Line and Interstate Yellow Line service anticipated by 2020, would exceed the capacity of the existing Cross Mall alignment. In addition, the Hawthorne Bridge would not provide effective or reliable operations and its environmental impacts would be difficult to mitigate. The Hawthorne Bridge, an historic structure, would require extensive retrofitting and trains would operate in mixed traffic on the bridge. New traffic signals on both ends of the Hawthorne Bridge and frequent trains moving slowly across the bridge would impact already congested traffic. The frequent bridge lifts would degrade transit reliability.

Downtown Portland businesses were also opposed to this alignment as it would not serve the downtown office and retail core along the Portland Mall. In addition, the alignment did not serve PSU, a key destination in downtown Portland.

The community concerns and the technical analysis triggered the need for reexamining a Portland Mall alignment. The *2003 Downtown Amendment* reevaluated the Portland Mall light rail alignment and amended the LPA to revise the alignment prior to initiation of the *I-205/Portland Mall Light Rail Project FEIS*. The Caruthers Bridge was identified as the preliminary LPA and is the 2003 LPA currently under consideration in this SDEIS. Since the Caruthers Bridge had not been studied in the *2002 South Corridor SDEIS*, the environmental work would need to be updated.

Between the Portland Mall and the Caruthers Bridge, an alignment on SW Harrison Street had been selected as the LPA following the *1998 South/North DEIS*. Since that time, the Portland Streetcar has been constructed on that alignment. Issues related to compatibility of operating streetcar and light rail on the same alignment and the differences in construction techniques were investigated. Cost, construction, service disruption, and long-term operations issues, as well as the opportunity for better station locations in the South Auditorium District and at PSU, led to selection of a SW Lincoln Street alignment in the 2003 LPA.

Willamette River Crossing

The evaluation and selection of options for crossing the Willamette River influences and depends on the alignment in downtown Portland, as discussed above, and Southeast Portland, which is discussed below.

The Caruthers Bridge Willamette River crossing option was selected as the LPA following the *1998 South/North DEIS* and was also adopted as the LPA in the *2003 Downtown Amendment*. This alignment would cross the Willamette River from beneath the I-5 Marquam Bridge in RiverPlace on the west to just south of OMSI on the east.

River crossing alignment options evaluated in the *1993 South/North Alternatives Analysis* included:

- North of, and adjacent to, the Sellwood Bridge
- Mid-Ross Island
- South of, and adjacent to, the Ross Island Bridge
- Several alignment options from between the Ross Island and Marquam Bridges to OMSI

Two crossing alignment alternatives were selected for evaluation in the *1998 South/North DEIS*:

- North Ross Island, which would cross the northern part of Ross Island from South Waterfront to SE McLoughlin Boulevard.
- Caruthers Bridge, which would cross from RiverPlace to OMSI.

These options were selected over the other crossing evaluated because they met the purpose and need as follows:

- **Supported land use goals** because it had better development potential.
- **Optimized the transportation system** because it would provide better transit access and service to inner east side neighborhoods and had faster travel times.
- **Were fiscally responsive** because they had lower costs.

At the conclusion of the *1998 South/North DEIS* process, the Caruthers Bridge option was selected as the preferred Willamette River crossing in the adopted Locally Preferred Strategy because it met the purpose and need as follows:

- **Supported land use goals** because it had better transit access to East Portland neighborhoods and activity centers
- **Reflected community values** because it had greater public support
- **Was fiscally responsive** because it had lower capital cost
- **Optimized the transportation system** because it had higher light rail ridership
- **Was environmentally sensitive** because it had fewer residential displacements, fewer noise and vibration impacts, and less potential to impact vegetation, wildlife, wildlife habitat and fisheries.

Southeast Portland

The alignment options available in Southeast Portland influence and depend on the location of the Willamette River crossing alignment. Each of the two river crossing options selected in the *1993 South/North Alternatives Analysis* for analysis in the *1998 South/North DEIS*, North Ross Island and Caruthers, included alignment options in Southeast Portland.

The alignment option selected to be studied with the Ross Island option would use some sections of the former Portland Traction Company right of way and run along SE McLoughlin Boulevard from the river south to Milwaukie.

The North Ross Island alignment option would include an alignment in Southeast Portland along SE McLoughlin Boulevard from the river to Milwaukie.

Options east and west of the Brooklyn Yard, a freight rail operations yard, were evaluated with the Caruthers options. The alignment west of the Brooklyn Yard was selected for study in the *1998 South/North DEIS* because it was less expensive and had fewer property impacts.

Options that have been studied on the east side of the Willamette River and not advanced include:

- SE McLoughlin Boulevard, studied in the *1998 South/North DEIS*. This alignment was combined with the Ross Island river crossing option and would use the former Portland Traction Company right of way and SE McLoughlin Boulevard between the crossing and Sellwood.
- East Brooklyn Yards, studied in the *1998 South/North DEIS*. This alignment would have run to the east of and parallel to the Brooklyn Yard from SE Powell Boulevard to south of the rail yard.
- West Brooklyn Yards, studied in the *1998 South/North DEIS* and the *2002 South Corridor SDEIS.* This alignment would have run to the east of and parallel to the Brooklyn Rail Yards. This option was selected as the 1998 LPA.

The SE 17th Avenue alignment between SE Powell Boulevard and SE McLoughlin Boulevard was selected as the LPA following the *2002 South Corridor SDEIS* because it:

- **Supported land use goals** Would be closer to the Brooklyn Neighborhood and provide better station environments and pedestrian access and serve more the more transit supportive land uses located along SE 17th Avenue
- **Reflected community values** because it was strongly supported by the Brooklyn neighborhood and would avoid displacements to large employers
- **Was fiscally responsive** because it would avoid railroad property which would otherwise be an impediment to timely and cost-effective implementation

From south of the Brooklyn Yards at SE McLoughlin to SE Tacoma Street, the alignment along SE McLoughlin Boulevard was the only alignment option that remained after the Sellwood Bridge option was eliminated prior to the *1998 South/North DEIS.* This alignment was studied in the *1998 South/North DEIS* and the *2002 SC SDEIS* and selected as the LPA for both.

Milwaukie Alignments

The Tillamook Branch Line alignment in the North Milwaukie Industrial Area was studied in 1998 *South/North DEIS* and the *2002 South Corridor SDEIS*. The 2003 LPA alignment was studied in the *2002 South Corridor SDEIS.* The *1998 South/North DEIS* evaluated the alignment with termini in Milwaukie and at the Clackamas Town Center. The *2002 South Corridor SDEIS* evaluated a terminus at Clackamas Town Center via I-205 as well as the terminus at SE Lake Road in the Portland-Milwaukie corridor.

The Milwaukie alignment options evaluated in the *2002 South Corridor SDEIS* were developed with input from Milwaukie's seven neighborhood associations. The neighborhood associations developed a set of criteria with 14 points for addressing transportation and growth in the South Corridor study area, which resulted in the addition of the Tillamook Branch Line alignment.

Following the *2002 South Corridor SDEIS*, the alignment parallel to SE McLoughlin on SE main Street in the North Milwaukie Industrial Area and along the Tillamook Branch Line alignment in downtown Milwaukie was selected as the LPA. This alignment was selected as the LPA because it:

- **Supported land use goals** because it would provide better access to jobs and residents, providing access to 1,500 more jobs and 50 more residents within a quarter-mile of a light rail station than the Tillamook Branch Line design option.
- **Optimized the transportation system** because it would result in more transit ridership due to an additional station and park and ride and a more convenient transit center location that could better accommodate increases in transit service than the other options. It would provide 600 additional park and-ride spaces compared to the Tillamook Branch Line design option.
- **Reflected community values** because it would locate a transit center at the Southgate site (Milwaukie Station). Southgate was preferred over the Milwaukie Middle School Transit Center site, which would have been a component of the Tillamook Branch Line option.