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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  U.S. Department of Agriculture
Federal Highway Administration  U.S. Department of Commerce
Federal Railroad Administration  U.S. Department of the Interior
U.S. Coast Guard  U.S. Department of Energy: Bonneville Power Administration
U.S. Army Corps of Engineers  U.S. Environmental Protection Agency
U.S. Bureau of Indian Affairs

(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:**

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 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:

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 (*Odocoileus virginianus leucurus*)
  (Columbia River distinct population segment)

### Birds

- Northern spotted owl (*Strix occidentalis caurina*)

### Fish

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

## Proposed Species

- No Proposed Endangered Species
- No Proposed Threatened Species

## 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  
Tricolored blackbird  
Western burrowing owl  
Olive-sided flycatcher  
Harlequin duck  
Yellow-breasted chat  
Lewis’ woodpecker  
Mountain quail  
Band-tailed pigeon  
Oregon vesper sparrow  
Purple martin  

Northern Pacific pond turtle  
Coastal tailed frog  
Oregon slender salamander  
Larch Mountain salamander  
Northern red-legged frog  
Cascades frog  

Green sturgeon  
Pacific lamprey  
Coastal cutthroat trout  

Columbia pebblesnail  

Mt. Hood primitive brachycentrid caddisfly  
Mt. Hood farulan caddisfly  
Columbia Gorge neothremman caddisfly  
Wahkeena Falls flightless stonefly  

California floater mussel  

Howell’s bentgrass  
Cliff paintbrush  
Cold-water corydalis  
Pale larkspur  
Peacock larkspur  
Howell’s daisy  
Oregon fleabane  
Barrett’s penstemon  
Snake River goldenweed  
Whitetop aster  
Oregon sullivantia  

Definitions:
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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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

<table>
<thead>
<tr>
<th>Lewis' woodpecker</th>
<th>Melanerpes lewis</th>
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<tbody>
<tr>
<td>Mountain quail</td>
<td>Oreortyx pictus</td>
</tr>
<tr>
<td>Band-tailed pigeon</td>
<td>Patagioenas fasciata</td>
</tr>
<tr>
<td>Oregon vesper sparrow</td>
<td>Poecetes gramineus affinis</td>
</tr>
<tr>
<td>Purple martin</td>
<td>Progne subis</td>
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</tbody>
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### Reptiles and Amphibians

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<thead>
<tr>
<th>Northern Pacific pond turtle</th>
<th>Actinemys marmorata marmorata</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal tailed frog</td>
<td>Ascaphus truei</td>
</tr>
<tr>
<td>Oregon slender salamander</td>
<td>Batrachoseps wrighti</td>
</tr>
<tr>
<td>Larch Mountain salamander</td>
<td>Plethodon larselli</td>
</tr>
<tr>
<td>Northern red-legged frog</td>
<td>Rana aurora aurora</td>
</tr>
<tr>
<td>Cascades frog</td>
<td>Rana cascadae</td>
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</tbody>
</table>

### Fish

<table>
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<tr>
<th>Pacific lamprey</th>
<th>Lampetra tridentata</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal cutthroat trout</td>
<td>Oncorhynchus clarki ssp</td>
</tr>
</tbody>
</table>

### Invertebrates

#### Insects:

| Beller's ground beetle       | Agonum belleri                |
| Scott's apatanian caddisfly  | Allomyia scotti               |
| Cascades apatanian caddisfly | Apatania tava                      |
| Mt. Hood primitive brachycenrid caddisfly | Eobrachycenrus 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 oregonum           |
| Peacock larkspur             | Delphinium pavonaceum         |
| Howell's daisy               | Erigeron howellii             |
| Thin leaved peavine          | Lathyrus holochlorus          |
| Snake River goldenweed      | Pyrocoma radiata              |
| Whitetop aster               | Sericocarpus rigidus          |
| Henderson's checker-mallow   | Sidalcea hendersonii          |
| Pale blue-eyed grass         | Sisyrinchium sarmentosum      |
| Oregon sullivantia           | Sullivantia oregana           |

### Definitions:

**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.

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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.
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,

[Signature]

Cliff Alton
Conservation Information Assistant

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

[Signature]
Stephen P. Poyser, PhD
Sec. 106 Review & Compliance/Preservation Planner
(503) 986-0686 or stephen.poyser@state.or.us
The area surveyed is bounded on the west by SW 8th 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; and (3) 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
- 2406 SE Harrison, Residence, No Adverse Effect
- 2326 SE Monroe St, Spanish Revival Residence, No Adverse Effect
- 2001 SE Holgate, Brooklyn Yard, No Adverse Effect
- 71120 SE McLoughlin Blvd., Kellogg Lake Outlet, No Effect
- 12006 SE McLoughlin Blvd., Rinkemeyer-Sweetland Home, No Effect
- 2505 SE 11th Ave, Ford Motor Assembly Plant, No Effect
- 4704 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.
- 2200 SE Washington, R. Derway House, Adverse Effect with possible design refinements or mitigation options to reduce effect.
- 2426 SE 8th Ave, Royal Foods, Adverse Effect, with possible design refinements or mitigation options to reduce effect.
- 711200 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 8th Ave., Portland State School Building, No Adverse Effect (NP, however, due to acquisition of property, included for review)
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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:

\[
\text{While the minority or low-income population in an area may be small, this does not eliminate the possibility of a disproportionately high and adverse effect of a proposed action. Environmental Justice determinations are made based on effects, not population size. It is important to consider the comparative impact of an action among different population groups.}
\]

\[
The threshold of disproportionately high and adverse impacts requires impacts to be greater in magnitude or appreciably more severe for a low-income or minority community than those suffered by non-low-income or non-minority populations/communities.
\]

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

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

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 17\(^{th}\) 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.

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\(^{1}\) 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

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Population within ¼-Mile Radius of Stations</th>
<th>Probable Percent Minority</th>
<th>Probable Percent Hispanic</th>
<th>Probable Percent Low-Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milwaukie Light Rail</td>
<td>13,959</td>
<td>10.6%</td>
<td>5.8%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Metro UGB</td>
<td>1,190,993</td>
<td>18.7%</td>
<td>8.3%</td>
<td>9.4%</td>
</tr>
</tbody>
</table>


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

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\(^2\) 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

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


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

• North Corridor Public Comment Report


• Results Reports
• Methods Reports
• Definition of Alternatives
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Portland-Milwaukie Light Rail Project

Visual Simulation Locations

Figure D.1-1

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<th>Figure</th>
<th>Location</th>
</tr>
</thead>
<tbody>
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<td>D.2-1</td>
<td>Lincoln Street</td>
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<tr>
<td>D.3-1</td>
<td>Harbor Drive</td>
</tr>
<tr>
<td>D.4-1</td>
<td>Willamette River/OMSI</td>
</tr>
<tr>
<td>D.5-1</td>
<td>Willamette River/Ross Island Bridge</td>
</tr>
<tr>
<td>D.6-1</td>
<td>Rhine Street</td>
</tr>
<tr>
<td>D.7-1</td>
<td>ODOT Building</td>
</tr>
<tr>
<td>D.8-1</td>
<td>Roswell Street</td>
</tr>
<tr>
<td>D.9-1</td>
<td>Harrison Street</td>
</tr>
<tr>
<td>D.10-1</td>
<td>Monroe Street</td>
</tr>
<tr>
<td>D.11-1</td>
<td>Washington Street</td>
</tr>
<tr>
<td>D.12-1</td>
<td>McLoughlin/Lake Road</td>
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<tr>
<td>D.13-1</td>
<td>21st/Lake Road</td>
</tr>
<tr>
<td>D.14-1</td>
<td>Kronberg Park</td>
</tr>
<tr>
<td>D.15-1</td>
<td>McLoughlin/Bluebird St.</td>
</tr>
<tr>
<td>D.16-1</td>
<td>McLoughlin/Park Avenue</td>
</tr>
</tbody>
</table>
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
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.3-1a
Harbor Drive: 2003 Locally Preferred Alternative
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.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
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.4-1a
Willamette River/OMSI: 2003 Locally Preferred Alternative
View to the southwest
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
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
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
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
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
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
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
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
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
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
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
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
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

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
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
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
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
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
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
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
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

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
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
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
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
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
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
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APPENDIX E. LIST OF PREPARERS

A. Public Agencies

Federal Transit Administration (FTA), Region 10 (Federal lead agency) Seattle, Washington.
   R.F. Krochalis, Regional Administrator
   Linda Gehrke, Deputy Regional Administrator
   Theodore Uyeno, Legal Counsel
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