#### RECORD OF DECISION

### SOUTH CORRIDOR I-205/PORTLAND MALL LIGHT RAIL PROJECT

In Multnomah and Clackamas Counties, Oregon
By the Tri-County Metropolitan Transportation District of Oregon (TriMet)

#### **DECISION**

The Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA), pursuant to 23 Code of Federal Regulations (CFR) Section 771.127 and by this environmental Record of Decision (ROD), finds that the requirements of the National Environmental Policy Act (NEPA) have been satisfied, as noted herein, for the construction and operations of the South Corridor I-205/Portland Mall Project. The preferred alternative consists of a light rail transit (LRT) line extending north from Clackamas Town Center approximately 6.5 miles to the Gateway Transit Center and a 1.8-mile extension in downtown Portland from the Steel Bridge to Union Station and then south to Portland State University (Appendix A). This Project was evaluated in the *South Corridor I-205/Portland Mall Project Final Environmental Impact Statement*, published by FTA and FHWA in the Federal Register on December 17, 2004.

The Locally Preferred Alternative (LPA) would connect the Clackamas Town Center Transit Center to the Gateway Transit Center where this line would connect to the existing Banfield Light Rail Alignment and the Airport MAX Light Rail Alignment. The new Project would add eight new light rail stations along the I-205 Alignment and would include five new park-and-ride locations adding approximately 2,066 spaces to TriMet's system. Approximately 3.3 miles of the alignment is located in I-205 Freeway right-of-way that was reserved for future transit service during the initial construction. The remainder of the alignment is on or directly adjacent to the I-205 Freeway right-of-way.

The Portland Mall alignment would connect into the existing light rail system at the Steel Bridge and add seven pairs of light rail stations on 5<sup>th</sup> and 6<sup>th</sup> avenues. Trains from the I-205 light rail alignment and from the Interstate MAX alignment would operate on Portland Mall alignment. Light rail would operate on 5<sup>th</sup> and 6<sup>th</sup> avenues with buses, but in separate lane from autos.

The Project would include the purchase of 25 light rail vehicles and 25,700 square foot expansion of the Ruby Junction Operation and Maintenance Facility.

#### **BASIS OF DECISION**

The FTA, FHWA, Metro and TriMet published the *Supplemental Draft Environmental Impact Statement* (SDEIS) in December 2002. This supplemental DEIS modified the *South/North Draft Environmental Impact Statement* (DEIS) that was published in February 1998. Based on the technical analysis included in the SDEIS, after

consideration of public and agency comments, after consideration of the Project purpose and need, goals and objectives, and recommendations from Project committees and local jurisdictions, the I-205/Portland Mall was selected as the first Phase of the South Corridor Project. The second Phase of the South Corridor Project is Milwaukie Light Rail Project, which will be the subject of separate environmental process.

Following the completion of the SDEIS, an amendment was prepared to update the previous environmental analysis included in the DEIS by documenting the impacts of the slightly longer Portland Mall Alignment. The technical analysis found in the *Downtown Portland Amendment to the Supplemental Draft Environmental Impact Statement* (ASDEIS) published by FTA and FHWA on October 3, 2003, along with public and agency comments, consideration of the Project's purpose and need, goal and objectives resulted in the confirmation of the I-205/Portland Mall Project as the LPA.

The FTA and FHWA, in consultation with TriMet and Metro have determined that the LPA, as described in the *South Corridor I-205/Portland Mall Final Environmental Impact Statement* (FEIS) meets the purpose and need, and goal and objectives as established for the Project.

### **ALTERNATIVES CONSIDERED**

A description of the alternatives considered for the South Corridor is described in Section 2.1.7 of the FEIS. Six alternatives were considered in the SDEIS and included a No-Build, Bus Rapid Transit, Busway, Milwaukie LRT, I-205 LRT and Combined LRT alternatives. Based on the analysis in the SDEIS, the I-205 LRT was selected as the Phase One LPA with a preliminary preferred alternative for the Portland Mall Alignment.

The ASDEIS considered three alternatives and included a No-Build Alternative, I-205/Portland Mall LRT with PSU Terminus and the I-205/Portland Mall LRT with a Main St Terminus. The I-205/Portland Mall LRT with PSU Terminus was selected as the LPA.

#### Other LRT Alignments Considered

A 3.3 mile portion of the I-205 Light Rail alignment would be located within right-of-way that was set aside for a future transit way when the freeway constructed. The remainder of the 6.5-mile alignment is located primarily on I-205 right-of-way. Few alignment alternatives were considered for the I-205 Segment, but a number of station location and park-and-ride sizing alternatives were evaluated and considered.

The SDEIS examined the use of the existing cross-mall light rail alignment located on First Avenue and SW Morrison and SW Yamhill streets. During the development of conceptual and preliminary design in the ASDEIS phase, approximately nine different station configurations were considered on 5<sup>th</sup> and 6<sup>th</sup> avenues in downtown Portland. These station configurations shifted the light rail alignment to different locations along

5<sup>th</sup> and 6<sup>th</sup> avenues. Different alignments were also considered in the Union Station and PSU Terminus areas to avoid impacts and to allow for operational considerations.

## **Public Opportunity to Comment**

Prior to the publication of the SDEIS, three open houses were held on December 9, 10, 11, 2002 to provide information related to the SDEIS. The open houses were advertised along with the notice of availability of the SDEIS and offered the public an opportunity to review technical findings, discuss questions with staff, and provide written comments on the SDEIS. The notice of the SDEIS availability and open houses were advertised in *The Oregonian, The Asian Reporter*, and *El Hispanic News* and mailed to all property owners within 200 feet of the alignments.

Notice of the availability of the SDEIS was published in the Federal Register on December 20, 2002 followed by a 50-day public comment period that concluded on February 7, 2003. The South Corridor Steering Committee held two public hearings on the SDEIS on January 29, 2003 and February 4, 2003. A total of 313 public comments were received during the SDEIS public comment period. Comments were accepted by mail, fax, e-mail, voice-mail and through testimony at public hearings.

Local jurisdictions, including the Milwaukie City Council, Portland City Council, Oregon City Commission, Multnomah County Board of Commissioners, Clackamas County Board of Commissioners, TriMet Board and Metro Council held hearings on the proposed LPA.

Three public open houses were held during October 2003 that offered the public an opportunity to review technical findings, discuss questions with staff, and provide written comments on the ASDEIS. During the development of the ASDEIS, the Downtown Citizen Advisory Committee meetings were held on a monthly basis and were open to the public. Numerous community meetings were held with neighborhood, business and civic groups to discuss findings, answer questions and provide an opportunity for input into designs and the analysis.

Notice of the availability of the ASDEIS was published in the Federal Register on October 3, 2003 followed by a 45-day public comment period that concluded on November 17, 2003. The South Corridor Policy Group held one public hearing on the ASDEIS on October 21, 2003. A total of 143 comments were made by fax, e-mail, voice-mail, mail, or through public testimony at the hearing. A notice of the availability of the ASDEIS and the public hearing and open houses was advertised in The Oregonian and mailed to all property owners within 200-feet of the Portland Mall alignment.

In addition to the public hearing, the Portland Planning Commission, Portland City Council, TriMet Board and Metro Council, heard public comment on the LPA.

#### Measures to Minimize Harm

TriMet will design for and incorporate into the South Corridor I-205/Portland Mall Project all mitigation measures included in the FEIS, and additional measures identified during Final Design. A matrix of mitigation measures to minimize harm is attached as Appendix B to this document. FTA will require in any future funding agreement for the Project and as a condition of any future grant or Letter of No Prejudice for the Project, that all committed mitigation be implemented in accordance with the FEIS. The FTA and FHWA will require that TriMet periodically submit written reports on its progress in implementing the mitigation commitments. The FTA and FHWA will monitor this progress through quarterly review of final engineering and design, land acquisition, and construction of the Project.

### Comments to the FEIS and Responses

During the SDEIS public comment period approximately 313 comments were made and during the ASDEIS public comment period approximately 143 comments were made. All of these comments were responded to in the FEIS. The FEIS comment period started on December 17, 2004 and extended to January 29, 2005. During the FEIS comment period, 15 comments were received. Five people requested and were provided a bound copy of the FEIS while the remaining requested and were provided the compact disk version of the FEIS. No other substantive comments were received by FTA, FHWA, TriMet or Metro.

## **DETERMINATION AND FINDINGS**

#### **Environmental Findings**

The environmental record for the South Corridor I-205/Portland Mall Project includes the DEIS published in February 1998, the SDEIS published in December 2003, the ASDEIS published in October 2003 and the FEIS published in December 2004.

These documents represent detailed statements required by NEPA and by 49 USC Section 534 (b) on:

- The environmental impacts of the proposed project;
- Alternatives to the proposed project;
- The document provides the necessary mitigation measures to minimize any harm that might occur due to the environmental impacts disclosed in the record;
- The adverse environmental effects which cannot be avoided should the proposed project be implemented; and

• Irreversible and irretrievable impacts on the environment which may be involved in the project should it be implemented.

After careful consideration of the environmental record noted above and the written and oral comments offered by other agencies and the public on this record, the FTA and the FWHA have determined that adequate opportunity was afforded for the presentation of views by all parties with a significant economic, social or environmental interest, and fair consideration has been given to the preservation and enhancement of the environment and to the interest of the community in which the Project is located; and all reasonable steps have been taken to minimize adverse environmental effects of the proposed Project and, where adverse environmental effects remain, there exists no feasible and prudent alternative to avoid or further mitigate such effects.

The DEIS, SDEIS, ASDEIS and FEIS provide the documentation of analysis and agency coordination sufficient upon which to base issuance of appropriate permits and/or approvals from other federal agencies, summarized below.

### **Endangered Species Act (ESA) Consultation with Resource Agencies**

The Endangered Species Act (ESA) of 1973, as amended, provides a means to conserve the ecosystem that threatened and endangered species depend on, and to provide a program to conserve such species. The ESA requires federal agencies to ensure that any action authorized, funded or carried out is not likely to jeopardize the continued existence of any listed species or result in direct mortality or destruction or adverse modification of critical habitat of listed species. This requirement is fulfilled by consultation and review of the proposed actions and mitigation with the appropriate agency responsible for the conservation of the affected species.

The ESA consultation requirements were implemented by the FTA through Formal Consultation with the NOAA Fisheries Service. The *South Corridor Biological Assessment for Threatened and Endangered Fish Species* (FTA and Metro: May 2004) was prepared in compliance with Section 7 of the ESA in coordination with the preparation of the FEIS. National Oceanic Atmospheric Administration (NOAA) Fisheries issued a Biological Opinion on July 21, 2004, that determined the proposed action is not likely to jeopardize the continue existence of ESA-listed Lower Columbia River (LCR) Chinook salmon and LCR steelhead. The Biological Opinion also concludes that the proposed action is not likely to jeopardize the continued existence off the LCR coho salmon that has been proposed for listing as threatened under the ESA. The Biological Opinion also contains a series of reasonable and prudent measure with terms and conditions that are necessary to minimize the potential for incidental take of fish associated with this proposed action.

The Biological Opinion also serves as consultation on essential fish habitat pursuant to the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR Part 600. The Biological Assessment and Biological Opinion are

included in Appendix B of the FEIS and the terms and conditions have been incorporated into the mitigation matrix in Appendix B to this document.

## Section 106 Compliance

Section 106 of the National Historic Preservation Act of 1966, as amended, requires that federal agencies identify and assess the effects of federally assisted undertakings on historic resources, archaeological sites, and traditional cultural properties, and to consult with interested parties to find acceptable ways to avoid or mitigate adverse effects.

The requirements of Section 106 were met through coordination with the Oregon State Historic Preservation Officer (SHPO), as documented in FEIS Section 5, Historic and Parkland Resources, that describes existing historic resources and potential effects resulting from the Project, and a Memorandum of Agreement (MOA) between FTA, TriMet and the SHPO, signed November 23, 2004. The MOA is included in Appendix B of the FEIS.

A total of 62 historic resources and 2 potential archaeological sites were investigated and in consultation with the SHPO, it was determined that proposed actions would result in "No Adverse Effect" on the resources. The MOA provides a set of measures that need to be undertaken by the FTA and TriMet to minimize the potential for harm.

## Section 4(f) Findings

Section 4(f) of the U.S. Department of Transportation Act of 1966 requires that any transportation project financed with federal funds, which requires use of land from a significant publicly owned park, recreation area, wildlife and waterfowl refuge, or historic site be approved only if:

- 1. There is no feasible and prudent alternative to the use of the land; and
- 2. The Project includes all possible planning to minimize harm to the site. A 4(f) evaluation must be prepared that describes the affected resources, discusses the direct impacts and the proximity impacts that would substantially impair the use of the resources, and identifies and evaluates alternatives that avoid such impacts and measures to minimize or mitigate for unavoidable adverse effects.

The FEIS Section 5, Historic and Parkland Resources, includes documentation that the proposed action would use portions of five Section 4(f) properties, but that there are no feasible and prudent alternatives to the uses of these Section 4(f) properties and that all possible planning to minimize harm has been employed. This finding has been coordinated with FTA, FHWA and the Department of Interior. A letter from the Department of Interior documenting this finding is included in Appendix B of the FEIS.

### **Environmental Justice**

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" and the U.S. Department of Transportation, Order to Address Environmental Justice in Minority Populations and Low-Income Populations were issued so that each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. Specifically the U.S. Department of Transportation provides the following guidance:

"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."

The South Corridor I-205/PortlandMall Project was selected, in a large part, because the direct light rail service to the communities in the South Corridor would result in increased transit access and ridership and would be supportive of neighborhood, local and regional land use and transportation plans. During conceptual and preliminary engineering, Project designs have been modified to minimize impacts on all neighborhoods.

The extensive public involvement process for the South Corridor I-205/Portland Mall Project is documented in FEIS Appendix A, Community Participation and Appendix C, Environmental Justice. Numerous outreach methods and opportunities to learn about the project and to provide comments were provided. Through this process, low-income and minority populations had access to information concerning potential Project impacts and input to the decision making process.

The Project would result in 34 residential displacements in neighborhoods that have higher percentage than regional average percentage minority and lower income residents. Lower income neighborhoods with higher percentage minority populations would also have 27 moderate noise impacts that would not be fully mitigated after the application of noise mitigation.

The implementation of light rail in the South Corridor would provide quicker and more reliable transit service compared to the No-Build Alternative. These quicker travel times and increased reliability would provide greater access and increase mobility for residents of these lower income and higher minority neighborhoods in the South Corridor.

The South Corridor I-205/Portland Mall Project is not expected to result in any disproportionately high and adverse human health effects on low-income or minority populations. The Project could have small localized impacts on individuals within adjacent neighborhoods with concentrations of low-income or minority residents, but the negative impacts would be offset by the significant benefit of connecting these neighborhoods with the regional light rail system that would improve transit access and provide infrastructure that could spur redevelopment and improve the economic climate.

### **Air Quality Conformity**

The Clean Air Act Amendments of 1990 require that the FTA and FHWA not provide financial assistance for a project unless that project has been found to conform with the purposes of the State Implementation Plan of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expedition attainment of such standards. The Interim Guidance on Conformity issued by the U.S. Department of Transportation and the U.S. Environmental Protection Agency in June 1991 states that a project conforms: (1) if it comes from a conforming transportation plan and Transportation Improvement Plan, and (2) if it, in a carbon monoxide (CO) nonattainment area, eliminates or reduces the severity and number of violations of the CO standards in the area substantially affected by the project.

FEIS Section 3.4 Air Quality describes the South Corridor Project conformity and hot spot analysis. The South Corridor I-205/Portland Mall Project is contained Metro's Regional Transportation Plan (RTP) and the Metropolitan Transportation Improvement Plan (MTIP). An air quality conformity determination was made by the U.S. Department of Transportation on the RPT and MTIP on March 5, 2004. A copy of the conformity determination signed by FTA and FHWA is included in FEIS Appendix B, Agency Coordination.

The Hot Spot analyses documented in FEIS Section 3.4 Air Quality, showed that CO concentrations are not expected to exceed standards and are well below the state and federal standards for 1-hour and 9-hour standards. The analysis examined the most congested intersections in the South Corridor.

#### **Floodplains**

The Federal Emergency Management Agency (FEMA) manages a program called the National Flood Insurance Program (NFIP), which includes the federal laws regulating floodplain and flood impacts. In most areas, included the Portland area, NFIP is managed by the City of Portland and Clackamas County with State oversight. Federal standards prohibit actions that would result in an increase of 1-foot or more in floodplain elevations. The boundaries that define the 100-year floodplain are provided on the Flood Insurance Rate Maps (FIRM). Metro and local jurisdictions have however, adopted more stringent regulations that require that any fill within the 100-year floodplain be balanced with an equal removal of materials.

The impact on the 100-year floodplain from the Project is documented in FEIS Section 3.7 Water Quality. The South Corridor I-205/Portland Mall Project would result in approximately 411 cubic yards of fill being placed in the 100-year floodplain north of Johnson Creek. Creating a water quality swale sized to remove more than 411 cubic yards would mitigate this fill.

#### Storm water

The Clean Water Act (CWA) regulates water quality. The treatment of storm water has been a key concern of NOAA Fisheries and the Oregon Department of Environmental Quality.

The South Corridor Biological Assessment (Metro: May 2004) and FEIS Section 3.7 Water Quality, describe the Project's approach to treating storm water quality and quantity. The Project would result in approximately 16.3 acres of new impervious surface and is proposing to treat storm water from 21.2 acres. The majority of the new impervious area will be at park-and-ride facilities associated with the I-205 alignment of the Project. Waters from the park-and-ride facilities will be treated in water quality swales and infiltrated into the ground.

#### Wetlands

The protection of wetlands is administered by the US Army Corps of Engineers through the application of the Clean Water Act Section 404 permitting. The Environmental Protection Agency has joint authority with the Corps of Engineers in wetland permitting. These regulations require that wetlands be identified, mapped and protected and that the least environmentally damaging alternative be considered. The 404 permit requires consideration of the avoidance of impacts to wetlands, the minimization of impacts and then mitigation for these impacts.

The South Corridor *Wetland Delineation and Determination Report* (Metro and URS: November 2004) identifies locations where wetlands were identified. The U.S. Army Corps of Engineers (Corps), acting as a cooperating federal agency on the FEIS, reviewed the *Wetland Delineation and Determination Report* and provided a letter found

in Appendix B Agency Coordination. Two wetlands were found along the alignment and the Corps agreed to take jurisdiction over one of these wetlands. Impacts to this wetland would be avoided by the Project. The Corps also noted that two concrete lined ditches were considered to be "waters of the U.S." and mitigation for this impact (0.01 acre) is described in FEIS Section 3.6 Ecosystems. During final engineering, TriMet will apply for and secure a Section 404 Permit from the Corps.

#### Coordination with FHWA and ODOT

During the development of Preliminary Engineering, issues related to LRT sharing of the I-205 right-of-way were raised by the FHWA. These issues will require a higher level of design not yet available. TriMet will further address the issues listed below during final design.

Two specific concerns were raised by FHWA and include the need for space for ODOT to install future water quality treatment facilities for the highway and coordination of the final design to determine the locations where light rail may be constructed on embankments or require retaining structures in order to preserve the ability for ODOT to construct future improvements without impacting light rail operations.

## **Summary of Mitigation Commitments.**

See Appendix B

Richard Krochalis

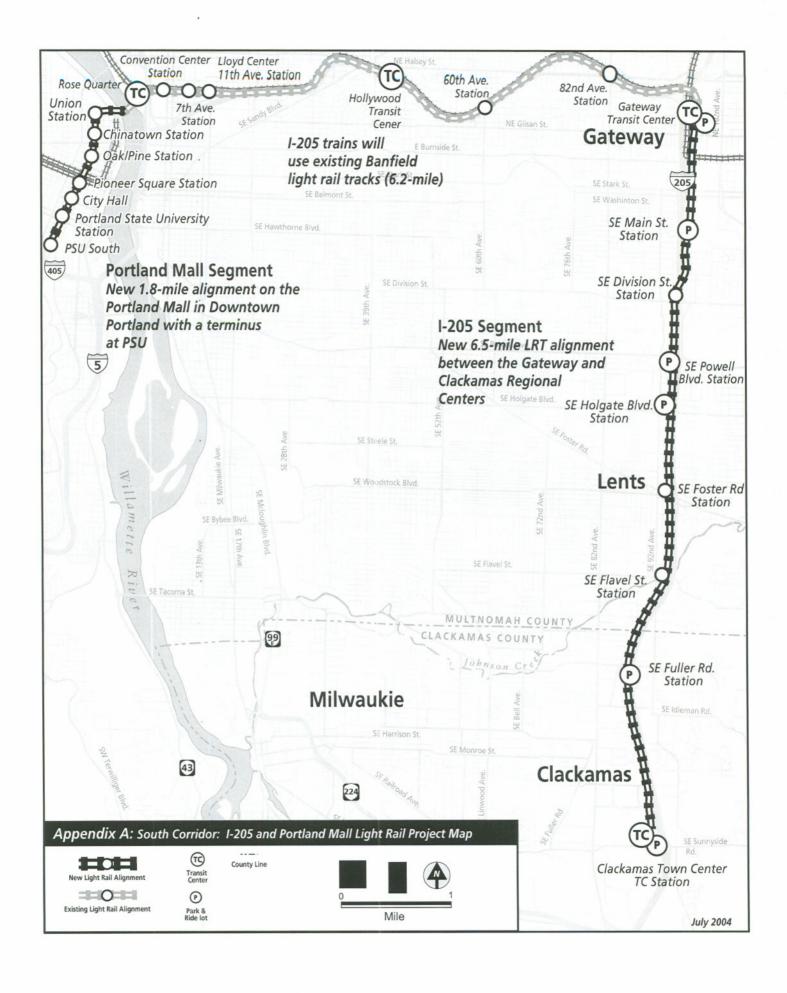
Regional Administrator

Federal Transit Administration Region 10

David Cox

Oregon Division Administrator Federal Highway Administration Date February 11, 2005

Date Feb 22, 2005



### SOUTH CORRIDOR ROD MITIGATION MEASURES SUMMARY LIST

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
3.1 Land Use and Economic Activity	Employ measures to mitigate impacts to businesses during Project construction. A list of typical mitigation measures is listed in Section 3.13 Mitigation.	Page 3-20	N/A
3.2 Displacements, social and Neighborhood Impacts	Where displacement of residences or businesses is unavoidable, provide relocation assistance in compliance with the <i>Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs</i> (Title 49 Code of Federal Regulations, part 24).	Page 3-33	N/A
3.3 Visual and Aesthetic Qualities	Work with the City Forester and urban design professionals to ensure that the design of the stations, sidewalk treatment and landscaping works to preserve the high quality pedestrian environment in downtown Portland.	Page 3-42	Incorporated into contract documents.
3.4 Air Quality Impacts	<ol> <li>Assure compliance of LRT maintenance facility improvements with stationary source permitting programs.</li> </ol>	Page 3-49	N/A
	Continue ongoing TriMet programs to retrofit buses with Continuously Regenerating Trap (CRT) technology and to secure ultra-low sulfur diesel fuel.	Page 3-49	N/A
3.5 Noise and Vibration Impacts I-205 Segment:	Construct two sound walls:     a. Wall 1: Woodstock to Springwater Corridor     b. Wall 2: Just north of SE Crystal Springs     Blvd. To just north of SE Johnson Creek     Blvd.	Page 3-62	Construction of soundwalls at these locations are specified in PR 4.11.C.5 and shown in the PE drawings.
	<ol> <li>Coordinate with FHWA and ODOT during final design on any required relocation of existing sound walls between SE Otty Rd. and SE Monterey Ave.</li> </ol>	Page 3-62	Language added to PR 4.11.C.5.
	3. Coordinate with FHWA and ODOT during final design on a noise wall relocation study for the break in the existing sound wall necessary for the Main Street park-and-ride access road.	Page 3-56	Incorporated into contract documents.
	4. During Final Design, TriMet will meet with	Page 3-62	Language added to PR 4.11.C.5.

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
•	representatives of the commercial businesses located south of SE Monterey Avenue related to potential concerns regarding the removal of an existing berm. Based on these conversations, TriMet in coordination with ODOT will consider the application of noise mitigation in this area. The mitigation could potentially include design modifications that leave portions of the berm and/or		
	that adds a sound wall.  5. Move frog a minimum of 103 from residential	Page 3-65	Incorporated into contract documents.
	6. Install floating slab or shredded tire track isolation adjacent to apartment complex at 11408 SE 90 <sup>th</sup> Ave. (sta 1345+00 to 1347+00 and sta 1352+00 to	Page 3-65	Noise mitigation requirements for the apartment building are included in 4.12.E.
	<ul> <li>1354+00).</li> <li>7. Relocate MRI facility located at 11750 SE 82<sup>nd</sup> Ave. or install vibration isolation to MRI or building foundation (Crossover located at sta 1358+00 to 1360+00.).</li> </ul>	Page 3-65	Noise mitigation requirements for the MRI building is included in 4.12.E
Portland Mall Segment:	8. No noise mitigation required, except for TBD impacts of bus re-routings. (FEIS notes impacts but no practical mitigation.)	Page 3-63	
	9. Vibration mitigation for Portland Mall impacts	Page 3-65	

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
	would be finalized during the final design phase and could include one of the following three strategies:  a. Use of high-resilience fasteners under the rail and within six feet of the rail crossing.		
	The fastener spring-rate will be designed to address the vibration frequency that would cause the impact.  b. During construction, modify and repair the existing flange bearing rail crossings at SW Morrison and Yamhill streets and SW 10th and 11th avenues to determine if vibration can be mitigated by performing more frequent maintenance and weld repair to the flange-bearing crossings. Implement at proposed track crossings if test results warrant.  c. Install a floating slab to isolate vibration at rail crossings. The floating slab could consist of a concrete slab (approximately 15 feet by 15 feet) then rubber support pads and then a top concrete panel with the rail crossing.  The determination of the best option for reducing		
	potential vibration impacts will be made based on further soil investigations, location of the track crossings, and consultation with experts in rail vibration mitigation during the final design phase.  Impact locations are as follows:  a. Office, 621-633 SW Morrison Street b. Office, 811-819 SW 6th Avenue c. Office, 520 SW Yamhill Street		
	<ul> <li>d. School, St. Mary's, 1615 SW 5<sup>th</sup> Avenue</li> <li>e. Motel, 415 SW Montgomery Street</li> <li>f. Office, PSU, 1800 SW 6<sup>th</sup> Avenue</li> <li>10. Relocate optical microscopes located at 1912 SW 6<sup>th</sup></li> </ul>	Page 3-65	

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
	Ave or install vibration isolation tables.		1
3.6 Ecosystems	<ol> <li>No impact to jurisdictional wetlands. Therefore, no wetland mitigation required.</li> </ol>	Page 3-76	Incorporated. PR4.9 L.
141	<ol> <li>Consider planting native plants, before considering non-native plantings.</li> </ol>	Page 3-77	Incorporated. PR4.18 G.1. PR4.18 H.10, and .11
	3. Non-native plants will be removed along the Johnson Creek riparian area and replaced by native plants between I-205 and SE 92nd Avenue.	Page 3-77	Incorporated. PR 4.18 G. 4.
	4. Removal of native vegetation should be avoided. However, if unavoidable, cut trees and large shrubs should be left onsite.	Page 3-78	Incorporated. PR 4.18 G. 4.
	5. The BO issued by NOAA Fisheries identifies  "Reasonable and Prudent Measures" and a series of  "Terms and Conditions" for the construction and  operations of the Project. The I-205/Portland Mall  Project will comply with these measures, terms and  conditions.	Page 3-80. Also pages B-27 to B-42	PR 4.23 requires the D/B Contractor to comply with the requirements of the BO along I-205.
	6. Treat currently untreated stormwater runoff from 1.5 acres of I-205 roadway and 2.0 acres of impervious area at Clackamas Town Center.	Page 3-81	I205 Roadway- Incorporated. PR 4.9 H. 9. b. CTC- Incorporated PR 4.9 H. 6.
	7. Work with BES to implement the stormwater manual through such measures as off-site improvements and/or participation in BES "wet weather" programs.	Page 3-81	Related to Mall Segment only. Work in process.
	8. Mitigate for impact to concrete lined ditches located north and south of Johnson Creek by replacing the function in swale and in a pipe on the north and south sides respectively.	Page 3-76	Incorporated into contract documents.
	<ol> <li>Work with the City of Portland Forester to address the 770-caliper tree inch deficit.</li> </ol>	Page 3-77	Incorporated into contract documents.
3.7 Water Quality	Treat stormwater that results from the hydrological event as defined by NOAA Fisheries (6-month - 24-hour storm event).	Page 3-90	Incorporated. PR 4.9. H. 1. a. 5.
	Design and construct the I-205 Segment incorporating all the stormwater management	Page 3-89	a. Incorporated. TriMet Design Criteria Chapter 3, Figs. 3-5,6, and

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
	measures listed in FEIS Table 3.7-2:		7, and section 3.4.5
	a. Trackway: Tie-and-ballast trackway, except		b. I. Incorporated. TM Design
	on bridges.		Criteria, 6.5.2 2 <sup>nd</sup> bullet. II.
	b. Paths/driveways/outbuildings:		Incorporated PR 4.9 C. 2. c.
	i. Shed roof runoff to soakage	-	
	trenches for infiltration.		
	ii. Consider pervious paving for		
	access driveways.		
	c. Main Street Station and P&R: Treat		
	stormwater in swale and infiltrate in a		
	drywell system. Plant new trees and shrubs		
	in vegetated swales and elsewhere to		c. Incorporated. PR 4.9 H. 3. 5, and
	provide shading of the facilities.		PR 4.18 G. 1. Para. 9.
	d. Division Street Station: Sheetflow		1 K 4.10 G. 1.1 ata. 7.
	stormwater from shelter onto sand-set		
			d. Incorporated. TM Design Criteria
	pavers platform and adjacent pervious area.		6.5.2 2 <sup>nd</sup> bullet.
	e. <u>Powell Bridge</u> : Collect stormwater, treat in		0.3.2 2 bullet.
	a swale and infiltrate in a drywell or		Incompared DD 4.11 summers
	soakage trench system.		e. Incorporated. PR 4.11 summary,
	f. Powell Station, P&R and access driveway:		3 <sup>rd</sup> Para PR 4.9 H. summary, 5
	Treat stormwater in swales and/or		Para.
	proprietary devices and then infiltrate in a		C 1 DD 40 H 2 5
	drywell system or systems.		f. Incorporated. PR 4.9 H. 3. 5, and
	g. Holgate Station, P&R and access driveway:		PR 4.18 G. 1. Para. 9
	Treat stormwater in a swale and infiltrate in		
	a drywell system.		g. Incorporated. PR 4.9 H. 3. 5, and
	h. <u>Harold Bridge</u> : Collect stormwater, treat in		PR 4.18 G. 1. Para. 9
	a swale and infiltrate in a drywell or		
	soakage trench system.		h. Incorporated. PR 4.11 summary,
	<ol> <li>Lents Station, P&amp;R and access driveway:</li> </ol>		3 <sup>rd</sup> Para PR 4.9 H. summary, 5 <sup>th</sup>
	Treat stormwater in a swale and infiltrate in		Para.
	a drywell system.		
	j. Foster/Woodstock Bridge: Collect	я.	<ol> <li>Incorporated. TM Design Criteria</li> </ol>
	stormwater, treat in a swale and infiltrate in		6.5.2 2 <sup>nd</sup> bullet. PR 4.9 H. 3. 5,
	a drywell or soakage trench system.		and PR 4.18 G. 1. Para. 9

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
	<ul> <li>k. <u>Springwater Bridge</u>: Collect stormwater, treat in a swale and infiltrate in a drywell or soakage trench system.</li> <li>1. <u>Johnson Creek</u>:</li> </ul>		j. Incorporated. PR 4.11 summary, 3 <sup>rd</sup> Para PR 4.9 H. summary, 5 <sup>th</sup> Para
	m. Stormwater currently conveyed in a concrete-lined ditch to an existing outfall on the north side of Johnson Creek would be placed into a new pipe and conveyed to a replacement outfall (decommissioning the existing outfall).		<ul> <li>k. Incorporated. PR 4.11 summary, 3<sup>rd</sup> Para PR 4.9 H. summary, 5<sup>th</sup> Para.</li> <li>l. No action indicated</li> </ul>
	n. Treat and convey stormwater from approximately 1.5 acres of the I-205 freeway in a long, new swale created between the trackway and bike path and connected to an existing outfall on the north side of Johnson Creek. The swale will		m. Incorporated. PR 4.9 H. 9 ad. (Note that PR does not require outfall replacement, but utilization of existing outfall)
	include trees for shading.  o. Stormwater currently conveyed in a concrete-lined ditch to an existing outfall on the south side of Johnson Creek would be placed into a new pipe and conveyed to an existing or replacement outfall		n. Incorporated. PR 4.9 H. 9 b.  o. Incorporated. PR 4.9 H. 9 d. (Note that PR does not require outfall replacement, but utilization of existing outfall)
	<ul> <li>(decommissioning the existing outfall if replaced).</li> <li>p. <u>Johnson Creek Bridge</u>: Collect, treat and convey stormwater to an existing outfall.</li> <li>Consider approaches using bioswale</li> </ul>		p. Incorporated. PR 4.11 summary, 3 <sup>rd</sup> Para PR 4.9 H. summary, 5 <sup>th</sup> Para
	systems for treatment and maximizing infiltration of treated water prior to the outfall.  q. Flavel Street Bridge: Sheetflow stormwater		q. Incorporated. PR 4.11 summary, 3 <sup>rd</sup> Para PR 4.9 H. summary, 5 <sup>th</sup> Para
	and infiltrate in a soakage trench or treat with a proprietary device and convey to the city storm system.  r. 92 <sup>nd</sup> Avenue Bridge: Collect stormwater,		r. Incorporated. PR 4.11 summary, 3 <sup>rd</sup> Para PR 4.9 H. summary, 5 <sup>th</sup> Para

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
	treat in a swale or with a mechanical device and infiltrate (if possible) or convey downstream to Johnson Creek via an existing pipe.  s. Fuller Station and P&R: Treat stormwater in a swale and oil/water separator series and then infiltrate in a drywell system.  t. Clackamas Station and P&R: Convey stormwater from the station to a drywell system and infiltrate. Treat stormwater from the P&R structure with stormwater planters and infiltrate in a drywell system (given appropriate soil conditions) or convey to an existing pipe.  3. Infiltrate stormwater from the parking lot and roofs of minor additions to existing buildings at the Ruby	Page 3-91	s. Incorporated. PR 4.9 H. 5, and PF 4.18 G. 1. Para. 9 O/W separator req'd by DEQ per PR 4.9 H. 3. c.  t. Incorporated. PR 4.9 H. 6, and PF 4.18 G. 1. Para. 9
	Junction and Elmonica Operations and Maintenance Facilities.  4. The I-205 alignment will be constructed as tie-and-hallest wherever possible to allow for infiltration.	Page 3-88	Incorporated into contract documents.
3.8 Geology, Soils and Seismic Impacts	ballast wherever possible to allow for infiltration  1. Conduct a thorough geotechnical investigation of the project area during Final Design to provide necessary information to anticipate and remediate less than ideal foundation conditions, including areas of potential seismic instability.	Page 3-96	Program Requirement 4.1 H.1. requires the Design/Build Contractor to prepare a geotechnical report.
	Avoid existing unstable slopes where possible.	Page 3-96	No unstable slopes have been identified during PE. However, the Design/Build contractor is required to design a safe facility (see 1 <sup>st</sup> paragraph of Program Requirement 4.11).
3.9 Energy	No mitigation required.	Page 3-99	N/A
3.10 Hazardous Materials	Complete Phase I Environmental Site Assessments of properties to be acquired and hazardous materials sites in close proximity of proposed improvements.	Page 3-108	Program Requirement 4.8 states "TriMet will perform Phase 1 Environmental Site Assessments."

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
· •	The assessments will include file reviews, permit reviews, geophysical survey and direct assessment of surface and/or subsurface conditions. Appropriate regulatory agencies will be contacted to determine if information more recent than reported herein is available and whether further assessment of a parcel		
	is scheduled or warranted.  2. Prepare a work plan for each construction site that includes actions to be implemented if contaminated	Page 3-109	Technical Specification 01450 addresses these issues.
	soil or groundwater is encountered.  3. If the potential severity of hazardous materials exposure at a construction site warrants, prepare a Health and Safety Plan for all construction activities consistent with applicable laws. The plan will prescribe safe work practices and personal protective equipment for construction workers; describe the plan for monitoring for toxic or explosive conditions and describe an occupational medical monitoring program for those workers exposed to or working	Page 3-109	Technical Specification 01450 addresses these issues.
	with hazardous materials.  4. Develop emergency response procedures consistent with existing laws and regulations for use by light rail personnel following completion of construction in the event of a major hazardous materials release close to the alignment. The procedures would address accidents, reporting of suspicious dumping or releases along the alignment and monitoring of RCRA permit applications, hazardous materials spill	Page 3-109	Technical Specification 01450 addresses these issues.
	reports and DEQ sampling results for the Project vicinity. The procedures will include applicable Federal, state and local government agency contingency plans. Controls and measures will be included to avoid exacerbation of impacted hazardous materials sites during or after construction and to prevent future releases or spills along the		

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
	alignment.		
3.11 Safety and Security	<ol> <li>Expand existing TriMet and FTA policies and procedures for operations during a catastrophic event and to prevent terrorist activities to include the South Corridor LPA.</li> <li>Employ design criteria for platform location and length, pedestrian crossings and alignment design to ensure the project operates safely.</li> </ol>	Page 3-112  Page 3-112	The Design/build Contractor is required to comply with TriMet's Design Criteria. Chapter 24 of the design/Criteria specifies the security Criteria. Program Requirement 4.28 requires the Design/build Contractor to consider safety as an integral part of the design effort, and to designate a qualified individual to review the design with the Fire, Life, Safety and Security Committee that TriMet has established.
3.12 Construction Impacts	For economic activity:     a. Work with local businesses to maintain access during construction.     b. Use signage and notices in local publications to let customers know businesses are open during construction.     c. Work with the community and contractors to hire local disadvantaged business and purchase materials from local vendors.     d. Minimize to the extent possible the duration of construction in front of a	Page 3-118	N/A
	property.  2. For air quality: Require contractors to adhere to OAR 340-208-0210 requiring that reasonable precautions be taken to avoid dust emissions. These methods could include applying water or other suppressants to prevent the transport of dust to the roadway and other locations. Where possible, lane restrictions and street closures should be limited to off-peak hours.	Page 3-118	Technical Specification 01520 requires the Design/Build Contractor to meet the applicable codes regarding Dust Control.
	3. For noise and vibration:  To mitigate potential construction noise impacts, the Project would:	Page 3-63 and 119	Requirement included in Article 00715 and SP-14.

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
	a. Comply with all local noise ordinances that describe the maximum allowable noise by the Project, by time of day and by type of		
	b. Secure noise variances to local noise ordinances for those Project activities that		
	do no comply with these noise ordinances; c. Monitor construction noise levels to ensure that these activities comply with the noise		
	ordinances and variances; d. Carefully schedule loud operations to limit the duration of these activities;		
	<ul> <li>e. Apply noise abatement equipment to construction equipment to lower noise emissions;</li> </ul>		
	f. Locate loud portable equipment away from noise sensitive uses;		
	<ul><li>g. Turn off idling equipment when not in use;</li><li>h. Communicate in advance with neighbors if extremely loud work is expected to occur;</li></ul>		
	i. Ensure that all engine-powered equipment have mufflers installed according to the		
	manufacturer's specification and all equipment can comply with pertinent EPA equipment noise standards.		
	For ecosystems and water quality:     a. Contractor will employ the best management practices (BMPs) outlined in	Page 3-119	a. Incorporated. PR 4.1 F. b.Incorporated. PR 4.23 F.
	Appendix C of the South Corridor Biological Assessment.		
	b. Contractor must adhere to the City of Portland Erosion Control Manual.	Page 2 110	Technical Specification 01450 addresses
	<ul><li>5. For hazardous materials:</li><li>a. Prepare plans for each Project segment that</li></ul>	Page 3-119	these issues.

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and
			Special Provision References
	describes actions to be implemented during construction if hazardous materials are found.  b. Prepare a Health and Safety Plan for all		
	construction activities consistent with applicable laws. c. Provide construction worker training for those instances when hazardous materials	,	,
	are present at the construction site.	D 430	
	For traffic and transit:     a. Avoid closures of arterial roadways during morning or afternoon peak traffic hours and clearly mark detours.	Page 4-38	Requirement included in SP-15.Q.1 and SP-30.
	<ul> <li>Provide traffic control personnel and signage as needed to minimize impact to traffic flow on major traffic streets in the</li> </ul>		Requirement included in SP-15 and PR 4.9.C.7.
	vicinity of project construction.  c. Work with businesses in the construction zones to maintain auto, bicycle and pedestrian access.		Requirement included in SP-15G, I, J, K, Q2 and SP-33.D.
	d. During construction, impacted transit stops would be temporarily relocated to the nearest possible location on the same transit route without interfering with the construction process.		TriMet oversees the relocation of impacted bus stops and where temporary stops are located. D/B Contractor is required to coordinate with TriMet per SP-33.C.
	<ul> <li>e. During construction, temporary sidewalks and/or pathways would be provided to replace any sidewalks and/or trails adjacent to the project that are impacted by construction.</li> </ul>		Requirement included in SP-15.G, Q2 and SP-33.D.
	f. To minimize the amount of truck excavation trips to/from the site, efforts will be made to recycle as much of the excavated earth from the project sites as possible.		Recycling requirements set forth in SP-61 and 02225-2.01.B.2.

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
	g. A comprehensive public outreach program will be developed to inform local residents and businesses of potential delays and impacts to the local street network due to temporary construction.		SP-17 states requirements for public outreach program and requires DB to coordinate with TriMet. TriMet is main public outreach contact.
4.6 Transportation Mitigation I-205 Segment:	<ol> <li>Main Street/96th Avenue:         Add a southbound left turn pocket. Establish a pedestrian crossing refuge in the shadow of the left turn pocket on the south side of the intersection.     </li> </ol>	Page 4-39	Requirement addressed in PR-4.9.C.3.a.i.
	2. 96 <sup>th</sup> Avenue/Park-and-Ride Entrance: Relocate the Adventist High School access driveway on the east side of SE 96 <sup>th</sup> Avenue and create a northbound left turn pocket for traffic accessing the park-and-ride lot from SE 96 <sup>th</sup> Avenue.	Page 4-39	Requirement addressed in PR-4.9.C.3.a.iv and ii.
	3. Market Street/96 <sup>th</sup> Avenue: Restripe the southbound, eastbound and northbound approaches of this intersection to contain left turn pockets.	Page 4-39	Requirement addressed in PR-4.9.C.3.a.iii.
	4. <u>Division Street/96<sup>th</sup> Avenue/I-205 Northbound</u> :  Modify northbound/southbound traffic operations to remove the split phasing and allow for protected left turns and an overlapped southbound right turn.	Page 4-39	Requirement addressed in PR-4.9.C.3.b.ii.
	5. 92 <sup>nd</sup> Avenue/Powell Boulevard:  a. Lengthen the northbound left turn pocket to accommodate future queuing and restripe the northbound geometry to accommodate separate left, through and right movements.  b. All separate right turn movements at the intersection should have overlap phasing.	Page 4-40	Requirement addressed in PR-4.9.C.3.c.i.a, b, c.
	6. 92 <sup>nd</sup> Avenue/91 <sup>st</sup> Place/Park-and-Ride Entrance: Signalize the intersection with northbound and southbound left turn pockets and separate westbound left and right turn geometry.	Page 4-40	Requirement addressed in PR-4.9.C.3.c.ii.b.
	7. 92 <sup>nd</sup> Avenue/Holgate Boulevard:	Page 4-40	Requirement addressed in PR-4.9.C.3.d and

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and
			Special Provision References
	<ol> <li>Lengthen the signal cycle.</li> </ol>		4.9.C.3.iii.
	b. Add a northbound right turn pocket.		
	c. Restripe southbound and westbound		
5.	approaches to add adequate queue storage		
	for left turns.		
	8. <u>Holgate Boulevard/Park-and-Ride Entrance</u> :	Page 4-40	Requirement addressed in PR-4.9.C.3.d.
	<ul> <li>a. Add an eastbound left turn pocket.</li> </ul>		
	b. Provide a pedestrian crossing median		
	refuge in the east leg shadow of the turn		
	pocket as part of an enhanced		
	pedestrian/bicycle crossing of SE Holgate		
	Boulevard.		
	9. <u>Johnson Creek Boulevard/92<sup>nd</sup> Avenue</u> :	Page 4-40	Requirement addressed in PR-4.9.C.3.i.
	Optimize signal timing for adequate operations.		
	10. <u>Johnson Creek Boulevard/I-205 Southbound Ramps</u> :	Page 4-40	Requirement addressed in PR-4.11.A.7.
	The columns of the LRT overcrossing structure on		
	the north and south sides of SE Johnson Creek		
	Boulevard are to be placed so as not to restrict future		
	interchange improvements. Coordinate with		
	Clackamas County, ODOT (and FHWA) on this.		n
	11. Fuller Road Park-and-Ride Entrance:	Page 4-40	Requirement addressed in PR-4.9.C.3.g.ii.
	Add a southbound left turn pocket.		D 40 C 41
	12. William Otty Road/82 <sup>nd</sup> Avenue:	Page 4-41	Requirement addressed in PR-4.9.C.3.h.
	Add a northbound right turn pocket.		D 40 G 41 "
	13. William Otty Road/92 <sup>nd</sup> Avenue:	Page 4-41	Requirement addressed in PR-4.9.C.3.h.ii.
	Optimize signal timing and overlap the eastbound		
	right turn phase.	5	D
	14. I-205 Segment Bicycle and Pedestrian Mitigation:	Page 4-41	Requirement addressed in PR-4.9.F.
	During Final Design ensure the multi-use path can		
	provide adequate capacity and safety for through		
	trips and for pedestrian and bicycle trips addressing		
	the light rail stations.	D 4.41	27/4
	15. <u>I-205 Segment Parking Mitigation</u> :	Page 4-41	N/A
	No mitigation required.	D 4.40	3277
Portland Mall	16. SW 4 <sup>th</sup> Avenue/SW Market Street:	Page 4-42	N/A

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and Special Provision References
Segment:	Add northbound right turn lane.  17. Steel Bridge: Provide control to coordinate traffic movements	Page 4-42	N/A
	from southbound NW Naito Parkway, eastbound NW Everett Street and northbound NW Naito Parkway merging into a single eastbound lane across		
	the bridge.  18. Mall Segment Bicycle Mitigation:	Page 4-42	N/A
	Provide a shared travel lane on SW 5 <sup>th</sup> and 6 <sup>th</sup> avenues between SW Market Street and SW Jackson		
	Street.  19. Mall Segment Pedestrian Mitigation:  a. Provide special crossing warning and	Page 4-42	N/A
	refuge areas at sidewalk crossings of LRT tracks south of the intersection of SW 5 <sup>th</sup> Avenue at SW Jackson Street.		
	b. Provide adequate pedestrian throughwalking areas adjacent to planned station		
	locations. The through-walking areas should be approximately eight feet in busy		
	pedestrian locations such as the Central Mall and six feet in areas with less pedestrian traffic.		
	20. Mall Segment Parking Mitigation: Employ management strategies to partially offset the	Page 4-42	N/A
5.2 Historic Resources	on-street parking loss.  In accordance with the South Corridor Project Memorandum	Page 5-7	Program Requirement 4.23.I includes these
5.2 Historic Resources	of Agreement, continue consultation with the SHPO through	Tage 3-7	requirements.
	Final Design on design issues in the vicinity of historic		•
	resources identified in Table 5.2-2 of the FEIS and on any		
	new historic or archaeological resources discovered during		
	the construction process.	D 5.16	D
5.3 Public Parklands	Provide for SHPO review of the project design in  the vicinity of the finehouse Union Station property.	Page 5-16	Program requirement 4.1 C.1. requires that
and Recreation Areas – Section	the vicinity of the firehouse, Union Station property and Orrin Batten House.		the Design/Build Contractor allow 30 days for SHPO review of the final design prior
Aleas – Section	and Offin Datten House.		101 5111 6 Teview of the final design prior

Chapter/Section	Measure/Description	FEIS Location	Comments/Program Requirements and
360.70			Special Provision References
4(f) Resources			to issuance of the IFC documents.
	2. Investigate the possibility of replacing land on the	Page 5-21	TriMet's R.O.W. dept. will investigate the
	northeastern side of the Orrin Batten House property lost to the Project.		possibility of swapping land with the owner's of the property.
,	3. Grade-separate the LRT alignment above the Springwater Trail on a structure.		Program Requirement 4.11 A.1.d. requires that the LRT alignment be grade-separated at the Springwater Trail.
			at the opinigwater riali.