

South Corridor Project

Locally Preferred Alternative Report

*Adopted Recommendation by the
South Corridor Project Policy Committee*

February 13, 2003

Metro

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TABLE OF CONTENTS

S. Summary	1
S.1 South Corridor Strategy.....	1
S.2 Locally Preferred Alternative Status.....	2
S.3 Major Transit Investment Strategy Phasing Plan.....	3
S.3.1 Phase 1: Construct I-205 and Portland Mall Light Rail and Implement Transit Improvements in the McLoughlin Corridor.....	3
S.3.2 Phase 2: Construct Milwaukie LRT	5
1. Introduction	7
1.1 Locally Preferred Alternative Report Purpose.....	7
1.2 Project History	7
1.3 South Corridor SDEIS Distribution and Public Comment.....	7
1.4 South Corridor LPA Decision Process.....	8
2. Alternatives Considered	11
2.1 South Corridor Project SDEIS Alternatives	11
2.2 Downtown Portland River Crossing and Alignment Options	12
2.3 Downtown Portland Light Rail Operations and Capacity Analysis	12
3. Description of the Locally Preferred Alternative	15
3.1 Clackamas to Gateway: I-205 Light Rail Alternative.....	15
3.1.1 Preferred Clackamas Town Center Terminus Design Option: East of the Clackamas Town Center	16
3.1.2 Preferred Downtown Portland Light Rail Alignment: Portland Mall from Steel Bridge to Portland State University	17
3.2 Portland to Milwaukie: Milwaukie Light Rail.....	19
3.2.1 Preferred Brooklyn Design Option: 17 th Avenue	20
3.2.2 Preferred Milwaukie Design Option: Southgate Crossover.....	20
3.2.3 Preferred Milwaukie Terminus Design Option: Lake Road Terminus	21
3.2.4 Preferred Willamette River Crossing: Caruthers Bridge	22
3.2.5 Preferred Alignment Connecting Caruthers Bridge to Portland Mall: Lincoln Alignment.....	23
3.3 Milwaukie to Oregon City: Develop Incremental BRT-type Improvements	24
3.4 Milwaukie to Clackamas: No-Build – Maintain Local Bus Service.....	25
4. Project Phasing	27
4.1 Funding Considerations.....	27
4.1.1 Funding Context	27
4.1.3 Implications of Concurrent Construction of Milwaukie and I-205 LRT Projects ...	27
4.2 Phase 1 of the South Corridor Major Transit Investment Strategy: I-205 LRT Project	28
4.3 Phase 2 of the South Corridor Major Transit Investment Strategy: Milwaukie LRT Project	29
4.4 Overall Phasing Recommendation.....	30

LIST OF FIGURES

Figure 1-1 LPA Map	6
Figure 1.4-1 LPA Process.....	9
Figure 2-1 South Corridor Downtown Light Rail Alignments.....	13

S. SUMMARY

This document presents the implementation strategy and the Locally Preferred Alternative (LPA) recommendation for transit improvements within the South Corridor. This recommendation is based on information documented in the *South Corridor Project Supplemental Draft Environmental Impact Statement* (Metro: December 2002), the *South/North Corridor Project Draft Environmental Impact Statement* (Metro: February 1998), the *South/North Transit Corridor Study Locally Preferred Strategy Final Report* (Metro: July 1998), the *Downtown Light Rail Systems Analysis* (TriMet and Metro: December 2002) and from public input received during the public comment period as documented in the *South Corridor Project Public Comment Report* (Metro, February 2003).

S.1 South Corridor Strategy

A two-phased major transit investment strategy is recommended for the South Corridor. The implementation of the I-205 LRT Alternative is recommended as the initial LPA, to be followed by the implementation of the Milwaukie LRT Alternative. While the South Corridor strategy recommends implementation of both the I-205 and Milwaukie light rail alignments, the two light rail projects would be constructed sequentially because sufficient local and federal dollars to construct both alignments concurrently have not been identified.

Pursuant to this LPA, TriMet will submit an application including all appropriate New Starts documentation to the Federal Transit Administration (FTA) to advance the I-205 project and Portland Mall into Preliminary Engineering (PE) and to initiate the South Corridor I-205 Project Final Environmental Impact Statement (FEIS). Based on consultation with the Federal Transit Administration (FTA), Metro and TriMet will also immediately undertake an amendment to the *South Corridor SDEIS* to update environmental and transportation analyses for the Portland Mall LRT alignment. Because an amendment is required to the SDEIS, the Portland Mall LRT alignment section of the I-205 LRT Project has the status of Preliminary Locally Preferred Alternative (PLPA) until the amended SDEIS is completed and a final LPA decision is made. The Portland Mall alignment will then be included in the South Corridor I-205 Project FEIS.

Following completion of the South Corridor I-205 Project FEIS, adoption of a finance plan for the Milwaukie project and the resolution of issues related to the Willamette River crossing, Metro and TriMet will prepare New Starts rating materials and an application to FTA to advance the Milwaukie project into Preliminary Engineering. This application will include any segment(s) of the Portland Mall not constructed with the I-205 project and also initiate the South Corridor Milwaukie Project Final Environmental Impact Statement. The South Corridor strategy is defined as follows:

A. Gateway to Clackamas Regional Center

I-205 Light Rail Alternative, including:

- East of CTC Transit Center Terminus Option.
- Downtown LRT Alignment (Preliminary LPA recommendation, to be finalized subsequent to amended SDEIS):

Preferred: Advance Portland Mall LRT alignment between the Steel Bridge and Portland State University (PSU) with I-205 LRT Alignment

Fall-back options: (1) Portland Mall LRT alignment between the Steel Bridge and SW Main Street or (2) the existing SW 1st Avenue/Cross Mall alignment as identified in the I-205 SDEIS Alternative.

B. Milwaukie to Portland

Milwaukie Light Rail Alternative, including:

- Lake Road Terminus.
- 17th Avenue Design Option.
- Southgate Crossover Design Option.
- Portland Mall (Preliminary LPA recommendation, pending future amended SDEIS): Complete remaining segment(s) of the Portland Mall light rail alignment if not completed with the I-205 project as part of Phase 1.
- Willamette River Crossing Alignment (Preliminary LPA recommendation, pending future amended SDEIS):

Preliminary Preferred: Caruthers Bridge and SW Lincoln Street to PSU/Mall Alignment. Fall-back options: (1) Caruthers Bridge with the Harrison Alignment, or (2) Hawthorne Bridge river crossing with (a) a SW Main/Madison connection to a Portland Mall LRT alignment or (b) the existing SDEIS SW 1st Avenue to Steel Bridge alignment.

C. Milwaukie to Oregon City

Implement Limited Bus Rapid Transit (BRT) Improvements and park-and-ride lots incrementally in accordance with priorities in TriMet's *Transit Investment Plan*.

D. Milwaukie to Clackamas Regional Center

No-Build Alternative. Maintain local bus service in this segment.

S.2 Locally Preferred Alternative Status

As stated above, the I-205 LRT Project is recommended to be the initial LPA for the South Corridor, to be followed by the Milwaukie LRT Alternative as the next LPA. Upon consultation with FTA, the Downtown Portland sections of the LPA alignments will have Preliminary LPA status until additional environmental work is completed.

A. I-205 LRT Project

I-205 LRT Alignment. The I-205 LRT Project includes two new LRT alignments, Clackamas Regional Center to Gateway via I-205 and the downtown Portland Mall from the Steel Bridge to Portland State University. Because the I-205 LRT alignment was evaluated through the *South Corridor SDEIS*, the Locally Preferred Alternative (LPA) designation is based on current environmental and transportation analysis. Because the LPA for the I-205 LRT Project's I-205 alignment was based on a current and active federal environmental document, it is recognized by the Federal Transit Administration (FTA) as meeting their guidelines for the definition of an LPA, and no further environmental work is required prior to the *South Corridor I-205 Light Rail Project Final Environmental Impact Statement* (FEIS).

Portland Mall LRT alignment. The LPA decision on the Portland Mall LRT alignment should be referred to as a Preliminary Locally Preferred Alternative (PLPA). The FTA makes this distinction because the Portland Mall alignment was not included in the *South Corridor SDEIS* alternatives, and the previous federal environmental document that evaluated a Portland Mall light rail alignment (South/North DEIS) is over five years old and in need of updating. Rather than proceeding directly into the FEIS, the Portland Mall alignment will be documented and evaluated in an amendment to the SDEIS. At the completion of the amended SDEIS for the Portland Mall alignment, a final LPA decision will be made.

B. Milwaukie LRT Project

The South Corridor Strategy's next LPA would require a distinction similar to the I-205 Project LPA. Environmental work on the Willamette River crossing and Mall connection alignment sections of the Milwaukie LRT Alternative will need to be updated as well and will be the subject of a future second amendment to the South Corridor SDEIS. The Milwaukie LRT alignment, based on the current South Corridor SDEIS, meets FTA guidelines for an LPA. The Caruthers Bridge and Lincoln Street alignment recommendations should be referred to as a Preliminary LPA recommendation, requiring a second amendment to the South Corridor SDEIS and subsequent final LPA decision.

S.3 Major Transit Investment Strategy Phasing Plan

As detailed in Section 4 of this LPA report, financial considerations require that the two light rail projects be built sequentially. Below is a summary of the two phases, followed by a more detailed description of each phase.

- **Phase 1** will be the I-205 Light Rail Project including light rail on the Portland Mall, as well as the following transit improvements in Milwaukie; 1) construction of a Southgate park-and-ride lot scheduled to begin construction in Fall 2003, and 2) relocation of the existing on-street Milwaukie transit center to the Southgate area pending resolution of design and environmental issues detailed in this report.
- **Phase 2** will be the Milwaukie Light Rail Project, which will be advanced following completion of the I-205 FEIS, adoption of a finance plan for the project and the resolution of issues related to the Willamette River crossing.

S.3.1 Phase 1: Construct I-205 and Portland Mall Light Rail and Implement Transit Improvements in the McLoughlin Corridor

Phase 1 would include construction of I-205 Light Rail Project between the Gateway regional center and Clackamas regional center and construction of the Portland Mall light rail alignment. Concurrent with Phase 1, construct a Southgate park-and-ride lot and relocate the existing on-street Milwaukie transit center to the Southgate area as early as practical pending resolution of environmental and design issues.

A. I-205 LRT Project

Undertake engineering and environmental studies required to seek a federal funding contract for the I-205 LRT Project during 2005. Pursuant to this LPA decision, staff will:

- Update environmental and transportation analyses for the Portland Mall Preliminary LPA alignment with an *Amended South Corridor SDEIS* as required by FTA, to be followed by a final LPA decision,
- Submit an application including all appropriate New Starts documentation to the Federal Transit Administration (FTA) to advance the I-205 Project including the Portland Mall Preliminary LPA into Preliminary Engineering (PE), and
- Initiate the *South Corridor I-205 Project Final Environmental Impact Statement* (FEIS),
- Identify project elements during Preliminary Engineering that can be eliminated, deferred or value engineered to reduce project costs consistent with the project finance plan. In addition, project staff would work with City of Portland bureaus to identify methods of reducing utility-related costs.
- Undertake activities to finalize the capital and operating finance plan for the project by the time the FEIS is published.

B. Activities to be undertaken concurrently with Phase 1: Milwaukie Transit Center and Park and Ride lot.

- Concurrent with Phase 1, continue to address outstanding issues associated with Milwaukie light rail between downtown Portland and downtown Milwaukie including Willamette River crossing issues.
- Concurrent with Phase 1, construct a Southgate Park-and-Ride lot (construction is scheduled to start in Fall 2003), and subsequently relocate the existing on-street transit center in downtown Milwaukie to the Southgate area, after resolution of design and environmental issues identified in this report.

C. Activities to be undertaken concurrently with Phase 1: Milwaukie to Oregon City Transit Improvements

- Concurrent with Phase 1, implement an incremental approach for select BRT and park-and-ride improvements between Milwaukie and Oregon City with transit service continuing to the Clackamas Community College. TriMet should include improved transit service concepts for SE McLoughlin Boulevard in their *Transit Investment Plan* process.

S.3.2 Phase 2: Construct Milwaukie LRT

Following completion of the South Corridor I-205 Project FEIS, adoption of a finance plan for the Milwaukie project and the resolution of issues related to the Willamette River crossing, Metro, TriMet and partner jurisdictions would:

A. Undertake engineering and environmental studies required to seek a federal funding contract for the Milwaukie LRT Project including a Caruthers Bridge Willamette River crossing or fallback options. Metro, TriMet and partner jurisdictions will initiate the process by:

- Updating environmental and transportation analyses for the Willamette River crossing and connection to the Portland Mall through an Amended South Corridor SDEIS;
- Preparing New Starts rating materials and an application to FTA to advance the Milwaukie project including any segment(s) of the Portland Mall not constructed with the I-205 project into PE; and
- Initiating the *South Corridor Milwaukie Project Final Environmental Impact Statement* and any other environmental review required for the Willamette River crossing.

B. Complete PE, environmental analysis and construction of Portland Mall segments that were not completed as part of the I-205 LRT Project during Phase 1 of the South Corridor strategy.

C. Complete the funding plan for the Milwaukie LRT Project.

The South Corridor Strategy and phasing plan are further detailed in the body of this report, including the rationale for selecting the strategy and a more specific accounting of issues requiring further analysis.

Locally Preferred
Alternative**DRAFT****LEGEND**Light Rail
and stationBus Rapid Transit
and stationExisting
Light RailTransit
CenterPark &
RideLocal bus stop
improvements

County Line



1. INTRODUCTION

1.1 Locally Preferred Alternative Report Purpose

The purpose of the Locally Preferred Alternative report is to provide documentation for the South Corridor major transit investment strategy including the choice of a Locally Preferred Alternative (LPA) and design options that will be moved forward by the region into the next phases of project development. The LPA is the basis of subsequent project activities such as development of Preliminary Engineering, the preparation of the South Corridor Project Final Environmental Impact Statement (FEIS), preparation of the project finance plan and amendment of the South/North Project Land Use Final Order (LUFO).

1.2 Project History

The *South Corridor Project Supplemental Draft Environmental Impact Statement (SDEIS)* is a supplement to the original *South/North Corridor Project DEIS*. A brief history is included here, to provide context for the current LPA decision. In July 1998, the Metro Council adopted the Locally Preferred Strategy (LPS) for the South/North Corridor Project that included a light rail line between Clackamas Regional Center, Milwaukie, and Downtown and the Portland Mall via a new Caruthers Bridge. The LPS alignment would then cross the Steel Bridge and travel through North Portland, then over the Columbia River into Vancouver. In November 1998, local voters did not re-approve a 1994 funding measure that would have provided local funding for the project. In early 1999, community and business leaders requested that TriMet and Metro evaluate a new light rail alignment on Interstate Avenue in the north part of the Corridor which is documented in the *North Corridor Interstate MAX Supplemental Draft and Final Environmental Impact Statements*. The South/North LPS was amended to reflect the changes for the Interstate Max Project.

In the southern portion of the corridor, from 1999 to 2000, the South Corridor Transportation Alternatives Study (SCTAS) examined eight alternatives that intentionally did not include light rail in the South Corridor. Based on the findings in the *South Corridor Project Evaluation Report* (Metro: October 2000), the South Corridor Study Policy Committee (a committee of elected and appointed officials from jurisdictions within the corridor) narrowed the list of alternatives to be studied further in the South Corridor Project SDEIS. Most notably, after hearing from citizen groups from southeast Portland, Milwaukie and Clackamas County, the Policy Committee decided that the SDEIS should examine both a reduced cost Milwaukie Light Rail Alternative and an I-205 Light Rail Alternative. At the same time, the South Corridor Policy Committee directed staff to examine other potential river crossing options with the Milwaukie Light Rail Alternative and other downtown Portland alignments for both the Milwaukie and I-205 light rail alternatives. This analysis was documented in the *Downtown Light Rail System Analysis* (TriMet and Metro: December 2002).

1.3 South Corridor SDEIS Distribution and Public Comment

The *South Corridor Project Supplemental Draft Environmental Impact Statement* was distributed on December 13, 2002, and notice of availability was published in the *Federal Register* on December 20, 2002. Early results of this document were also circulated and discussed at three community open houses (December 9, 10, 11, 2002). The 61-day local public comment period ended on February 7, 2003 and included numerous neighborhood meetings and two public hearings. The South Corridor Project Policy Committee has made the initial recommendation for the Locally Preferred Alternative

(LPA) for the South Corridor. This *South Corridor Project Locally Preferred Alternative Report* documents the amendment to the South/North Project LPS. It documents the decision defining the I-205 Project as the Locally Preferred Alternative and the first construction segment, to be followed by the Milwaukie Light Rail Project.

1.4 South Corridor LPA Decision Process

The South Corridor LPA recommendation was made by the South Corridor Project Policy Committee on February 13, 2003. It will be considered by local jurisdictions, ODOT and TriMet, the Joint Policy Advisory Committee on Transportation (JPACT) and by the Metro Council (See Figure 1.4-1). The final LPA decision will be made by the Metro Council after consideration of:

- A) Public comments on the South Corridor SDEIS made during the public hearings and as documented in the *South Corridor Project Public Comment Report* (Metro, February 2003);
- B) Data and analysis included in the *South Corridor Project Supplemental Draft Environmental Impact Statement* (Metro, December 2002) and the *Downtown Light Rail System Analysis* (TriMet and Metro, December 2002);
- C) Consistency with the study purpose and need and the project's adopted goals and objectives, and
- D) Consideration of recommendations from the following committees and jurisdictions, scheduled on the following dates:
 - The Clackamas County Board of Commissioners on March 19, 2003
 - The City of Oregon City Commission March 19, 2003
 - The Multnomah County Board of Commissioners on March 20, 2003
 - The TriMet Board of Directors on March 26, 2003.
 - The Milwaukie City Council on April 1, 2003
 - The City of Portland Council on March 19, 2003
 - The Joint Policy Advisory Committee on Transportation on April 10, 2003.
 - Metro Council on April 17, 2003.
 -

The resolutions adopted by the bodies listed above are contained in Appendices B – J of this report.

South Corridor Project Locally Preferred Alternative Process

SDEIS Public Comment Period

Dec 9

Open Houses
12/9, 12/10, 12/11

Public Hearings
1/29, 2/4

Feb 7

Project Recommendation

Feb 13

Policy Committee
Draft recommendation
2/13

Jursidictional Recommendations

March

Multnomah County 3/20
Clackamas County 3/19
City of Milwaukie 4/1
Oregon City 3/19
City of Portland 3/19
TriMet Board 3/27

Adoption

TPAC 3/28

JPACT 4/10

Metro Council ★
4/17

2. ALTERNATIVES CONSIDERED

The purpose of this section is to provide a brief description of the six alternatives that were examined in the *South Corridor Project Supplemental Draft Environmental Impact Statement (SDEIS)* (Metro: December, 2002) and the Willamette River crossing options and downtown Portland light rail alignments studied in the *Downtown Light Rail Systems Analysis* (Metro and TriMet: December, 2002). For a complete description of these alternatives, please see the *South Corridor SDEIS*, Chapter 2 Alternatives Considered and the *Downtown Light Rail Systems Analysis* report.

2.1 South Corridor Project SDEIS Alternatives

Except for the No-Build Alternative, each of the alternatives includes design options, which are relatively small variations in the proposed alignment and/or other characteristic of an alternative (e.g., park-and-ride lots).

A. No-Build Alternative The transit service network, related transit facilities and roadway improvements included in the No-Build Alternative are consistent with the *2000 Regional Transportation Plan (RTP)* 2020 financially constrained transit and road network (Metro: adopted August 2000). The transit capital improvements in the No-Build Alternative would be included in all other alternatives.

B. Bus Rapid Transit (BRT) Alternative would provide improved bus operations, reliability and travel time for a modest capital investment. BRT would operate between Downtown Portland, Milwaukie, and Oregon City, as well as between Milwaukie and the Clackamas Regional Center.

C. Busway Alternative provides higher level of reliability and improved travel times through primarily exclusive bus operations in a separate guideway from downtown Portland to Milwaukie and the Clackamas regional center. A BRT connection from Oregon City would enter the busway in Milwaukie.

D. Milwaukie Light Rail Alternative provides a direct high-capacity rail transit connection between downtown Portland and Milwaukie on exclusive right-of-way. BRT would connect from Oregon City and the Clackamas regional center and transfer to light rail at the Milwaukie Transit Center.

E. I-205 Light Rail Alternative provides a direct high-capacity rail transit connection between Downtown Portland and the Gateway and Clackamas regional centers via the existing east-west light rail alignment to Gateway and an extension primarily along existing reserved right-of-way on I-205 from Gateway to the Clackamas regional center. BRT would connect Downtown Portland to Milwaukie and Oregon City.

F. Combined Light Rail Alternative provides direct high-capacity rail transit connections between Downtown Portland and Milwaukie and between Downtown Portland and Clackamas regional center via the Gateway regional center. BRT would connect Milwaukie with Oregon City.

2.2 Downtown Portland River Crossing and Alignment Options

The South Corridor Project Policy Committee directed staff to examine other potential river crossing alignments and downtown rail alignments, and assess the train capacity and system reliability of the current Cross Mall alignment. The results are documented in the *Downtown Light Rail Systems Analysis* report. The alignments analyzed in this study are listed below:

A. River Crossings and Downtown Alignment Combinations with Milwaukie LRT:

- Hawthorne Bridge with 1st Avenue alignment to the Steel Bridge (SDEIS option);
- Hawthorne Bridge with a SW Main/Madison alignment to the Portland Mall alignment and to the Steel Bridge;
- Hawthorne Bridge with a 1st Avenue alignment to the Cross Mall;
- Caruthers Bridge with a Harrison alignment to the Portland Mall;
- Caruthers Bridge with a Lincoln alignment to the Portland Mall with or without grade separation over SW Harbor Way; and
- Ross Island Bridge alignments to the Portland Mall.

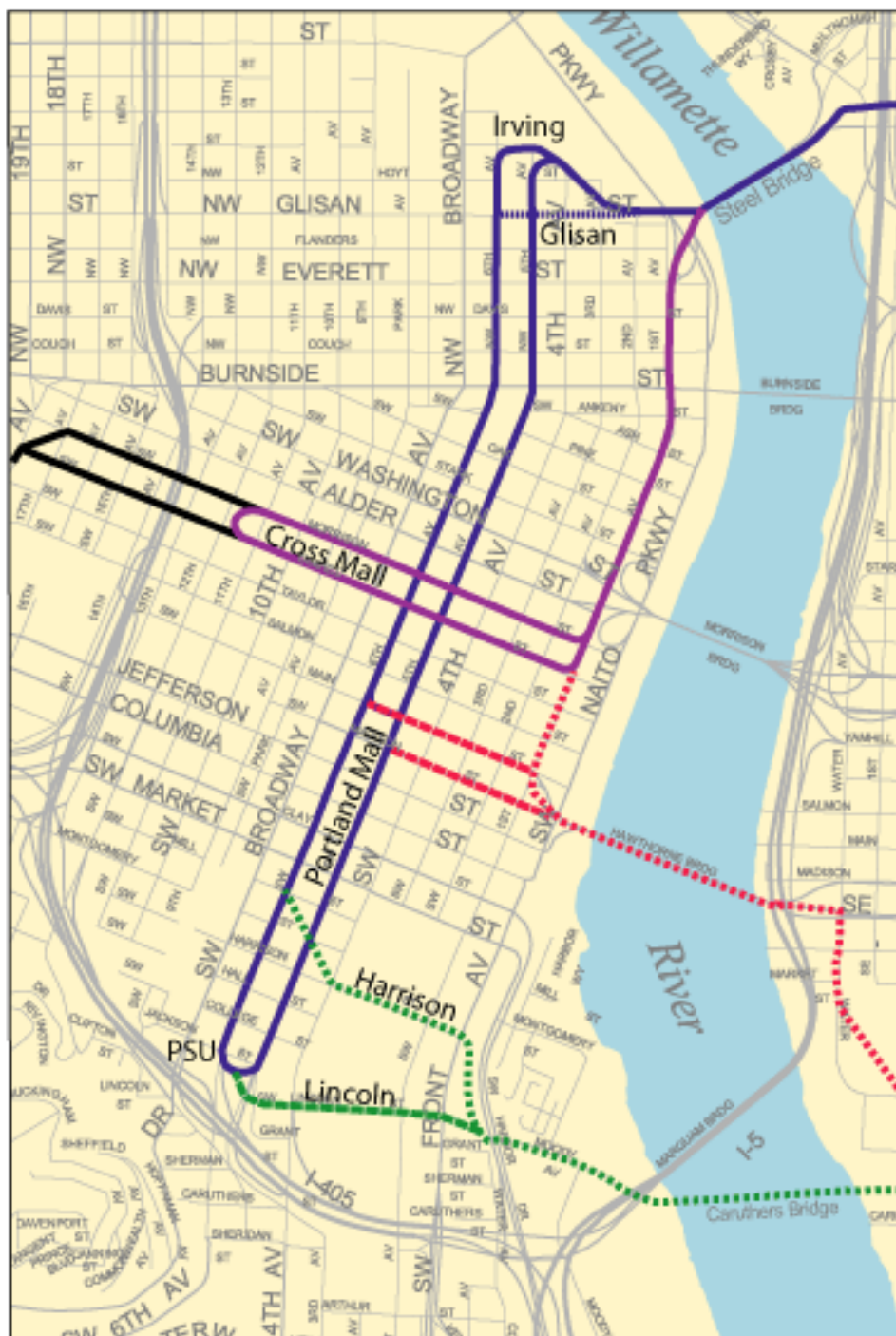
B. Downtown Alignment Combinations with I-205 LRT Alternative:

- I-205 with the Cross Mall alignment;
- I-205 with a Portland Mall alignment to Main Street; and
- I-205 LRT Alternative with Portland Mall alignment to PSU.

2.3 Downtown Portland Light Rail Operations and Capacity Analysis

The Policy Committee directed staff to evaluate the long-term capacity and operating reliability of the existing Cross Mall LRT alignment (SW 1st Avenue, SW Morrison and SW Yamhill streets) and to develop measures to improve reliability and increase capacity. The *Downtown Light Rail Systems Analysis* report documents the analysis and found that there is a limit of 30 trains that can operate per hour in each direction on the existing Cross Mall alignment without significant modifications. In the year 2020, the I-205 Light Rail Alternative operating on the Cross Mall in combination with the existing lines and service growth would equal 33 trains per hour.

Operations on the track section between SW 1st and SW 11th Avenues on SW Yamhill and Morrison streets would create the most significant constraint on system capacity. As volumes approached the limit, delays and service quality reductions could be expected. A delayed train could affect other trains that are following and the system would have less ability to recover. To mitigate for this potential impact, five system modifications were examined. Although one of these (signal timing modifications) held promise to increase capacity to allow for the additional trains associated with the I-205 project, service quality on the Cross Mall would still be reduced as the number of trains per hour approaches the theoretical limit of 30 trains per hour. Therefore, an additional alignment in downtown Portland should be considered for the long-term growth of the system.



South Corridor Downtown Light Rail Alignments

-  Transit Mall Alignment
-  Cross Mall Alignment
-  Caruthers Alignments
-  Harrison
-  Lincoln
-  Hawthorne Bridge
-  SDEIS Option
-  Main and Madison



0 500 1000
FEET

3. DESCRIPTION OF THE LOCALLY PREFERRED ALTERNATIVE

3.1 Clackamas to Gateway: I-205 Light Rail Alternative

A. Phasing

The I-205 LRT Project would be implemented as Phase 1 of the South Corridor major transit investment strategy.

B. Rationale for Selection

- **The I-205 Alternative would have the highest transit ridership** of all the Alternatives for this segment, and would carry over 33,000 trips in 2020, the highest of any individual alternative considered in the SDEIS;
- **I-205 LRT Alternative would save transit travel time;** 12 minutes between the Rose Quarter Transit Center and the Clackamas Town Center Transit Center compared to the No-Build Alternative;
- **I-205 LRT would support the 2040 growth concept** by offering high capacity transit connections between the Gateway regional center and the Clackamas regional center while serving the Lents town center as well as connecting directly to the Central City;
- **The I-205 LRT Alternative would provide excellent opportunities for transit oriented development** in support of the Region 2040 Plan in the Gateway regional center, Lents Town Center and at the Clackamas Regional Center;
- **With construction of I-205 in the late 1970s, right-of-way was established for a high capacity transit improvement** for much of the alignment. Because of the existing right-of-way, I-205 LRT could be constructed with minimal residential and business displacements, property acquisition and related costs; and
- **I-205 LRT would provide regional connections** to the airport, Gresham, downtown Portland, the Lloyd District, Beaverton, Hillsboro and other areas served by the regional light rail system.

C. Issues to be Addressed by Staff

- **Foster Road/Lents Town Center design issues.** Based on input from the Federal Highway Administration, the potential 150-space surface park-and-ride lot under I-205 at SE Foster Road was eliminated from the I-205 Alternative. Prior to and during the PE/FEIS phase, staff should continue to work with the Lents neighborhood and the Lents Urban Renewal Advisory Committee to determine a location for the station and park-and-ride that supports the community vision of the Lents Town Center while maintaining good station access and bus connections. Staff should continue to coordinate with the City of Portland, Portland Development Commission (PDC) and the Lents community on potential design refinements in the Lents Town Center. These design refinements could include a relocated station, joint-use parking structures and improved pedestrian facilities.
- **Holgate Boulevard Station.** Staff should continue to consult with the City of Portland and the Lents community to determine if a park-and-ride at Holgate is compatible with the surrounding land uses and is acceptable to neighbors.
- **Flavel Street Station.** Staff should work with the City of Portland Parks Bureau and Bureau of Environmental Services (BES) to resolve issues related to the Johnson Creek floodplain and the

at-grade crossing of the Springwater Trail. Appropriate mitigation or engineering changes including moving or redesigning stations should be considered in balance with project costs.

- **Fuller Road/Johnson Creek Boulevard Design Issues.** The Fuller Road park-and-ride and station may need to be refined to address concerns related to intersection access at Johnson Creek Boulevard. Alternative park-and-ride and station locations should be investigated. Staff should work with Clackamas County and neighborhoods in refining the light rail alignment and park-and-ride lot design in this vicinity prior to and during the PE/FEIS phase. Both the LRT alignment and the park-and-ride facility should be located to minimize the potential impact to future I-205/Johnson Creek Boulevard interchange improvements. TriMet should work with ODOT and Clackamas County to ensure that the light rail design is compatible with a variety of potential interchange configurations and with economic development opportunities in the area under the Clackamas Urban Renewal plans.
- **Continue to Allow for Future Highway Expansion.** Staff should continue to work with ODOT to refine the current I-205 Light Rail alignment design to make minor modifications necessary to address FHWA/ODOT concerns about future expansion of the freeway.
- **LRV and Ruby Junction Expansion Financing.** Staff should develop long-term plan and funding strategy to purchase light rail vehicles and expand Ruby Junction to address the future fleet needs of the I-205 alignment.
- **Noise and vibration.** Staff should undertake further detailed noise and vibration analysis for the I-205 alignment with specific attention to the area between SE Foster Road and SE Johnson Creek Boulevard. This work should be coordinated with ODOT to ensure that construction of the LRT line would not lessen the effectiveness of the ODOT existing or planned noise mitigation.
- **Identify Potential Cost Reductions.** Staff should analyze ways to lower cost of the I-205 Alternative by eliminating or postponing project elements. These items could include park-and-ride lots, park-and-ride capacity and types, stations, cost efficient engineering methods, vehicles or the expansion of the Ruby Junction maintenance and storage facility. These potential cost reductions should be sensitive to community needs and the project's objectives.
- **Address community concerns.** Neighborhood, community and urban renewal groups along the I-205 alignment have raised concerns about noise and vibration impacts, traffic, safety and security, property acquisition, visual screen and landscaping. Staff and community members should seek to find solutions that can be funded with the project budget while meeting community needs and as justified by more detailed environmental analysis during the FEIS process.

3.1.1 Preferred Clackamas Town Center Terminus design option: East of the Clackamas Town Center.

A. Alternatives Considered

Two design options were considered for the terminus of the I-205 LRT alignment:

- North of Clackamas Town Center, along Monterey Avenue, and
- East of the Clackamas Town Center, parallel to and west of the I-205 Freeway.

B. Rationale for Selection

- **Better park-and-ride access.** The East of the Town Center Terminus Option could provide 500 to 1,000 park-and-ride space capacity at the station;

- **Better access to jobs.** This option would result in 1,490 more employees located within a quarter mile of a light rail station;
- **This option would create a more direct future alignment** if light rail were to be extended to the east or south from the Clackamas Town Center;
- **East option favored by Clackamas Town Center.** As owner of the site of either transit center, the Clackamas Town Center management supports this option as it fits well with future mall expansion plans; and
- **This option would affect fewer prime commercial parking spaces** at the Clackamas Town Center while increasing overall accessibility.

C. Issues to be Addressed by Staff

- **Pedestrian connection.** A clear and protected pedestrian connection from the transit center to the mall entrance should be developed;
- **Clarify bus access.** Bus access to the transit center that minimizes bus delay and increases bus reliability from SE Monterey and SE Sunnyside Road should be developed;
- **Transit supportive development.** Clackamas County should re-examine the adopted Clackamas Regional Center Plan and make changes that acknowledge and maximize the benefit of the new transit center location for active transit supportive uses around the station and supports the area's designation as a regional center in the Region 2040 growth concept; and
- **Auto and bus access.** Staff should work with Clackamas County and the Clackamas Town Center management to develop plans for auto and bus access to and from the transit center and park-and-ride site.

3.1.2 Preliminary Preferred Downtown Portland Light Rail Alignment: Portland Mall from Steel Bridge to Portland State University

The LPA decision on the Portland Mall LRT alignment should be referred to as a Preliminary Locally Preferred Alternative (PLPA). The FTA makes this distinction because the Portland Mall alignment was not included in the *South Corridor SDEIS* alternatives, and the previous federal environmental document that evaluated a Portland Mall light rail alignment (South/North DEIS) is over five years old and in need of updating. Rather than proceeding directly into the FEIS, the Portland Mall alignment will be documented and evaluated in an amendment to the SDEIS. At the completion of the amended SDEIS for the Portland Mall alignment, a final LPA decision will be made.

A. Alignments Considered

Two alignments were developed for the I-205 Light Rail Alternative in Downtown Portland. These alignments include service either on the existing Cross Mall or on the Portland Mall. The Cross Mall alignment was examined in the SDEIS while the Portland Mall alignment was selected as the LPA in 1998 after study in the South/North Project DEIS. Issues related to the Portland Mall alignment were also documented in the *Downtown Light Rail Systems Analysis* (TriMet and Metro: December 2002).

With the I-205 Cross Mall alignment, trains would enter downtown Portland over the Steel Bridge and would use the existing tracks on SW First Avenue and SW Morrison streets with trains turning around on SW 11th Avenue and returning on SW Yamhill Street. With the Portland Mall alignment,

trains would enter using the Steel Bridge and would require new tracks on either NW Glisan or NW Irving streets to access 5th and 6th avenues. This alignment would extend to either PSU at SW Jackson Street or SW Main Street depending on the results of the finance plan.

B. Rationale for Preliminary Preference

- **The Portland Mall alignment would ensure improved service quality on both downtown LRT alignments** by providing greater capacity and reliability on second alignment in downtown Portland in addition to the Cross Mall.
- **Light rail on the Portland Mall reinforces 30 years of transportation and land use policy.** Since the adoption of the 1972 Downtown Plan, the Portland City Council has continuously reaffirmed that the Portland Mall is the preferred location for a light rail alignment. Public and private investment decisions have been made in downtown over the last 30 years that support transit access on SW 5th and 6th avenues and auto and truck access along SW 4th and SW Broadway.
- **The Portland Mall alignment would directly serve important Downtown destinations** alignment including Union Station and Portland State University;
- **The Cross Mall Alignment would limit service expansion ability** and would eventually decrease service quality with the addition of trains needed for system growth;
- **The Portland Mall was selected as the South/North Corridor Project LPA in 1998** after significant public and technical analysis;
- **The Portland Mall alignment received considerable public support** during the South Corridor public comment period, especially from the downtown community; and
- **Construction of light rail on the Portland Mall would be concurrent with the Mall Rehabilitation Project**, which is needed to facilitate the City of Portland's desired retail strategy.

C. Caveat

If financial resources are not available for a Portland Mall Alignment with a terminus at Portland State University, then a shorter terminus at SW Main Street should be considered. If there is a greater financial shortfall, then the SDEIS option using SW First Avenue and SW Morrison and Yamhill streets should be considered.

The selection of the Portland Mall Alignment will be dependent upon additional environmental work and public process.

D. Issues to be Addressed by Staff

- **Update environmental analysis.** Staff will update environmental and transportation analyses for the Portland Mall Preliminary LPA alignment by preparing an *Amended South Corridor SDEIS* as required by FTA, to be followed by a final LPA decision,
- **North Entry Study.** There are two routes that could connect the Steel Bridge to the Portland Mall. The Glisan Option would use the off-ramp from the Steel Bridge to NW 5th and 6th avenues with a common station located between NW 2nd and 3rd avenues. The Irving option, which was included in the 1998 LPS, would require a new ramp from the Steel Bridge parallel to the railroad tracks that lead to Union Station. This option would proceed to Union Station and turn on NW Irving Street where the alignment would connect onto the Portland Mall. Staff

should work with the business, residential and non-profit communities to determine the best alignment in the North Entry to downtown Portland that balances cost, travel times and property impacts with the benefit of serving Union Station.

- **Configuration of the Portland Mall.** The Portland Business Alliance and others have called for continuous auto access (an auto through-lane) along SW 5th and 6th avenues as part of a strategy to revitalize the retail environment. This configuration along with the adopted Portland Mall configuration of light rail and buses sharing the center lane will be examined. Staff should continue to work with the City of Portland, downtown businesses, residents and transit riders to determine the best configuration of the Portland Mall considering the needs of retail establishments, pedestrians, auto circulation and transit (bus and light rail).
- **Terminus in Downtown Portland.** There are two potential termini options in downtown Portland with the I-205 LRT Alternative with the Portland Mall Design Option. One option is to extend to Portland State University at SW Jackson Street and the other option is to turn trains around at SW Main Street. Providing service to PSU and its 25,000 students would allow direct light rail access to one of the region's largest attractor of transit trips and would allow TriMet the flexibility to store trains in downtown Portland for special events and to service heavy loadings during peak periods. The Main Street terminus would save approximately \$51 million (2006\$) and should be considered if the financial plan does not identify adequate funding for the alignment to PSU.

3.2 Portland to Milwaukie: Milwaukie Light Rail

A. Phasing

Milwaukie LRT Project will be implemented in Phase 2 of the South Corridor major transit investment strategy. As a part of Phase 1, the construction of a Southgate park-and-ride lot (to begin in Fall 2003) and the relocation of the existing on-street Milwaukie transit center to the Southgate area will begin as early as practical pending resolution of environmental and design issues.

B. Rationale for Selection

- **In 2020, Milwaukie LRT would have the highest number of transit trips in this segment** of any alternative, adding over 20,000 light rail trips in addition to I-205 light rail for a combined total of over 53,000 daily light rail trips in the South Corridor;
- **The Milwaukie LRT Alternative would provide the fastest travel time** of any of the Alternatives between Milwaukie and downtown Portland;
- **LRT station areas would provide excellent opportunities for transit oriented development** in southeast Portland and in downtown Milwaukie;
- **Milwaukie LRT would provide better neighborhood transit service** than the BRT or Busway Alternatives, by providing accessible, high-capacity transit service to Southeast Portland neighborhoods, Milwaukie and downtown Portland;
- **The Milwaukie LRT Alternative has generated significant community support** in Milwaukie, southeast Portland and downtown Portland. For example, the Milwaukie Neighborhood Leaders have actively engaged their community and City Council over a period of two years in a grass-roots effort to identify light rail alignments that fit with community goals;
- **The Milwaukie LRT Alternative would have fewer environmental and displacement impacts** than the Busway Alternative; and

- **Milwaukie LRT would be compatible with and would augment the regional light rail transit system** offering direct service to downtown Portland, the Rose Quarter and north Portland as well as easy transfers to the Blue and Red Lines between Hillsboro, downtown Gresham and the Portland Airport.

C. Issues to be Addressed by Staff

- **Update Environmental Analysis.** Environmental work on the Willamette River crossing and Mall connection alignment sections of the Milwaukie LRT Alternative will need to be updated and will be the subject of a future second amendment to the South Corridor SDEIS. The Milwaukie LRT alignment, based on the current South Corridor SDEIS, meets FTA guidelines for an LPA. The Caruthers Bridge and Lincoln Street alignment recommendations should be referred to as a Preliminary LPA recommendation, requiring a second amendment to the South Corridor SDEIS and subsequent final LPA decision.
- **Water Quality and Hydrology.** Develop detailed designs for storage and treatment of stormwater along the alignment and from the stations and park-and-ride facilities;
- **Park and Ride Access.** Staff will continue to develop and evaluate options for increasing park and ride opportunities along the Milwaukie LRT alignment to better accommodate demand and minimize neighborhood parking impacts;
- **Displacements.** Continue to work with potentially impacted property owners to help them to understand the process of property acquisition;
- **Traffic Issues.** Explore modifications to SE Water Avenue (in the vicinity of SE Clay Street and OMSI) to ensure that autos queuing from the freight and passenger railroad (UP) tracks east of SE Water Avenue would not block the light rail tracks. Work with City of Portland traffic engineers to ensure that the proposed light rail crossing of SE 11th and 12th Avenues allows for adequate traffic operations; and
- **Truck issues.** Work with Milwaukie North Industrial area business owners and jurisdiction staff to ensure that truck access, movements and loading needs for adjacent businesses are addressed.

3.2.1 Preferred Brooklyn Design Option: 17th Avenue

A. Alternatives Considered

Two design options were evaluated in this segment:

- **West of Union Pacific Railroad (UPRR)**, with the alignment located adjacent to the UPRR parallel to the Brooklyn Yards, and;
- **17th Avenue**, with the alignment along the western edge of 17th Avenue through the Brooklyn Neighborhood.

B. Rationale for Selection

- **17th Avenue stations would be closer to the Brooklyn Neighborhood** and provide better station environments and pedestrian access than with the West of Brooklyn Yard Design Option;
- **The 17th Avenue Design Option would serve more transit supportive land uses** located along SE 17th Avenue compared to the West of Brooklyn Yard Design Option;
- **The 17th Avenue Option would avoid displacements to large employers;**
- **The 17th Avenue Option would avoid railroad property** which would otherwise be an impediment to timely and cost-effective implementation; and

- **The 17th Avenue Option is strongly supported by the Brooklyn neighborhood.**

C. Issues to be Addressed by Staff

- **Displacements and property impacts.** Work diligently to minimize potential displacements and property impacts with this design option.
- **Truck movements.** Continue to work with businesses and property owners to refine designs to allow for truck turning movements necessary to serve adjacent businesses.
- **Center Street Bus Operations Facility.** Work to identify solutions to parking loss and impacts to bus storage and operations at the TriMet's Center Street facility.

3.2.2 Preferred Milwaukie Design Option: Southgate Crossover

A. Alternatives Considered

Two design options were considered for Milwaukie:

- **Tillamook Branch Design Option**, which would locate light rail adjacent to the Tillamook Branch railroad from the Tacoma Station to a transit center and LRT station located at the Waldorf School. This option would have no Southgate park-and-ride, transit center or LRT station.
- **Southgate Crossover Design Option**, which would follow McLoughlin Blvd south from the Tacoma LRT Station to a 600-space Southgate Park and Ride, Transit Center and LRT station. The alignment would then cross to the east to join with the Tillamook Branch alignment.

B. Rationale for Selection

- **Impacts to the Waldorf School site and a limited capacity for transit operations are drawbacks of Tillamook Branch Design Option.** The Milwaukie Transit Center would be located at the Southgate site with the Southgate Crossover Design Option. The Southgate Transit Center site is a preferred location over the Waldorf School Transit Center site with the Tillamook Branch Line Design Option.
- **The Southgate Crossover alignment would result in more transit ridership** due to an additional station and park-and-ride and a more convenient transit center location that could better accommodate increases in transit service than the other options.
- **The Southgate Crossover would provide better access to jobs and residents**, providing access to 1,500 more jobs and 50 more residents within a quarter-mile of a light rail station than the Tillamook Branch design option.
- **The Southgate Crossover would allow for additional park-and-ride capacity** (600-space structured lot at Southgate) compared to the Tillamook Branch design option.

C. Issues to be Addressed by Staff

- **Relocate the on-street Milwaukie Transit Center** to the Southgate site as early as practical during Phase 1. In order for the this project to proceed in phase 1, the following issues need to be resolved:
 - *Environmental Review:* additional environmental review as may be required by the FTA. TriMet has received environmental clearance for a park-and-ride lot at this location and will proceed initially with this project.

- *Bus Routing and Transit Operations*: Review with involved communities and constituents required bus rerouting and identify changes in bus operations necessary to cost-effectively implement the new transit center site.
- *Capital Funding*: Identify the capital funding sources to fund the transit center component.
- **Traffic and Freight Mobility**. Work to address traffic and truck access issues along the Southgate Crossover, especially on SE Main Street, SE Milport Street and SE Mailwell Drive and the SE Milport intersection with SE McLoughlin Boulevard.
- **Waldorf School**. Work with the Waldorf School to ensure safety at the station and for the alignment in the vicinity of the school.
- **Displacements and property impacts**. Work to minimize displacements and property impacts with this design option.

3.2.3 Preferred Milwaukie Terminus Design Option: Lake Road Terminus

A. Alternatives Considered

Two termini locations were evaluated for the Milwaukie LRT Alternative:

- **Waldorf School Terminus** (formerly known as Milwaukie Middle School Terminus), with a station and transit center on the Tillamook Branch railroad alignment located south of Harrison Street and east of the school, and;
- **Lake Road Terminus**, with a station and park and ride structure further south along the Tillamook Branch railroad alignment at the intersection with Lake Road.

B. Rationale for Selection

- **The Lake Road Terminus Option provides an additional station in downtown Milwaukie** serving the southern portion of the downtown with access to Milwaukie High School.
- **The Lake Road Terminus Option provides an additional 275 structured park-and-ride spaces** that would capture auto trips prior to going through downtown Milwaukie.
- **The Lake Road Terminus Option would provide better access to jobs and residents**, resulting in 1,710 more residents and 1,410 employees located within a quarter mile of a light rail station than the Waldorf School Terminus option.

C. Issues to be Addressed by Staff

- **Interim terminus option**. Consider a shorter interim terminus at the Waldorf School if financial plans are not adequate to fund the extension of light rail to the Lake Road terminus. A bus transit center would not be located at the Waldorf School with this interim terminus option.
- **Bus access**. Refine bus service and access to the SE Lake Road light rail station during the PE/FEIS phase of the project.
- **Displacements**. Work with property and business owners at the site of the park-and-ride garage to help them understand the acquisition process.
- **Access to Lake Road Park-and-Ride Lot**. Consider an alternative garage access point for the Lake Road Station Park-and-Ride lot.

3.2.4 Preliminary Preferred Willamette River Crossing: Caruthers Bridge

A. Alternatives Considered

The South Corridor Policy Committee directed that a low cost Milwaukie Light Rail Alternative be studied in the SDEIS and that other potential river crossing alignments for the Milwaukie Alternative be studied in a parallel study, the *Downtown Light Rail Systems Analysis* (TriMet and Metro, December 2002).

Three Willamette River Crossing locations were examined during these processes: the existing Hawthorne Bridge, a new Caruthers Bridge and a new Ross Island Bridge.

The Hawthorne Bridge alignment would require inbound trains to use the SW Water Avenue ramp on the east side and cross from the inside lanes to the outside lanes of the Hawthorne Bridge where trains would operate in mixed traffic across the bridge. On the west side of the bridge, inbound trains would cross back to the center lanes and would turn onto SW First Avenue and continue north connecting to the Interstate Max line. New traffic signals on both ends of the Hawthorne Bridge would impact traffic. The frequent lifts of the Hawthorne Bridge would cause transit reliability issues. Downtown Portland businesses do not support this alignment because riders would be required to transfer or walk to get to the Portland Mall and many downtown Portland destinations.

Additional alignments with the Hawthorne Bridge crossing were also examined. These alignments include the Hawthorne Bridge with a Main and Madison connection to the Portland Mall and the Hawthorne Bridge with a connection via First Avenue to the Cross Mall.

The Caruthers Bridge alignment would be located directly south of the Marquam Bridge and would connect OMSI to SW River Parkway on the west bank. This alignment was selected as part of the Locally Preferred Alternative in 1998. This bridge would be a fixed span bridge to eliminate reliability issues due to bridge openings and would be constructed to allow for bike and pedestrian connections from the greenways on both banks of the Willamette. Connections from the Caruthers Bridge to the Portland Mall would be via either SW Lincoln or Harrison streets.

A new bridge located north or south of the existing Ross Island Bridge would impact a number of historic resources, would not serve OMSI and the Central Eastside Industrial District and would impact the Corbett-Terwilliger-Lair Hill Neighborhood

B. Rationale for Preferred Preference

- **The Caruthers Bridge alignment would provide better access** to PSU, South Auditorium and South Waterfront areas than the Hawthorne Bridge Alignment
- **The Caruthers Bridge would provide more reliable service.** The frequent openings of the Hawthorne Bridge would affect light rail service reliability where the Caruthers would be a fixed span bridge.
- **Delays to traffic and buses would occur on Hawthorne Bridge.** Light rail trains would have to cross from the outside lanes to the inside on both ends of the bridge.
- **The Hawthorne Bridge would require significant modifications** that could result in closures of the bridge, which would affect auto commuters and Hawthorne area businesses.
- **Traffic on the Hawthorne Bridge could delay light rail and bus service.**
- **The Caruthers Bridge was selected as part of the South/North DEIS Locally Preferred Alternative in 1998** after significant public discussion.

- **Many groups have opposed the Hawthorne Bridge alignment** during the South Corridor public comment period.
- **The Caruthers Bridge has been supported** during the South Corridor public comment period.

C. Caveat

If the financial plan cannot accommodate the Caruthers Bridge Alignment, then the Hawthorne Bridge with a Main/Madison Street Alignment to the Transit Mall should be moved forward. If the financial resources are not available for the Hawthorne Bridge with the Main and Madison alignment, then the alignment studied in the SDEIS on SW First Avenue should be moved forward.

3.2.5 Preferred Alignment Connecting Caruthers Bridge to Portland Mall: Lincoln Alignment

A. Alternatives Considered

The **Harrison Alignment** was selected in 1998 as the South/North LPA alignment due to cost, travel time, ridership and public input. Currently, Portland Streetcar Inc. is in Preliminary Engineering for the extension of streetcar service from PSU to the North Macadam area via SW Harrison Street. The compatibility of operating streetcar and light rail on the same alignment was investigated, as were the differences between construction methods. The conclusions were that operating streetcar and light rail on the same tracks would negatively impact both modes. In addition, since light rail has more restrictive grade requirements and different station clearances than the streetcar, modifications to the tracks and stations would be required, disrupting streetcar service. Finally, if both modes were operating on the same tracks both modes would need to pre-empt traffic signals resulting in significant traffic delays at SW Naito Parkway. Finally, if both modes operate on the same tracks with stations and signals, the ultimate capacity of each is significantly reduced.

The **Lincoln Alignment** for light rail would avoid the issues with the Harrison Alignment. This alignment would cross over the intersection of SW River Parkway and SW River Drive at grade and would cross over SW Harbor Drive and the Harrison Street Extension on new structure. The alignment would cross SW Naito Parkway and SW First Avenue at-grade as the alignment continues up SW Lincoln Street. A station could be located between SW 2nd and 3rd avenues. The alignment would continue to SW 5th and 6th avenues where it would tie into the Portland Mall LRT alignment.

B. Rationale for Selection

- **Combining light rail and streetcar on Harrison could create operational difficulties.** The Portland Streetcar will likely use the Harrison Alignment and analysis has shown that operations could be difficult on a shared alignment. Either modifying Harrison streetcar tracks to accommodate light rail or building the streetcar to light rail standards would be expensive, and could result in a non-optimal shared LRT/Streetcar alignment.
- **The Lincoln Alignment could allow for a better station in the South Auditorium Area.**

C. Caveat

Additional engineering and design work is needed to ensure that the Lincoln Alignment will not effect I-405 exit and entrance ramps. If Lincoln Street proves not to be a viable option, then the Harrison Alignment should remain as a fallback option.

D. Issues to be Addressed by Staff

- **Update Environmental Analysis.** As noted above, the selection of the Caruthers Bridge with the Lincoln Street Alignment would likely require additional environmental work on the Willamette River crossing and will be the subject of a future second amendment to the South Corridor SDEIS.
- **Connection from the Caruthers Bridge to PSU.** Finalize the alignment from the west end of the Caruthers Bridge to PSU. Proceed with additional work needed on the Lincoln Alignment at 1) SW 5th and 6th avenues and 2) at SW River Parkway and SE River Drive where the alignment would ramp to cross SW Harbor Drive. Staff should work with ODOT and FHWA to ensure that access to and from the I-405 is not impeded.
- **Financial plan.** Continue to develop plans for the Caruthers Bridge for inclusion in the project. The Harrison Street alignment should be retained as a fallback option until a financial plan is adopted that accommodates the Caruthers Bridge.

3.3 Milwaukie to Oregon City: Develop Incremental BRT-type Improvements

A. Phasing

Concurrent with Phase 1, implement an incremental approach for select BRT and park-and-ride improvements between Milwaukie and Oregon City with transit service continuing to the Clackamas Community College. TriMet should include improved transit service concepts for SE McLoughlin Boulevard in their *Transit Investment Plan* process.

B. Rationale

It is recommended to proceed with incremental implementation of bus service and BRT-type elements in this segment. TriMet should include improved transit service concepts for McLoughlin Boulevard in their Transit Investment Plan process. This process should evaluate park-and-ride sites, bus stop improvements, pedestrian facilities and other service enhancements for implementation in cooperation with Milwaukie, Clackamas County and Oregon City. Service improvements to the Clackamas Community College southeast of Oregon City should also be considered. When light rail is implemented between Portland and Milwaukie, additional bus service improvements between Milwaukie, Oregon City and Clackamas Community College should be evaluated.

3.4 Milwaukie to Clackamas: No-Build - Maintain Local Bus Service

A. Rationale

With both I-205 and Milwaukie LRT lines implemented in the corridor, local bus service would be maintained or improved in this segment. The trips in this segment traveling through to central Portland would either travel east to access I-205 Light Rail or travel west to access Milwaukie Light Rail. With this service concept, BRT-type treatments, which facilitate transit travel through this segment, would not be needed.

As the I-205 and Milwaukie LRT alignments move toward implementation, TriMet should work with the neighborhoods in this segment (along with the City of Milwaukie and Clackamas County) to explore improvements to the local bus service in this segment. Improvements could include new routes, route modifications and improved service frequency.

4. PROJECT PHASING

While the previous sections of this report document the merits of implementing the I-205 LRT and Milwaukie LRT extensions along with the Portland Mall, this section addresses the need to phase implementation of the alignments and defines the proper sequencing for doing so.

4.1 Funding Considerations

4.1.1 Funding Context

The need for sequencing the two LRT extensions is addressed by assessing the viability of implementing the Combined LRT Alternative, which presumes that the I-205 LRT and Milwaukie LRT extensions would be concurrently implemented. As reported in the SDEIS, the “Fixed Guideway Opening Day” capital cost in year of expenditure dollars (YOES) for the Combined LRT Alternative would be approximately \$800 million. The inclusion of the Caruthers Bridge/Mall LRT alignment in downtown Portland (per the LPA) would increase the capital cost of the Combined LRT Alternative by an additional \$249. In addition, the annual LRT operating cost of the Combined LRT alternative is estimated to be \$13.3 million (2002\$) in the year 2020.

4.1.2 FTA Statutory Requirements

FTA administers a discretionary federal funding program for LRT projects (alternatively called Section 5309 funds or New Start funds). FTA only permits light rail extensions to proceed to Final Design and to receive a Full Funding Grant Agreement if they are determined to be consistent with FTA’s financial capacity policy. Section 5309(e)(1)(C) of the federal transit code requires that a grantee receiving a New Start funding grant must demonstrate that the project is “supported by an acceptable degree of local financial commitment, including evidence of stable and dependable financing resources to construct, maintain and operate the system or extension.”

Pursuant to FTA policy promulgated in response to the above statute, each South Corridor Project must meet two financial criteria to be eligible for a New Start funding grant:

- **Financial Condition.** Satisfactory financial condition means that the grantee (i.e. TriMet) can pay its current operations, capital and vehicle/facility replacement program costs from existing revenues.
- **Financial Capability.** Satisfactory financial capability means the grantee’s ability to meet its expansion costs in addition to its existing operations from project revenues.

4.1.3 Implications of Concurrent Construction of Milwaukie and I-205 LRT Projects

The Combined LRT Alternative could not comply with the above criteria and, therefore, cannot be eligible for a federal New Start grant because:

- **The Region could not commit an amount of local funding sufficient for the Combined LRT Alternative within the schedule required to secure a federal funding contract by March 2005.** An LRT project must have completed at least 60 percent of its Final Design in order to be eligible for a federal funding contract. For a project the size of the Combined LRT Alternative, it

could easily take a year from the start of Final Design to achieve the 60 percent threshold. However, FTA will not permit an LRT project to commence Final Design, unless the local funds for building and operating the project are fully committed.

- **By approximately February 2004 the region would have to demonstrate to FTA a fully committed, dependable source of \$419.0 million to \$524.5 million** of non-Section 5309 funds (i.e. local and federal formula funds); depending on whether a 60% or 50% “New Start” share was to be pursued. Based on financial capacity analyses, it currently appears that the region may be able to secure commitments for up to \$180 million of local and locally controlled federal formula funds by the time required. This is well under the amount required for the full Combined Alternative.
- **The region could not reasonably expect to secure sufficient federal funds within the 4 to 5 year construction period to ensure judicious financial management.** The federal share of the Combined LRT Alternative would be \$524.5 million to \$629.4 million in Section 5309 New Start funds, depending on whether a 50% or 60% “New Start” share was to be pursued. Assuming it would take five years to receive the federal funds, the Combined LRT Alternative would have to receive, on average, \$104.9 to \$125.9 million per year in Section 5309 New Start funds to secure its entire federal allotment. Based on past experience, it appears reasonable that TriMet could receive about \$80 million per year in federal New Start funding for all of the projects under contract. TriMet could not implement an interim borrowing program to accommodate this degree of deferred federal funding without seriously jeopardizing the remainder of its program.
- **TriMet could not accommodate the increased operating funds required to implement the Combined LRT Alternative in one phase, while continuing to operate and maintain the remainder of the transit system.** Cash flow analyses of TriMet’s operating budget prepared for the SDEIS indicated that the entirety of TriMet’s proposed payroll tax would have to be dedicated to the Combined LRT Alternative for about a decade to meet this requirement if the full Combined Light Rail Alternative were built in one phase without further resources. This would be inconsistent with the Transit Improvement Plan that underlies the proposal for the payroll tax increase.
- **For the reasons stated above, the Region could not demonstrate to FTA the financial capability to construct and operate the Combined LRT Alternative in one phase.** Consequently, it is recommended that a two-phase implementation strategy be undertaken. While some minor overlapping may be possible, these two phases would generally be sequential.

4.2 Phase 1 of the South Corridor Major Transit Investment Strategy: I-205 LRT Project including the Portland Mall and Transit Improvements in the McLoughlin Corridor

With the project savings to be identified during Preliminary Engineering, it is estimated that an I-205 LRT Project that includes a Mall alignment in downtown Portland between the Steel Bridge and Portland State University (PSU) would cost \$450 million (in YOES). Assuming a 60% New Start share, the maximum practical share given current FTA practice, this would require \$180 million in non-New Start funds. This is an amount that the region potentially will be able to commit by early 2004 (of that total, \$35 million is uniquely available for the I-205 LRT Project and \$25 million for the Portland Mall alignment due to the sources of these funds).

The required \$270 million of New Start funds, assuming a 60% share, would be reasonably obtainable over a 4-5 year period in increments of \$80m or less per year, and would not require an excessive interim borrowing program. In addition, with the proposed payroll tax increase, the operating costs of the I-205 LRT Project can be met while implementing the remainder of TriMet's Transit Improvement Program. Consequently, it appears that an I-205 LRT (with Portland Mall) Project could comply with FTA's financial capacity policy.

The greater the length of the Portland Mall Alignment that is constructed as part of the I-205 LRT Project, the easier it will be to implement the Milwaukie LRT Project. The Steel Bridge to PSU mall alignment discussed above represents the longest mall alignment possible with the I-205 LRT Project. However, it requires substantial local match that may not be possible to secure within the project schedule. While all reasonable efforts should be undertaken to secure sufficient funds for the Portland Mall alignment to PSU, a secondary, less expensive, option should be maintained that incorporates a Portland Mall alignment between the Steel Bridge and SW Main Street as part of the I-205 LRT Project. If this secondary option is pursued, the Portland Mall alignment between SW Main Street and PSU may be incorporated in the Milwaukie LRT Project, in the second phase of the project. In addition, if dictated by a larger local funding shortfall, a tertiary, least expensive option should be maintained that defers the entire Portland Mall alignment to the second phase of the project.

Construction of a Southgate park and ride lot in Milwaukie and relocation of the on-street transit center in downtown Milwaukie to the Southgate area is anticipated to use a mix of local and federal funds other than Section 5309 New Starts funds. Pending programming in TriMet's *Transit Investment Plan*, incremental implementation of BRT-style improvements between Milwaukie and Oregon City would be funded with a mix of local and federal funds other than Section 5309 New Starts funds.

4.3 Phase 2 of the South Corridor major transit investment strategy: Milwaukie LRT Project

Without a Mall alignment (as reported in the SDEIS), the Milwaukie LRT Project would cost approximately \$418 million (in YOES), if constructed as the first phase (i.e. between 2004 and 2008). Assuming a 60% New Start share, the amount of local funds (including formula federal funds) required to be committed to the Project by early 2004 would be approximately \$167.2 million. Based on analyses to date, this is almost \$50 million more than is currently available or the maximum that may be obtainable for a Milwaukie LRT (and no mall alignment) Project within the project schedule.

If constructed as the first phase of the project, a Milwaukie LRT Project that uses the Hawthorne Bridge and includes a Portland Mall alignment to the Steel Bridge would cost \$578 million. The costs would rise to \$666 million if it included the desired Caruthers Bridge to Steel Bridge alignment. These mall alignment options add between \$44 million and \$103 million to the local share deficit.

Consequently, a new funding source would be required for the Project. The Metro Transportation Investment Task Force has proposed a funding measure that incorporates GO bond funds for the Milwaukie LRT Project. Given the Oregon constitutional requirement for 50% voter turnout, such an election would only be practical during a general election (i.e. November 2004 or 2006). If

successful, the ability to commit these funds to the project would occur from one to three years after the time such a commitment would be required to start Final Design (early 2004).

With Milwaukie LRT being pursued as a second phase, the capital cost of the Milwaukie LRT Project depends on (i) the added inflationary costs associated with the later construction date and (ii) the extent of the downtown Portland alignment incorporated in the I-205 LRT Project:

- If the I-205 LRT Project incorporates a Portland Mall alignment to PSU, as desired, the Milwaukie LRT Project would cost \$514 million including the desired Caruthers Bridge to PSU alignment.
- If the I-205 LRT Project incorporates a Portland Mall alignment to SW Main Street, the Milwaukie LRT Project would cost \$ 566 million including the desired Caruthers Bridge to SW Main Street alignment, or, if sufficient funds are not available for the Caruthers Bridge alignment, \$478 million for the Hawthorne Bridge to SW Main Street to Portland Mall alignment.
- If the I-205 LRT Project does not incorporate any Portland Mall improvements, the Milwaukie LRT Project would cost \$666 million for the desired Caruthers Bridge to Steel Bridge alignment, or, if sufficient funds are not available for the Caruthers Bridge alignment, \$578 million for the secondary option of Hawthorne Bridge to SW Main/Madison Street to Mall to Steel Bridge alignment, or, if no funds are available for a Mall alignment, \$418 million for the tertiary option of not having any mall alignment (as in the SDEIS).

Depending on the amount of funding incorporated in a General Obligation (G.O.) bond election for the project, each of the above options and sub-options could be feasible. Moreover, reasonable design options exist if a lower amount of local funding is secured.

To maximize the opportunity for the Milwaukie LRT Project, steps should be undertaken in Phase 1 to begin to implement capital and transit service improvements in the Milwaukie corridor. In particular, the park-and-ride at the old Southgate Theater site should be implemented in Phase 1, followed by the relocation of the current on-street transit center to the Southgate area as early as practical pending resolution of environmental and design issues.

4.4 Overall Phasing Recommendation

Given the findings reported above, the following phased implementation plan is proposed for the South Corridor major transit investment strategy:

- **Implement the I-205 LRT Project as the first phase of the South Corridor major transit investment strategy** using existing local funds, including locally controlled federal formula funds, and federal discretionary “New Start” funds.
- **As part of the I-205 LRT Project, incorporate the maximum affordable Portland Mall alignment in downtown Portland.** The desired alignment would run from the Steel Bridge to PSU. If sufficient local funding is not available, implement a Steel Bridge to S.W. Main Street alignment as a secondary option, and no Mall alignment (as set forth in the SDEIS) as the tertiary option.

- **During Phase 1, Implement Transit Improvements in Milwaukie.** In Phase 1, construct a Southgate Park-and-Ride lot (construction is scheduled to start in Fall 2003), and relocate the existing on-street transit center in downtown Milwaukie to the Southgate area, pending resolution of environmental and design issues.
- **Implement the Milwaukie LRT Project as the second phase of the South Corridor major transit investment strategy,** using GO Bond funds (requiring voter approval) and federal discretionary “New Start” funds.
- **The downtown alignment component of the Milwaukie LRT Project depends on the downtown alignment incorporated in the I-205 LRT Project.** However, the downtown component should be based on the following priorities: (a) the Caruthers Bridge, which is most desired, (b) the Hawthorne Bridge to SW Main Street to Mall alignment, as the secondary option, and (b) no Mall alignment (as set forth in the SDEIS) as the tertiary option; depending on the amount of local funds secured for the Project.
- **Continue to address transit issues between Milwaukie and Oregon City.** During Phase 1, subject to evaluation in TriMet’s *Transit Investment Plan*, begin incremental implementation of limited Bus Rapid Transit (BRT) and park-and-ride improvements from Milwaukie to Oregon City.

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