5-8-1997

Meeting Notes 1997-05-08 [Part A]

Joint Policy Advisory Committee on Transportation

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Meeting: JOINT POLICY ADVISORY COMMITTEE ON TRANSPORTATION

Date: MAY 8, 1997
Day: THURSDAY
Time: 7:30 a.m.
Place: METRO, CONFERENCE ROOM 370A-B

*1. MEETING REPORT OF APRIL 10, 1997 - APPROVAL REQUESTED.

*2. RESOLUTION NO. 97-2505 - ADOPTING COST-CUTTING AMENDMENTS TO THE SOUTH/NORTH LIGHT RAIL ALTERNATIVES AND DESIGN OPTIONS TO BE STUDIED FURTHER IN THE PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT - APPROVAL REQUESTED - Richard Brandman.


*6. RESOLUTION NO. 97-2498 - ENDORSING THE INTERIM CORRIDOR STRATEGY FOR THE PORTLAND TO LINCOLN CITY CORRIDOR - APPROVAL REQUESTED - Andy Cotugno.

*Material enclosed.
DATE OF MEETING: April 10, 1997

GROUP/SUBJECT: Joint Policy Advisory Committee on Transportation (JPACT)

PERSONS ATTENDING: Members: Chair Jon Kvistad, Susan McLain and Ed Washington, Metro Council; Charlie Hales, City of Portland; Judie Hammerstad (alt.), Clackamas County; Dave Yaden (alt.), Tri-Met; Jim Kight, Cities in Multnomah County; Craig Lomnicki, Cities in Clackamas County; Don Wagner (alt.), ODOT; Dave Lohman (alt.), Port of Portland; Tanya Collier, Multnomah County; Dean Lookingbill (alt.), Southwest Washington RTC; Gerry Smith, WSDOT; and Roy Rogers, Washington County

Guests: Lisa Naito (JPACT alt.), Metro Council; Karl Rohde (JPACT alt.), City of Lake Oswego; Gary Katsion, Kittelson & Associates, Inc.; John Rist and Rod Sandoz, Clackamas County; John Rosenberger, Washington County; Ben Schonberger, Citizen; Manish Babla, David Evans & Associates; Scott Rice, City of Cornelius; Marc Zolton, Felicia Trader and Steve Dotterrer, City of Portland; Meeky Blizzard, STOP; Dave Williams, ODOT; Susie Lahsene, Port of Portland; Peter Fry, Central Eastside Industrial Council; Kathy Busse, Multnomah County; Richard Ross, City of Gresham; and Howard Harris, DEQ

Staff: Mike Burton, Executive Officer; Andy Cotugno, Larry Shaw, Richard Brandman, Mike Hoglund, and Lois Kaplan, Secretary

MEDIA: Gordon Oliver, The Oregonian

SUMMARY:

The meeting was called to order and a quorum declared by Chair Jon Kvistad.

MEETING REPORT

Dave Lohman moved, seconded by Dave Yaden, to amend the sixth paragraph on Page 3 of the March 13, 1997 Meeting Report to read as follows:
"Dave Lohman commented that expressed appreciation for the inclusion of preliminary engineering funds for one freight mobility projects. He also commented that this is the third MTIP allocation the Port has received in a row in which projects primarily for freight mobility have received only nominal funding. The freight (mobility) funding in this MTIP represents about 7 percent of the total allocation."

The motion PASSED unanimously to amend the Meeting Report as noted.

LETTER TO LCDC REGARDING EVALUATION OF TRANSPORTATION PLANNING RULE IMPLEMENTATION

Andy Cotugno highlighted the draft letter to LCDC commenting on the Parsons Brinckerhoff Quade & Douglas (PBQ&D) evaluation of the Transportation Planning Rule. He reviewed TPAC's proposed revisions to the draft recommendations, reflecting the action taken at its March 28 meeting.

Andy noted that the Transportation Planning Rule (TPR) was adopted about five years ago. Measures to reduce VMT/capita for 10 and 20 percent over the next 20 years and parking over the next 10-20 years are the proposed standards. The TPR requires that the standards and progress then be reviewed every five years.

Andy indicated there is support for a broader set of transportation performance measures beyond VMT and parking and they need to be taken into context of other planning objectives. He also cited the need for the consultant to recognize factual information conducted as part of Metro's 2040 and RTP planning. One of the major issues of the PBQ&D report is that the VMT standard would be reduced from 10 percent to 5 percent. TPAC's recommendation is that they not drop that standard but recognize that it may not be attained. There is need to demonstrate that progress is being made toward implementing strategies that will help you meet your goal rather than dropping the standard. Also being questioned is whether the road/congestion and parking pricing approaches are too aggressive.

The proposed letter to LCDC will be considered by MPAC in a few weeks.

Action Taken: Dave Yaden moved, seconded by Commissioner Collier, to accept the letter as written for forwarding to MPAC. The motion PASSED unanimously.
RESOLUTION NO. 97-2487 - RECOMMENDING A DEVELOPMENT PROGRAM FOR ADOPTION BY THE OREGON TRANSPORTATION COMMISSION IN THE FY 98-2001 STIP

Andy Cotugno explained that the construction component of the Metropolitan Transportation Improvement Program (MTIP)/State Transportation Improvement Program (STIP) was approved at the March 13 JPACT meeting. This action would approve the Development Program of the STIP and identifies projects in the Engineering or Environmental Impact Statement (EIS) phase to be considered for construction funding. Exhibit A defined the projects. Andy reviewed the two categories of funds for inclusion in the Development Program, highlighting the projects therein.

Also distributed at the meeting was Exhibit B to the resolution which reflects the Highway Preservation Program.

Andy explained that the Development Program funding level is constrained and the construction cost of the listed projects falls within what is anticipated to be available. He noted that the Tualatin-Sherwood Expressway project is not reflected in the target amount and would be funded out of the Infrastructure Account. He also clarified that the Sunrise project is intended as one project for development purposes but construction would be phased.

Don Wagner indicated that some work, similar to reconnaissance projects, may take place under the work plan budget rather than in the STIP. The Reconnaissance Section has been dropped but there will be ongoing activity for both Metro and ODOT planning projects. Discussion revealed that the bridge, preservation and safety projects are selected through technical rankings.

Exhibit B, relative to project descriptions/costs, was distributed at the meeting.

Action Taken: Don Wagner moved, seconded by Dave Yaden, to recommend approval of Resolution No. 97-2487, inclusive of Exhibit B, recommending a Development Program for adoption by the Oregon Transportation Commission in the FY 98-2001 STIP. The motion PASSED unanimously.

1997 LEGISLATIVE PRIORITIES

Andy Cotugno reviewed the proposed elements of House Bill 3163 as defined in a draft distributed at the meeting. He cited the importance of focusing on legislative review. Andy noted that two worksessions were held down in Salem that week and that a full mark-up of HB 3163 is being considered.
Elements being considered include a 3-cent gas/diesel tax increase for years 1998, 1999 and 2000; an increase in registration fees for cars/light trucks from $15 to $35 per year effective January 1, 1998; and a phased-in weight/mile tax increase in 1998, 1999 and 2000.

The three primary funding categories being discussed include 1) Operations, Maintenance and Preservation; 2) Modernization; and 3) Transportation Safety and Service (formerly the Access Fee).

Andy commented on the highly debated weight-mile/diesel issue which recognizes truck cost responsibility of 38.3 percent share of road damage and 15 percent for modernization. There was extensive discussion on a diesel tax substitute with replacement of a diesel/registration fee approach.

HB 3163 would provide ODOT with approximately $230 million of bonding authority, with $150 million of that total still available.

Dave Lohman reported that 90 percent of the jet fuel tax is collected at the Port of Portland.

With regard to the county local option registration fees, the discussion centered on pre-empting the existing authorities and the importance of local options.

Dave Yaden cited the merits of the Safety and Transportation Access fee and the need to communicate the significance to our delegation. The one cent for bonding is used only for projects of state significance. It is defined as a Modernization Program administered by the state. Commissioner Hales noted that projects on the STIP list are eligible for that funding if the region chooses to authorize that. Don Wagner felt that was the intent but didn’t know the exact wording of the bill. He had heard no opposition regarding the bonding proposal. Dave Lohman clarified that the money can’t be spent on local arterials.

Mike Burton noted that HB 3163 has neither come out of committee nor been marked up. Commissioner Hales emphasized the need to communicate with our delegation over this type of decisive action in the Legislature and to demonstrate our appreciation of Representative Montgomery’s leadership in this effort.

Councilor Naito encouraged JPACT members to talk to their legislators who are normally supportive of this and to communicate our priorities to others.

Meeky Blizzard, representing STOP, distributed a handout from the Flexible Funding Coalition in support of the access fee for
flexible transportation funding. The Flexible Funding Coalition represents a diverse group of advocates from the business, government, transit agencies, ports, utilities and transportation community.

**INTERSTATE BRIDGE CLOSURE**

Gerry Smith reported on major repairs needed to the northbound Interstate Bridge. A crack in the lift span's trunnion shaft has developed that could cause a catastrophic failure if not repaired. ODOT is the lead on this and their engineers are working on the problem.

Gerry commented that the two-three week closure for the proposed bridge repair traffic revisions provide a potential future view for Clark County citizens to understand what traffic will be like in 10-15 years if the County doesn't take advantage of options such as light rail. It is proposed that, for 21 days, all traffic will be routed onto the southbound span, two lanes going southbound and the remaining lane northbound. The span in question is dated back to 1917 and repairs are slated for September or October of this year. A discussion followed on traffic impacts affecting both sides of the river. Gerry reported that a meeting was held with business people from Jantzen Beach and other affected areas to discuss the issue. The issue of whether to wait a year to get better bids is also being discussed. Engineering experts predict that the bridge will fail around the year 2007. The objective is to replace the shaft before 1999.

Don Wagner noted that ODOT has also had discussions with the shipping community to minimize any impact there might be on marine freight activity.

Discussion continued on the safety issue. Don Wagner indicated that ODOT doesn't want to delay the repair for another year. It is the intent to have the same carrying capacity for cargo and people. He cited the need for express services that are not in place today. Dean Lookingbill noted that, if they go ahead at this time, they will be setting new public policy with regard to use of carpooling and other measures. Councilor McLain felt this could serve as a catalyst to encourage people to seek other options of travel.

Gerry Smith reported that at least $140 million will be spent on the bridges over time. He asked whether $60-70 million should be spent to maintain two obsolete bridges or whether they should be replaced by new ones. Councilor Kvistad noted that we would be happy as a region to facilitate that direction. He felt this would be a quality opportunity to discuss other options in our Transportation Department. Andy Cotugno asked whether a contraflow option is being considered and was assured that that option is being explored.
MID-WILLAMETTE VALLEY AREA COMMISSION ON TRANSPORTATION

Andy Cotugno reviewed the letter from Dave Bishop, ODOT’s Manager of the Mid-Willamette Valley Area, extending a regional ex-officio appointment from JPACT to the Mid-Willamette Valley Area Commission on Transportation (MWACT). MWACT was formed in January 1997 to serve as an advisory group to the OTC with representation from regional transportation planning organizations in areas adjacent to the Mid-Willamette Valley area. Its intent is to foster good communication and coordination on transportation matters within Marion, Polk and Yamhill Counties and its neighbors.

Chair Kvistad asked whether any JPACT member was interested in participating on MWACT pending an appointment.

ANNOUNCEMENTS

Dave Lohman announced that a course on landside access for intermodal facilities would be held on April 22-24. The course is sponsored by USDOT, the National Highway Institute and FHWA. Cost for the course at the Lloyd Center Red Lion is $150.00 for the three days.

*****

Commissioner Hales noted that the Regional Transportation Summit is scheduled the same week, will be held at Benson High School, and a good cross-section of citizens and staff have been invited. He encouraged attendance, noting that Jim Kuntsler will be the key speaker. A reception is being hosted the night before the summit at the Japanese Gardens.

*****

ADJOURNMENT

There being no further business, the meeting was adjourned.

REPORT WRITTEN BY: Lois Kaplan

COPIES TO: Mike Burton
           JPACT Members
PROPOSED ACTION

This resolution adopts Exhibit A as the South/North Cost-Cutting Measures Final Report: Amendments to Alternatives and Design Options. The resolution also adopts amendments, described in more detail in Exhibit A, to the alternatives and design options to be studied further in the South/North Draft Environmental Impact Statement.

FACTUAL BACKGROUND AND ANALYSIS

1. Background

The South/North Transit Corridor Study was initiated in April 1993 when the Metro Council adopted Resolution No. 93-1784, which selected the Milwaukie and I-5 North Corridors as the region’s high capacity transit priority to be studied further within a Federal Draft Environmental Impact Statement (DEIS). In October 1993, the Federal Transit Administration (FTA) issued its intent in the Federal Register to publish an EIS for the South/North Corridor. The project then implemented a process to determine the alternatives and design options to be studied further within the DEIS. The first step in that process led to the adoption of the Tier I Final Report by Metro Council in December 1994, which determined the scope of the Phase One project and the length and alignment alternatives to be studied further in the DEIS. The second step concluded in November 1995 when the South/North Steering Committee adopted the Design Option Narrowing Report which determined the design options to be studied further in the DEIS, and in December 1995 when the Metro Council adopted Resolution No. 95-2243 which endorsed those design options and which determined the alignment alternatives in downtown Portland to be studied further in the DEIS.

2. Ballot Measure 32 Results

In February 1996 in a special session, the Oregon Legislature approved a bill that would have provided $375 million in Oregon State Lottery funds for the state’s share of South/North Light Rail’s capital budget for the first construction segment. That bill was placed on the November 1997 statewide ballot by petition. In November 1997, Ballot Measure 32 was defeated statewide.
After the November election, the South/North Steering Committee directed staff to evaluate the election results and to propose next steps for the South/North Transit Corridor Study. Following are the Steering Committee’s findings from that effort:

- The light rail funding measure passed with a 56 percent “yes” vote within the Metro boundary and it passed in each of the three counties inside the Metro boundary.
- An independent survey of voters found that 70 percent of tri-county voters favor moving forward with South/North light rail as it is currently defined or with some changes.
- The independent survey also found that, while support for light rail is high, there is some concern about cost.

In response to the election results and analysis, the Steering Committee and Metro Council called upon project staff to develop a range of options and design changes to significantly reduce the cost of the project.

3. Cost-Cutting Process: Public Involvement Activities and Committee Recommendations

The Steering Committee held a joint work session with the South/North Citizens Advisory Committee (CAC) in January 1997 to review and comment on preliminary cost-cutting measures that had been identified by project staff. At that time, the two committees also heard ongoing results of a major public involvement effort by the project to provide presentations on South/North Light Rail at over 200 community, business and neighborhood meetings throughout the region. That public involvement effort included the distribution of brochures to over 100,000 households with a mail-back survey that, while not scientific, showed that over 80% of respondent approved of moving ahead with the South/North Light Rail Project.

In February 1997, the Metro Council adopted the South/North Finance Plan which formed the basis of the region’s request for South/North Light Rail Project funding to be included within the reauthorization of the federal Intermodal Surface Transportation Efficiency Act and which anticipated a reduction in project costs of over $500 million resulting from the ongoing cost-cutting process.

In March 1997, the South/North Project Management Group (PMG) released its recommendations for cost-cutting amendments to the project’s alternatives and design options within the Briefing Document: Proposed Cost-Cutting Measures. The PMG also initiated a 30-day public comment period on those proposed amendments.

The 30-day comment period included six project open houses throughout the corridor to provide the general public with the opportunity to receive material describing the proposed cost-cutting measures and to talk directly with project planners and engineers. The CAC and the Steering Committee each held a work session to review the proposed cost-cutting measures and amendments to the project’s alternatives and design options. An edition of the South/North News,
the project newsletter which described the proposed amendments, was distributed to over 10,000 households and businesses. The comment period also included two public comment meetings hosted by the Steering Committee, held on April 8 and 9, 1997. Public comment was also received via the mail, the Transportation Hotline and the project’s Web site. All comments received during the public comment period have been documented in the *Public Comments on South/North Cost-Cutting Proposals Report* (Metro: April 1997). The comment period, open houses and public comment meetings were announced through advertisements in local newspapers and publications, in news releases, at neighborhood meetings, on the Transportation Hotline and through the *South/North News*.

On April 14, 1997, the South/North Expert Review Panel (ERP) met to review and discuss the methods, assumptions and results of the cost-cutting process. The panel, which has met at major project milestones since the initiation of the project in 1992, concluded that the methods, assumptions and results of the process were appropriate and adequate for the public and project officials to determine amendments to the alternatives and design options to be studied further in the DEIS. The panel also provided specific suggestions for changes that could be incorporated by the project as the proposed cost-cutting measures are analyzed in the DEIS. Carl Hosticka, the Chair of the ERP, presented the findings of the panel to the Steering Committee at its meeting on April 23, 1997.

On April 15, 1997, following the conclusion of the public comment period, the South/North PMG met and adopted amendments to the cost-cutting measures that addressed comments received by the project. Those recommendations are included in the *Briefing Document: PMG’s Proposed Cost-Cutting Measures* (Metro: April 1997).

On April 16, 1997, the CAC received further public comment and discussed the PMG’s revised recommendations. They concluded by adopting their own recommendations to the Steering Committee for amendments to the alternatives and design options to be studied further within the DEIS. Those recommendations were summarized in a letter dated April 18, 1997 from Rick Williams, Chair of the CAC, to Councilor Ed Washington, Chair of the South/North Steering Committee. While their recommendations were substantially similar to those of the PMG, they did propose the addition of a length alternative from the Milwaukie Market Place to N Lombard Street.

On April 22, 1997, the South/North Downtown Portland Oversight Committee met to review the PMG’s proposed cost-cutting measures for downtown Portland. The Oversight Committee concluded by endorsing the PMG’s recommendations and identified a variety of issues and concerns that should be addressed by the project as those cost-cutting measures are studied further in the DEIS. Charles Armstrong, Chair of the Oversight Committee, presented the committee’s conclusions to the Steering Committee at its meeting on April 23, 1997.
On April 23, 1997, the Steering Committee met to review and discuss the public comment, the technical analysis and the recommendations adopted by the PMG, the CAC and the Downtown Portland Oversight Committee. The committee also discussed the findings and conclusions made by the ERP. The Steering Committee concluded by adopting its own recommendations in the Briefing Document: Steering Committee's Recommended Cost-Cutting Measures. The Steering Committee's recommendations were then forwarded to the local jurisdictions for their opportunity to review and comment on the proposed amendments to the project's alternatives and design options.

4. Amendments to the DEIS Alternatives and Design Options

When the identified cost-cutting measures are taken together, project costs would be reduced by approximately one-third, which represents a savings of over $500 million for a project serving both Clackamas County, downtown Portland and North Portland. Additionally, the project's cost per mile would be reduced to a level equivalent to the current Westside Project. The end result of the cost-cutting process has been to enable the project to have higher ridership with less cost, which will enable it to compete more effectively for federal funding.

The amendments are summarized in the attached resolution and are described in greater detail in Exhibit A, South/North Cost-Cutting Final Report: Amendments to Alternatives and Design Options.
BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ADOPTING COST-
CUTTING AMENDMENTS TO THE
SOUTH/NORTH LIGHT RAIL
ALTERNATIVES AND DESIGN OPTIONS
TO BE STUDIED FURTHER IN THE
PROJECT DRAFT ENVIRONMENTAL
IMPACT STATEMENT

RESOLUTION NO. 97-2505

Introducing:

COUNCILOR WASHINGTON

WHEREAS, In April 1993, the Metro Council adopted Resolution No. 93-1784 which selected the Milwaukie and I-5 North Corridors as the region’s high-capacity transit priority for study and combined them into the South/North Transit Corridor to be studied within a federal Draft Environmental Impact Statement; and

WHEREAS, In October 1993, the Federal Transit Administration issued notification of intent in the Federal Register to publish a South/North Environmental Impact Statement; and

WHEREAS, The current alternatives being studied in the Draft Environmental Impact Statement were approved by the Metro Council in December 1994 with the adoption of Resolution No. 94-1989 and in December 1995 with the adoption of Resolution No. 95-2243; and

WHEREAS, It is the role of the South/North Project Management Group, the South/North Citizens Advisory Committee, the South/North Downtown Portland Oversight Committee, the South/North Steering Committee and the project’s participating jurisdictions to recommend alternatives to be studied further in the Draft Environmental Impact Statement; and

WHEREAS, It is the role of the Metro Council to make the final determination of the alternatives to advance into the Draft Environmental Impact Statement for further study; and

WHEREAS, In December 1996, the Metro Council endorsed the South/North Steering Committee’s findings that there remains a strong base of regional support for the South/North Light Rail Project, as currently planned or with some changes, and Metro Council endorsed the committee’s plan to undertake a process intended to significantly reduce costs for the

South/North Metro Resolution No. 97-2505
Page 1
South/North Transit Corridor Study; and

WHEREAS, In February 1997, the Metro Council adopted Resolution No. 97-2460 which endorsed the South/North Light Rail Project Finance Plan as adopted by the South/North Steering Committee that would require a significant reduction in South/North project costs; and

WHEREAS, In March 1997, The South/North Project Management Group proposed significant cost-cutting measures for the South/North Light Rail Project in the *South/North Briefing Document: Proposed Cost-Cutting Measures* and initiated a 30-day public comment period on those proposed cost-cutting measures; and

WHEREAS, In April 1997, the South/North Expert Review Panel reviewed the methods, assumptions and results of the cost-cutting process and concluded that they were appropriate and adequate for the public and project officials to determine amendments to the alternatives and design options to be studied further in the Draft Environmental Impact statement; and

WHEREAS, In April 1997, following the conclusion of the public comment period, the South/North Project Management Group, the South/North Citizens Advisory Committee, the South/North Downtown Portland Oversight Committee and the South/North Steering Committee adopted recommendations for proposed cost-cutting measures for the South/North Light Rail Project; and

WHEREAS, The proposed amendments to the alternatives and design options were developed and evaluated based upon the project’s criteria and measures, including estimated costs, ridership, bi-state land use and development goals and significant environmental benefits and impacts; and

WHEREAS, The cost-cutting measures as proposed by the South/North Steering Committee would reduce project costs by approximately one-third, resulting in savings totaling more than $500 million dollars, consistent with the project’s adopted Finance Plan, while allowing the proposed project to meet its goal and objectives; now, therefore
BE IT RESOLVED:

1. That Exhibit A is hereby adopted as the *South/North Cost-Cutting Measures Final Report: Amendments to Alternatives and Design Options*.

2. That the following amendments, described in more detail in Exhibit A, are made to the alternatives and design options to be studied further in the South/North Draft Environmental Impact Statement:

   A. Clackamas Regional Center
      - Add a terminus option at the Clackamas Town Center Transit Center Station for both the North and South of CTC Alignment Alternatives.
      - Amend the North of Clackamas Town Center Alignment Alternative by deleting the proposed alignment generally adjacent to SE Fuller Road and linking the alignment between SE Monterey Avenue and SE Harmony Road with an alignment that would run in the vicinity of SE 79th and 80th Avenues.

   B. Railroad Avenue
      - Amend the current Railroad Avenue Alternative being studied in the DEIS to reflect a narrower street design.
      - Add an alternative that would close sections of Railroad Avenue to through-traffic and would generally locate light rail within the right-of-way currently occupied by Railroad Avenue.
      - Add a North of Highway 224 alignment to be studied further in the DEIS. The proposed new alignment alternative would run north of and parallel to Highway 224, generally within right-of-way currently owned by ODOT.
      - Evaluate the Railroad Avenue Alignment alternatives with and without a Wood Avenue Station.

   C. Central Milwaukie
      - Eliminate the two Monroe Street Alternatives and add a Main Street/SP Branch Line Alternative to the DEIS for further study.

   D. McLoughlin Boulevard
      - Study the McLoughlin Boulevard segment with two options, one that would include the reconstruction of the SE Bybee Boulevard overpass and one that would not include
reconstruction of the overpass.

E. South Willamette River Crossing
- For the Caruthers Crossing Alternative:
  1) eliminate the Caruthers Modified Alignment Alternative (including the 100-foot, fixed-span bridge);
  2) add a 75-foot, fixed-span bridge alternative; and
  3) add two westbank design options for the 75-foot bridge alternative, a Caruthers/Moody alignment and a Caruthers/South Marquam alignment.
- Eliminate the Above-Grade Design Option of the Caruthers/Brooklyn Yard Alignment Alternative.

F. Downtown Portland
- Replace the perpendicular turn alignment design from SW Harrison Street to SW 5th and 6th Avenues with the PSU diagonal alignment design.
- Add a MAX Connector Alternative to the DEIS for further study. This recommendation would:
  1) retain the existing full-mall alignment; and
  2) add a second alternative in downtown Portland that would be composed of the full-mall alignment from the PSU Plaza to Morrison and Yamhill, where the South/North and the East/West tracks would be connected.

G. Eliot
- Add a lower-cost design of the Arena Transit Center.

H. Kaiser to Lombard Street
- Add a design option to the I-5 Alignment that would move the existing southbound I-5 off-ramp at N Alberta Street to just north of N Going Street and would close the existing southbound on-ramp to I-5 from N Alberta Street (access southbound would be via the N Going Street on-ramp).
- Modify the track treatment planned for Interstate Avenue to reduce costs while retaining urban design objectives.
- Eliminate the north terminus options at the Edgar Kaiser Medical Facility and replace it with a terminus option at Lombard Street to be coupled with a south terminus at the Clackamas
Regional Center.

- Include in the DEIS a summary of the costs, ridership and other significant benefits and impacts associated with an alternate terminus location in Kenton.

I. Lombard Street to VA Hospital/Clark College
- Eliminate the north MOS terminus option at the Expo Center and replace it with a terminus option at Lombard Street to be coupled with a south terminus at the Clackamas Regional Center.

ADOPTED by the Metro Council on this _____ day of __________, 1997.

Jon Kvistad, Presiding Officer

Approved as to Form:

Daniel B. Cooper, General Counsel
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I Introduction

In December 1996, the South/North Steering Committee and Metro Council evaluated the results of Ballot Measure 32, which would have provided State of Oregon funding for the South/North Light Rail Project. Following are their key findings:

- The light rail funding measure passed with a 56 percent “yes” vote within the Metro boundary and it passed in each of the three counties inside the Metro boundary.
- An independent survey of voters found that 70 percent of tri-county voters favor moving forward with South/North light rail as it is currently defined or with some changes.
- The independent survey also found that, while support for light rail is high, there is some concern about cost.

In response to the election results and analysis, the Steering Committee and Metro Council called upon project staff to develop a range of options and design changes to significantly reduce the cost of the project.

The purpose of this Briefing Document is to provide a summary of the technical information and recommendations of the South/North Steering Committee on cost-cutting measures to be incorporated into the South/North Transit Corridor Study. This document begins with an overview of past narrowing actions, the purpose and need that is being addressed by the study and a discussion of the objectives that have guided the development of cost-cutting measures. The Briefing Document concludes with a segment-by-segment description of which cost-cutting measures are being recommended for further study and why.

A. Previous Actions

The South/North Transit Corridor Study was initiated in July 1993, following the region’s decision in April 1993 to designate the South/North Corridor as the priority corridor for further study of a high capacity transit (HCT) improvement.

Scoping Process: In December 1993, the South/North Steering Committee established the scope or range of alternatives to be considered in the South/North Transit Corridor Study. The number of alternatives to be studied further was first narrowed through a public process that was initiated in September 1993. At that time, the Federal Transit Administration issued its intent to publish a Draft Environmental Impact Statement (DEIS) for the South/North Corridor. The Scoping Process also acknowledged a two-tiered process to be used to narrow the range of alternatives to be studied further within the DEIS.

Tier I - Narrowing Terminus and Alignment Alternatives: In December 1994, following the preparation of technical analysis and public comment on the alternatives identified during the Scoping Process, the Metro Council adopted the range of Terminus (end points) and Alignment Alternatives to be studied further within the DEIS.

Tier I - Design Option Narrowing: In December 1995, the Steering Committee considered further refinements to the alternatives by narrowing the range of Design Options.

These narrowing actions, taken between 1993 and 1995, have established the range of alternatives and options currently being studied within the corridor. In early 1996, project staff initiated work on analyzing the alternatives and on preparing the DEIS.

B. The Task at Hand: Reduce Costs While Retaining Value

During the past four months, project staff have been developing and evaluating a wide range of options to reduce project costs. The range of cost-cutting measures that have been identified include changes to designs throughout the corridor, modifications to standards, reductions in construction schedules and many more. This document summarizes the Steering Committee’s recommendations on which cost reduction options are the most promising and should be incorporated into the project. The Steering Committee’s recommendations are based on balancing the project’s goal to reduce costs while retaining as much value in the project as possible.

The adoption process for the cost-cutting measures is illustrated in Appendix A. The process includes a 30-day public comment period, which was open between March 14 and April 14, 1997. Public comments were received at two meetings hosted by the Steering Committee on April 8 and 9, 1997. Comments were also received by mail, through the Transportation Hotline and on the Project’s Web page. Documentation of all citizen input received during the comment period is provided in the Public Comments on South/North Cost-Cutting Proposals Report (Metro: April 1997). The public comment period was followed by the adoption of recommendations from the PMG, Citizens Advisory Committee (CAC) and the Downtown Portland Oversight Committee. This report documents the subsequent recommendations unanimously adopted by the South/North Steering Committee on April 23, 1997. Local jurisdictions and agencies will be provided the opportunity to adopt their own recommendations before the Metro Council takes action on the final set of cost-cutting measures to be incorporated into the study.

Before the cost-cutting measures are described in more detail, it is important to understand the foundation of the South/North Transit Corridor Study. By understanding the purpose of the proposed light rail project and the transportation and the land use needs that it can address, we can better evaluate the proposed cost-cutting measures. The project’s goal and objectives, now more than ever, are valuable tools in examining trade-offs between options. They will also be used to determine which are the most promising ways to implement reductions in costs while retaining the maximum level of the project’s effectiveness.
Purpose and Need

The following two pages are intended to set a context for the South/North Transit Corridor Study: What area does the Study cover? Why are we studying the South/North Corridor? What purpose would the Light Rail Transit (LRT) alternative and the various design options serve? How will we evaluate alternatives being studied?

A. The South/North Corridor

Figure 1 illustrates the South/North Corridor. The Corridor is the travel shed extending north from the Oregon City area in Clackamas County, through downtown Portland and into Clark County, north of Vancouver. The Corridor is defined in this way because it captures the trips that could benefit from the major transit improvements being evaluated, either on LRT exclusively or federal onto light rail through a system of connecting bus routes and/or park-and-ride lots.

Key activity centers within the Corridor help to define the points that LRT should connect. These key activity centers include Oregon City, the Clackamas Regional Center (CRC) area and the downtowns of Milwaukie, Portland and Vancouver. The Corridor also includes other important centers such as the Oregon Institute of Technology, Clackamas Community College, the Central Eastside Industrial Area, OMSI, the North Macadam Redevelopment Area, Portland State University, the Union Station/North River District, the Rose Quarter, Interstate Avenue, Portland Community College in north Portland, the VA Hospital and Clark College.

In all, the South/North Corridor covers almost half of the metropolitan region. It is characterized by high employment and residential growth (higher than the region as a whole), with the potential for worsening travel and air quality conditions.

B. Phasing the Development of LRT in the Corridor

One of the most significant outcomes of the analysis to date has been the acknowledgment that the development of light rail in the South/North Corridor will need to take place over several phases, spanning a decade or more. The project's first phase has been defined as the segment between the Clackamas Regional Center in the south, through central Milwaukie and downtown Portland to a northern terminus in Vancouver. The second phase of the project would extend the project south to Oregon City, via either McLoughlin Boulevard or I-205.

Funding and cash-flow limitations will also require that the first phase of the project be built in at least two or three distinct construction segments. Various construction segments and funding options will be studied further in the DEIS and Final Environmental Impact Statement (FEIS).
C. Transportation Problems and Opportunities

The problems and opportunities that exist within the South/North Corridor set the context for defining and evaluating the LRT alternatives and design options.

- **Population and Employment Growth.** With the expanding Northwest economy, population within the Portland/Vancouver metropolitan area is projected to grow by 500,000 to 700,000 over the next 20 years. Anticipating and managing that growth is essential in order to ensure that the region's quality of life is not diminished.

- **Traffic Problems.** With this growth, traffic in the South/North Corridor is exceeding the capacity of many of the roads and intersections within the highway system. For example, most of McLoughlin Boulevard is currently highly congested with a level of service of E or F (A is best, F is worst). In the north, traffic across the Columbia River has almost doubled since the opening of the I-205 Bridge with I-5 currently operating at level of service E to F. Projections for continued growth well into the future will cause demand to exceed capacity during the key commute periods.

- **Transit Problems.** As the highway network becomes congested, the bus network, which shares the road with cars and trucks, experiences longer travel times and high levels of unreliability. Deterioration in speed and reliability of buses increases operating costs, lowers ridership and costs transit riders thousands of person hours a day through longer bus trips.

- **Regional Plans.** For over 20 years, the region has shaped its land use and transportation plans based upon the expectation that high capacity transit (HCT) would be provided within the South/North Corridor. Those plans have sized the road network, defined the comprehensive land use plans and implemented a bus network that would enhance and be served by an HCT facility.

- **State Regulations.** Both Oregon and Washington jurisdictions must comply with state regulations affecting transportation and land use planning. Oregon requires that the region plan for a 20 percent reduction in the per capita vehicle miles traveled and a 10 percent reduction in the per capita number of parking spaces. In the State of Washington, Clark County jurisdictions adopted commute trip reduction ordinances that require major employers to reduce single occupancy vehicle trips by 35 percent by 1999.

- **Economic Health.** There is growing concern that reduced accessibility within the South/North Corridor may reduce its ability to attract and retain industrial and commercial development in the Corridor. This trend adds to the concern in Clark County regarding the relative loss of per capita income compared to the region. Further, concurrency requirements within the State of Washington may limit new development if the transportation system is inadequate to handle new demand.

- **Air Quality.** The region is currently "marginal" for ozone levels and "moderate" for carbon monoxide. Transit expansion is a key element of the region's proposed Air Quality Maintenance Plan and could save new industry $2 million a year in air quality clean-up costs.

D. Goal and Objectives

In response to these problems and opportunities, the South/North Steering Committee has adopted the following goal and objectives for the Project:

To implement a major transit expansion program in the South/North Corridor that supports bi-state land use goals, optimizes the transportation system, is environmentally sensitive, reflects community values and is fiscally responsive.

1. Provide high quality transit service.
2. Ensure effective transit system operations.
3. Maximize the ability of the transit system to accommodate future growth in travel.
4. Minimize traffic congestion and traffic infiltration through neighborhoods.
5. Promote desired land use patterns and development.
6. Provide for a fiscally stable and financially efficient transit system.
7. Maximize the efficiency and environmental sensitivity of the engineering design of the proposed project.

To date, alternatives and design options have been developed to address the problems and opportunities within the Corridor. Once the DEIS is published, the study's goal and objectives will provide a framework for evaluating and selecting the preferred alternative and design option for each segment of the corridor.

The goal and objectives also provide the basis of the recommendations for cost-cutting measures to be incorporated into the study at this time. The goal of reducing project costs must always be seen in light of the project's transportation and land use objectives to help ensure that the best project, reflecting a balance of cost and effectiveness, is the one that moves into final design and construction.
III Segments: Current Alignment Alternatives and Design Options Under Study

The Phase One South/North Project has been divided into several segments, including a range of alternatives and design options within each segment. Following is a summary of those segments and the alternatives and design options that are currently under study within the DEIS. This is the starting point for the proposed cost-cutting measures. The recommendations within this report would keep, amend or delete these project alternatives and design options or they would add new lower-cost alternatives to the DEIS for further study.

These segments, alternatives and design options are illustrated in Figure 2.

1. Clackamas Regional Center
   
   **Alignment:**
   - North of CTC
   - South of CTC
   - South of OIT/CCC
   - North of OIT/CCC

   **Terminus Location:**
   - 93rd Avenue
   - 105th Avenue

2. Railroad Avenue
   - Railroad Avenue

3. Central Milwaukie
   - Monroe Street and 21st/McLoughlin
   - Monroe Street and SP Branch Line

4. McLoughlin Boulevard
   - McLoughlin Boulevard

5. South Willamette River Crossing
   - Caruthers/Brooklyn Yard
     - At-Grade Crossings
     - Above Grade Crossings
   - Ross Island Crossing
     - West McLoughlin Boulevard
     - East McLoughlin Boulevard

6. Downtown Portland
   - Harrison Street and Center Lane of Transit Mall
     - Irving Street
     - Glisan Street

7. Eliot
   - Wheeler Avenue Alignment and Russell Street Station
   - East of I-5 Alignment and Kerby Street Station

8. Kaiser to Lombard Street
   - Interstate Avenue Alternative
   - I-5 Alternative

9. Lombard Street to VA Hospital/Clark College
   - West of I-5
   - Lift Span Bridge
   - Two-Way on Washington Street

**Length Alternatives**

Because the Phase One Project will need to be built as two or more construction segments, the current study also includes several segments that are shorter than the Full-Length Alternative from Clackamas Regional Center to Vancouver.

These shorter Length Alternatives are called Minimum Operable Segments (MOS). Specifically, they are options for the first construction segment. These construction segments will play an important role in developing the project's finance plan. The first construction segment will be selected along with the preferred alignment alternative and design option following the publication of the DEIS.

Following are the Length Alternatives currently under study within the DEIS:

- Full-Length. Clackamas Regional Center to Vancouver
- MOS 1. Milwaukie Market Place to Vancouver
- MOS 2. Clackamas Regional Center to the Rose Quarter Transit Center
- MOS 3. Clackamas Regional Center to the Edgar Kaiser Medical Facility
- MOS 4. Clackamas Regional Center to the Expo Center
IV Cost-Cutting Process

A. Cost-Cutting Principle

The following principle has been used to develop and recommend the cost-cutting measures outlined in this report:

*To design the most cost-effective rail project that achieves livability and transportation goals within available funding.*

This means:

- The project must be highly competitive with comparable projects elsewhere in the nation based on a variety of criteria, including cost-per-mile and ridership.
- The project must serve Clackamas County, downtown Portland and North Portland to achieve maximum ridership potential and to best serve the corridor.
- The project must allow for a future extension to Oregon City and Clark County.
- If the project is built in segments, the first segment will be the South segment.
- Local jurisdictions and public-private partnerships may provide local enhancements and project elements with financing that they provide.

B. Cost-Cutting Categories

These principles provided direction leading to the identification, evaluation and recommendation of cost-cutting measures. Broad categories as well as specific options for reducing costs were identified. Following are the four general areas where efforts to lower costs have been directed:

- **Changes in Project Scope - Permanent Changes and Deferrals**

  This category of cost reduction measures represents proposed changes in the design of the project. Some of the changes would be permanent (such as a different alignment), while other changes would be deferrals and improvements to a later construction segment or phase.

  Changes in project scope are proposed throughout the corridor, effecting most segments and design options currently under study. The proposed changes in scope range from deleting or amending current alternatives and options to adding newer, lower-cost options. These proposed changes are recommended and discussed within this document.
Changes in Financial Responsibility

This effort will seek to identify new funds that could be made available to the South/North Project from participating agencies through the donation or reduced costs of right-of-way and/or facilities. Similarly, coordinated design and/or construction of related transportation projects could also reduce South/North costs. Additionally, the cost of relocating public utilities may be able to be reduced by changes in relocation policies, track-bed design and changes in cost-sharing responsibilities. Both the right-of-way donation and cost-reduction options for public utility relocation have been recommended to be pursued.

Changes in Management Approach

Changes in management approach can reduce the engineering and administration costs needed to design and build the project by over 10 percent. Also, by planning to use the same rail car design as the Westside/Hillsboro Project, Tri-Met can reduce its spare rail car ratio from 20 percent to 15 percent.

Changes in Costing Methodology

Costs of building a light rail project are estimated using a methodology based upon numerous individual factors. Project staff have reviewed each one of those factors. Revisions have been proposed for those factors that appeared to be too conservative or where new information is now available. Experience on the Banfield and Westside lines and recent local construction experience was used to revise the costing methods.

An important revision to the cost methodology will be to assign separate contingencies appropriate to various elements of the project. In the past, one or two very broad levels of contingency were used project-wide. The new methodology allowed some contingencies to increase (for example with a bridge) while other contingencies went down. The combined effect is lowered overall contingency due to more accurate costing.

Forecasts of right-of-way costs were also reduced to reflect a higher level of information based on the most recent experience from the Westside light rail project.

Finally, as we all know, inflation leads to higher costs. In the past, the South/North Project has used an inflation factor previously developed by the Federal Transit Administration. Experience over the past several years allows us to incorporate a lower inflation rate.

C. Resulting Capital Costs

When the proposed cost-cutting measures are taken together, project costs are reduced by approximately one-third. For example, a segment that was previously estimated to cost $1.5 billion would now be estimated to cost approximately $1 billion.

The following segment-by-segment discussion of proposed amendments to the DEIS alternatives includes preliminary estimates of the costs associated with the recommended change. These costs incorporate the design and scope differences between the alternatives or options being considered within that segment. Also, the cost differences between the alternatives reflect the other system-wide cost methodology changes discussed previously (e.g. financial responsibility, management and costing methodology). For example, if a proposed alignment change is described as saving $10 million, it incorporates factors such as the inflation rate and the revised engineering and administration rate.

More precise cost estimates will be prepared for the DEIS, once the range of cost-cutting measures is finally adopted. The revised cost estimates will be available for the selection of the locally preferred alternative.

The cost estimates included within this report are year of expenditure costs (YOES), that is they are the estimates of what it would cost to build the project five or more years in the future. An inflation rate is used to inflate current dollar costs into the year of expenditure cost estimates.

Capital costs include right-of-way, utility relocation, related roadway reconstruction, LRT grade preparation, structures, trackwork, at-grade crossings, stations and fare collection, park-and-ride lots, special conditions, system costs (e.g. signals system), light rail vehicles and maintenance facilities. The cost estimates also include engineering, administration and a contingency allowance to reflect the level of design detail available. The unit rates used to develop these estimates include historic data and recent Westside LRT data, where available.

D. Ridership, Traffic and Environmental Analysis

Because lowering costs is only one of several objectives of the project, this document provides an assessment of the significant ridership, traffic and environmental impacts associated with the proposed cost-cutting measures. Much of this assessment is founded in the analysis that has been prepared to date for the DEIS. Some portion of the analysis has been developed over the past two to three months to support this cost-cutting exercise. A broader spectrum of ridership, traffic and environmental analysis will be performed, documented and evaluated within the DEIS and will provide the basis for the selection of the preferred length and alignment alternatives.
E. Summary of Recommendations

Following is a summary of the Steering Committee’s recommended changes to the alternatives and design options to reflect the most promising cost-cutting measures. A more detailed description of these recommended amendments to the alternatives and design options to be studied further is provided in the following chapters.

1. Clackamas Regional Center
   • Add a terminus option at the Clackamas Town Center Transit Center Station for both the North and South of CTC Alignment Alternatives.
   • Amend the North of Clackamas Town Center Alignment Alternative by deleting the proposed alignment generally adjacent to SE Fuller Road and linking the alignment between SE Monterey Avenue and SE Harmony Road with an alignment that would run in the vicinity of SE 79th and 80th Avenues.

2. Railroad Avenue
   • Amend the current Railroad Avenue Alternative being studied in the DEIS to reflect a narrower street design.
   • Add an alternative that would close sections of Railroad Avenue to through-traffic and would generally locate light rail within the right-of-way currently occupied by Railroad Avenue.
   • Add a North of Highway 224 alignment to be studied further in the DEIS. The proposed new alignment alternative would run north of and parallel to Highway 224, generally within right-of-way currently owned by ODOT.
   • Evaluate the Railroad Avenue Alignment alternatives with and without a Wood Avenue Station.

3. Central Milwaukee
   • Eliminate the two Monroe Street Alternatives and add a Main Street/SP Branch Line Alternative to the DEIS for further study.

4. McLoughlin Boulevard
   • Study the McLoughlin Boulevard segment with two options, one that would include the reconstruction of the SE Bybee Boulevard overpass and one that would not include reconstruction of the overpass.

5. South Willamette River Crossing
   • For the Caruthers Crossing Alternative:
      a) eliminate the Caruthers Modified Alignment Alternative (including the 100-foot, fixed-span bridge);
      b) add a 75-foot, fixed-span bridge alternative; and,
      c) add two westbank design options for the 75-foot bridge alternative, a Caruthers/Moody alignment and a Caruthers/South Marquam alignment.

   • Eliminate the Above-Grade Design Option of the Caruthers/Brooklyn Yard Alignment Alternative.

6. Downtown Portland
   • Replace the perpendicular turn from SW Harrison Street to SW 5th and 6th Avenues with the PSU diagonal alignment.
   • Add a MAX Connector Alternative to the DEIS for further study. This recommendation would: 1) retain the existing full-mall alignment; and 2) would add a second alternative in downtown Portland that would be composed of the full-mall alignment from the PSU Plaza to Morrison and Yamhill, where the South/North and the East/West tracks would be connected.

7. Eliot
   • Add a lower-cost design of the Arena Transit Center.

8. Kaiser to Lombard Street
   • Add a design option to the I-5 Alignment that would move the existing southbound I-5 off-ramp at N Alberta Street to just north of N Going Street and would close the existing southbound on-ramp to I-5 from N Alberta Street (access southbound would be via the N Going Street on-ramp).
   • Modify the track treatment planned for Interstate Avenue to reduce costs while retaining urban design objectives.
   • Eliminate the north terminus options at the Edgar Kaiser Medical Facility and replace it with a terminus option at Lombard Street to be coupled with a south terminus at the Clackamas Regional Center.
   • Include in the DEIS a summary of the costs, ridership and other significant benefits and impacts associated with an alternate terminus location in Kenton.

9. Lombard Street to VA Hospital/Clark College
   • Eliminate the north MOS terminus option at the Expo Center and replace it with a terminus option at Lombard Street to be coupled with a south terminus at the Clackamas Regional Center.
V Clackamas Regional Center

The Clackamas Regional Center segment is centered around the Clackamas Town Center area, which is designated within Metro's 2040 Plan as a Regional Center. The Clackamas Regional Center is expected to experience significant growth in the future, reinforcing its existing characteristics of mixed land uses, including retail, office, commercial, education and low to high density housing.

This segment presents two primary issues: 1) Should the alignment run south or north of the Town Center between 82nd Avenue and I-205?, and, 2) Where should the line terminate? Alternatives addressing both of these issues have been developed and analyzed.

It is important to note that the South Terminus options are for the end point of the Phase One South/North Project. A future extension to Oregon City, via I-205 or McLoughlin Boulevard, is proposed and can be accommodated by any of the design options currently under consideration.

Project staff recommends the following amendments to the range of alternatives and design options within the Clackamas Regional Center segment (see in Figure 3).

Recommendation 1:

Add a terminus option at the Clackamas Town Center Transit Center Station for both the North and South of CTC Alignment Alternatives.

Rationale:

- **Cost.** A South of CTC Terminus at the Transit Center would cost approximately $40 million less than the 93rd Terminus (YOE$). A North of CTC Terminus at the Transit Center would save approximately $60 million compared to the 105th Avenue Terminus Option (YOE$).

- **Ridership.** Light rail weekday ridership in 2015 would be approximately 1,400 fewer with a terminus at the transit center than with the 93rd or 105th Avenue Terminus Options.

- **Transit Connections.** Because light rail would terminate at the CTC Transit Center, all bus routes serving the Clackamas Regional Center would have transit access to light rail.

- **Park-and-Ride Capacity.** By eliminating park-and-ride lots at the terminus stations (and a joint use facility at the New Hope Church site), a Transit Center Terminus would need to find replacement parking capacity either through larger lots along the remainder of the line or through a future extension to the terminus lots. If replacement parking capacity was not built, ridership using park-and-ride access would be lost.

- **Significant Environmental Impacts.** There are no anticipated additional significant environmental impacts associated with a Transit Center terminus option. Impacts due to the alignment east of the Transit Center Station would be avoided until an extension was implemented.
• Oregon City Extension. An extension to Oregon City via I-205 would be feasible with a Transit Center Terminus.

Recommendation 2:

Amend the North of Clackamas Town Center Alignment Alternative by deleting the proposed alignment generally adjacent to SE Fuller Road and linking the alignment between SE Monterey Avenue and SE Harmony Road with an alignment that would run generally in the vicinity of SE 79th and 80th Avenues. This proposed change would provide the North of CTC Alignment Alternative with a station and park-and-ride lot located at the southeast corner of SE Harmony Road and SE 82nd Avenue. (Both the North of CCC/OIT and South of CCC/OIT Design Options would be included within the North of CTC Alignment Alternative. The Project Management Group would continue to work with the OIT, CCC, the Clackamas County Regional Parks District and other interested parties to determine if the CCC/OIT Design Options should be modified to reduce costs and/or improve their characteristics.) The modified alignment would include an at-grade light rail crossing of SE 82nd Avenue at SE Monterey Avenue rather than an elevated crossing of SE 82nd Avenue currently under study in the DEIS.

Rationale:

• Cost. The proposed amendment to the North of CTC Alignment Alternative with a SE 79th/80th Avenue alignment would save approximately $12 million to $24 million (YOE$) compared to the SE Fuller Road alignment (depending upon which CCC/OIT Design Option is ultimately selected).

• Ridership and Park-and-Ride Capacity. While the stations located on SE Fuller Road and SE Harmony Road would provide access to different residences and activity centers, ridership levels at the two stations would be similar. However, with access to a park-and-ride lot at SE Harmony Road and SE 82nd Avenue, approximately 2,200 additional light rail park-and-ride trips would be taken with the SE 79th/80th Avenue alignment (weekday 2015).

• Travel Time. Travel time between the CTC Transit Center Station and other stations west of the Linwood Station would be approximately one minute slower via SE 79th/80th Avenue.

• Potential Displacements. The number of potential residential unit displacements would be reduced from approximately 40 with the SE Fuller Road alignment to approximately 6 with the SE 79th/80th Avenue alignment. The number of potential commercial unit displacements would be similar under either alignment.

• Oregon City Extension. While a future extension to Oregon City via I-205 would be feasible with either the SE Fuller Road or the SE 79th/80th Avenue alignment, the additional minute in travel time associated with the SE 79th/80th Avenue alignment would lead to somewhat lower ridership between Oregon City and destinations such as downtown Milwaukie and Portland.
VI Railroad Avenue/Highway 224

This segment would provide a light rail connection between the Clackamas Regional Center area and central Milwaukie. The segment is generally bounded to the north and south by established residential areas and bisected by industrial, commercial and retail centers parallel to Highway 224.

Currently, a single alignment south of and parallel to SE Railroad Avenue is being studied in the DEIS for this segment. The current alternative would relocate SE Railroad Avenue approximately 30 feet north of its current location and would place light rail between SE Railroad Avenue and the existing freight and intercity passenger rail line to the south.

Project staff recommend the following changes to the alternative currently being studied in the DEIS (see figure 4).

Recommendation 1:

Amend the current SE Railroad Avenue Alternative being studied in the DEIS to reflect a narrower street design. In general the current alternative would rebuild SE Railroad Avenue to have one twelve-foot, general purpose automobile lane and one six-foot bike lane in each direction with a six-foot sidewalk on the north side of the street. The revised design would narrow the automobile lanes to ten feet and the adjacent bike lanes to five feet and a sidewalk of six feet to four feet.

Rationale:

- **Cost.** By narrowing the cross-section of the reconstructed SE Railroad Avenue, costs would be reduced by approximately $4 million (YOE$).

- **Ridership.** Because light rail travel times would be the same under the revised street design, light rail ridership would remain unchanged from the design currently in the DEIS.

- **Displacements.** Potential residential displacements along SE Railroad Avenue would be reduced by 8, from approximately 73 associated with the current design to approximately 65 with the revised design.

- **Parklands.** The narrower width of SE Railroad Avenue would reduce the anticipated impact to the Hector Campbell Elementary School ballfield located at the intersection of SE 47th Avenue and SE Railroad Avenue.

- **Local Traffic.** The use of narrow lanes along the length of SE Railroad Avenue is predicated on SE Railroad Avenue being changed from an arterial to a neighborhood collector by the City of Milwaukie.

• **Park-and-Ride Capacity.** Park-and-ride capacity at SE 37th Avenue, just north of the Milwaukie Market Place, would remain unchanged and approximately 100 spaces at the proposed park-and-ride lot located at SE Harmony Road and SE Linwood Avenue would need to be structured.

Recommendation 2:

Add an alternative that would close sections of SE Railroad Avenue to through-traffic and would generally locate light rail within the right-of-way currently occupied by SE Railroad Avenue. Limited sections of SE Railroad Avenue would be reconstructed to provide access to properties fronting SE Railroad Avenue or to provide access to intersecting streets that only have access via SE Railroad Avenue. Other streets connecting to SE Railroad Avenue would be converted to cul-de-sacs. This alternative is conceptually illustrated in Figure 5.

Rationale:

- **Cost.** By closing SE Railroad Avenue to through-travel and using the vacated right-of-way for light rail, the revised design would lower cost by approximately $23 million when compared to the current option being studied in the DEIS.

- **Ridership.** Because light rail travel times would be the same under the revised street design, light rail ridership would remain unchanged from the design currently in the DEIS.

- **Displacements.** Closing of SE Railroad Avenue to through-traffic would reduce the number of potential residential unit displacements by 65, from approximately 73 to 8.

- **Parklands.** By avoiding the reconstruction of SE Railroad Avenue between SE 47th and SE 48th Avenues, there would be no impact to the Hector Campbell Elementary School ballfield located at the intersection of SE 47th Avenue and SE Railroad Avenue.

- **Local Traffic.** Closing SE Railroad Avenue to through-traffic would significantly affect local traffic in the immediate vicinity of SE Railroad Avenue. Many through-trips would be diverted south to Highway 224 and through-trips on several north-south neighborhood streets would be reduced. Some through-trips would be diverted north, however, to Monroe Street and some north-south neighborhood streets would experience increased vehicle volumes. Automobile travel times for some residents in the area would be increased if their primary access is via SE Railroad Avenue.

- **Park-and-Ride Capacity.** Park-and-ride capacity at SE 37th, just north of the Milwaukie Market Place would remain unchanged and approximately 100
spaces would need to be structured at the proposed park-and-ride lot that would be located at SE Harmony Road and SE Linwood Avenue.

**Recommendation 3:**

Add a North of Highway 224 alignment to be studied further in the DEIS. The proposed new alignment alternative would run north of and parallel to Highway 224, generally within right-of-way currently owned by ODOT. Light rail would cross over the existing freight and intercity passenger rail line on a new structure southeast of the intersection of SE Harmony Road and SE Railroad Avenue. The new alignment would cross SE Harmony Road at grade, just north of Highway 224. At-grade crossings of light rail would be provided just north of Highway 224 on SE Oak Street, SE 37th and SE Freeman Way. A proposed structured park-and-ride lot would be located north of Highway 224 Alternative near the Milwaukie Market Place. Approximately 400 spaces at the proposed park-and-ride lot at SE Harmony Road and SE Linwood Avenue would need to be structured with the Highway 224 alignment.

**Rationale:**

- **Cost.** If park-and-ride lot capacity is replaced with structured lots, the cost of the North of Highway 224 alignment would save approximately $2 million compared to the current SE Railroad Avenue Alternative design (YOES).

- **Ridership.** Travel time via Highway 224 would be approximately 40 seconds slower than the SE Railroad Avenue alignment which would lead to slightly lower through-ridership. Walk and bus access ridership on light rail would be similar for both alternatives leading to similar walk and bus access ridership. If replacement park-and-ride capacity could be located within the corridor, ridership using park-and-ride access would be similar for both alternatives. However, if replacement park-and-ride lot spaces are not constructed in other segments of the corridor, light rail trips would be reduced by up to 2,100 (weekday 2015), depending upon the number of park-and-ride spaces eliminated.

- **Displacements.** Potential residential displacements associated with the North of Highway 224 alignment would be 68 units less than the Railroad Avenue Alternative currently being studied in the DEIS (from 73 to 5).
• Parklands. By avoiding the reconstruction of SE Railroad Avenue between SE 47th and SE 48th Avenues, there would be no impact to the Hector Campbell Elementary School ballfield located at the intersection of SE 47th Avenue and SE Railroad Avenue.

• Local Traffic. Impacts to local traffic would generally be associated with the at-grade light rail crossings of SE Harmony Road, SE Freeman Road, SE 37th Avenue and SE Oak Street. Local traffic impacts would also be caused by the proposed closure of westbound access onto Highway 224 from SE 37th Avenue south of Highway 224. Because light rail would use ODOT right-of-way located north and parallel to Highway 224, future expansion of the Highway would be restricted to south of the highway which would cause future impacts to some properties south of Highway 224. This constraint would generally increase the cost of a future expansion of Highway 224.

• Park-and-Ride Capacity. Park-and-ride capacity would be similar with the proposed Highway 224 alternative and the two proposed Railroad Avenue alternatives. However, the proposed park-and-ride lot located near the Milwaukie Market Place and approximately 400 park-and-ride spaces would need to be structured at the proposed lot at the intersection of SE Linwood Avenue and SE Harmony Road.

Recommendation 4:

Evaluate the Railroad Avenue Alignment alternatives with and without a Wood Avenue Station. The DEIS would include cost, ridership and environmental impacts with and without a Wood Avenue Station.

Rationale:

• Cost. Elimination of a Wood Avenue Station would reduce capital costs by approximately $3 million (YOE$).

• Ridership. Elimination of a Wood Avenue Station would eliminate 300 trips that are projected to access light rail at that location. Current ridership forecasts estimate that the Wood Avenue Station would have among the lowest ridership of any station on the South/North line. Travel time through this segment would be approximately 45 seconds faster without a Wood Avenue Station, increasing through-ridership.

• Displacements. Elimination of a Wood Avenue Station would reduce potential residential displacements by up to five units, depending on the design of the Railroad Avenue Alternative.

VII Central Milwaukie

The Central Milwaukie Segment generally encompasses the Milwaukie Market Place, downtown Milwaukie and North Milwaukie to SE Tacoma Street (see Figure 6). Milwaukie is identified within Metro’s Region 2040 Plan as a Regional Center, with strong economic ties to the Clackamas Town Center and Oregon City. The central area of Milwaukie is expected to experience significant growth in the future, reinforcing its existing characteristics of mixed land uses, including retail, small office, commercial, government, education and low to high density housing.

Currently, two Alignment Alternatives are being studied within the DEIS: 1) Monroe Street/McLoughlin; and 2) Monroe Street/SP Branch Line. The Monroe/McLoughlin alternative would locate a Milwaukie light rail light rail station and transit center near City Hall on SE 21st Avenue. Light rail would cross under the existing SP Branch line near Monroe Street. The Monroe/SP Branch Line Alternative would place the station and transit center east of the SP Branch Line, just north of Monroe Street.

Both alternatives would generally operate in the center of Monroe Street before crossing over Highway 224 on an elevated structure. The two alternatives would provide access to a 900 space park-and-ride lot in north Milwaukie, either at SE Ochoco Street, at the Springwater Corridor or at the Hanna/Harvester site.

Recommendation 1:

Eliminate the two Monroe Street Alternatives and add a Main Street/SP Branch Line Alternative to the DEIS for further study. The Main Street/SP Alternative was run north of and parallel to Highway 224 from the Milwaukie Market Place Station to Main Street, just north of downtown Milwaukie. It would cross over the SP Tillamook Branch Line on a structure and would cross under the Highway 224 on/off ramps at Main Street. It would then extend south, parallel to and east of McLoughlin Boulevard, turning east just north of SE Scott Street to a station and transit center located in the vicinity of the vacant Safeway store. The alignment would then turn north, parallel to SE 21st Avenue, crossing under Highway 224. It would then generally travel north, parallel to and west of the SP Tillamook Branch Line.

Rationale:

• Cost. The Main Street/SP Branch Line Alternative is estimated to cost $10 million and $31 million (YOE$) less than the Monroe Street/SP Branch Line and the Monroe Street/McLoughlin alternatives, respectively.
• **Ridership.** Light rail ridership associated with the three alternatives would be similar due to similar light rail travel times and station locations. Bus ridership would be somewhat lower with the Monroe/SP Branch Line Alternative due to increased bus travel times that would be required to access the transit center to be located east of the SP Branch Line.

• **Displacement and Relocation.** The proposed Main Street/SP Branch Line Alternative would have no residential displacements compared to over 20 potential residential displacements associated with the two Monroe Street Alternatives. The Main Street Alternative would have a similar number of commercial displacements (10) as the Monroe Street/McLoughlin Boulevard alignment (while the number of displacements would be similar, many of the affected properties would be different).

• **Urban Form.** The Main Street/SP Branch Line would be more compatible with the urban environment within central Milwaukie. First, it would create a new 200 foot square block in central Milwaukie, extending the existing street grid north. Second, the alignment would avoid direct impacts to the trees and property just east of City Hall. Third, the alignment would place the light rail station directly within downtown Milwaukie, but would avoid the underpass crossing of the SP Branch Line associated with the Monroe/McLoughlin Alternatives. Fourth, the Main Street/SP Branch Line Alternative would avoid an above-grade crossing of Highway 224.

• **Light Rail Operations.** The Main Street/SP Branch Line Alternative would be similar to the Monroe/SP Branch Line by avoiding several at-grade street crossings along McLoughlin north of Highway 224.

• **Historic and Parkland Resources.** The Monroe/SP Branch Line Alignment and the Monroe/McLoughlin Alternative would impact Scott Park, which would be addressed through mitigation. The Main Street/SP Branch Line Alternative, similar to the Monroe/McLoughlin Alternative, would avoid impacts to the resources on the Milwaukie City Hall site. The Main Street/SP Branch Line Alternative would also avoid impacts to potential historic resources on Monroe Street.

• **Phase II Oregon City Extension.** The Main Street/SP Branch Line Alternative would provide for a feasible method of extending South/North light rail south to Oregon City via McLoughlin Boulevard through a branch that would occur just west of the Milwaukie Transit Center.
VIII McLoughlin Boulevard

The McLoughlin Boulevard Segment generally extends from SE Tacoma Boulevard in the south to Holgate Boulevard in the north (see Figure 7). It is generally characterized by a variety of mixed uses including residential, commercial, industrial and park and recreation facilities. The segment is traversed by two major transportation facilities, McLoughlin Boulevard and an existing freight and intercity passenger rail line.

There is a single alignment alternative within this segment currently being studied within the DEIS. The alignment would run parallel to and between McLoughlin Boulevard and the freight rail line. It would include a possible station at SE Bybee Boulevard, integrated into the street overpass of the existing rail line and SE McLoughlin Boulevard. The station would be at the surface level (the same level as SE McLoughlin Boulevard) and access from SE Bybee Boulevard would be via stairs and elevator. The current design within the DEIS would reconstruct the SE Bybee Boulevard overpass to allow for the addition of two bus pull-outs at the station.

Recommendation 1:

Study the McLoughlin Boulevard segment with two options, one that would include the reconstruction of the SE Bybee Boulevard overpass and one that would not include reconstruction of the overpass. With the option that would not rebuild the overpass, pedestrian access to the Bybee Station would be provided by a new pedestrian walkway which would be built just north of and parallel to the existing Bybee Boulevard overpass.

Rationale:

- **Cost.** The elimination of the reconstruction of the SE Bybee Boulevard overpass would reduce costs within this segment by approximately $6 million (YOE$).

- **Ridership.** Light rail ridership would not be affected by this proposed change.

- **Local Traffic.** Local traffic could be affected by the modifications. The elimination of bus pull-outs from the proposed design could require buses to stop in the existing traffic lanes in order to drop off and pick up light rail transfers.
IX South Willamette River Crossing

The South Willamette River Crossing Segment generally extends from SE Holgate and McLoughlin Boulevards in southeast Portland to RiverPlace on the southwest edge of downtown Portland. The area contains existing residential communities, both redeveloping and developed commercial centers and valuable natural and community resources.

The DEIS currently includes two alternative alignments within this segment:

Ross Island Crossing Alternative. The Ross Island Crossing Alternative would extend north from SE Holgate and McLoughlin Boulevards to an east/west crossing of the Willamette River in the vicinity of Gaines Street. The high-level, fixed span bridge would cross Ross Island and would have a second-story station near SW Moody Avenue and Gaines Street. The alignment would then extend north, parallel to and west of SW Moody Avenue, with proposed stations at Porter Street and near RiverPlace. The Ross Island Crossing Alternative currently contains two design options:

• East of McLoughlin Design Option. This design option would provide a light rail station at SE Center Street, near SE McLoughlin Boulevard. The alignment would run parallel to and east of SE McLoughlin Boulevard from SE Holgate to SE Center Street. It would cross under SE McLoughlin Boulevard near SE Center Street. Approximately 1,100 light rail rides a day would be generated by the Center Street Station.

• West of McLoughlin Design Option. This design option would not include the Center Street Station. It would cross over SE McLoughlin Boulevard at SE Long Street and would run north, parallel to and west of SE McLoughlin Boulevard before crossing the east channel of the Willamette River at SE Center Street.

Caruthers/Brooklyn Yard Alternative. The Caruthers/Brooklyn Yard Alternative would run north from SE Holgate Boulevard, generally between parcels fronting on SE 17th Avenue and the Brooklyn Yard. It would cross SE Powell Boulevard and turn west adjacent to SE Division Street, crossing under or over SE McLoughlin Boulevard to a second or third story station just south of OMSI. The alignment would cross the Willamette on a high-level, fixed span bridge crossing under the west approach ramps to the Marquam Bridge, turning north to a station serving RiverPlace. The Caruthers/Brooklyn Yard Alternative currently has two design options:

• Above-Grade Design Option. The Above-Grade Design Option would cross over SE 11th and 12th Avenues, several freight railroad spurs and local cross-streets, McLoughlin Boulevard and the East Portland Traction Company (PTC) freight rail line via an elevated structure.

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Rationale:

of varying bridge heights and their effect on the alternative's costs, station locations and other significant benefits and impacts.

For the Caruthers Crossing Alternative:

a) eliminate the Caruthers Modified Alignment Alternative (including the 100-foot, fixed-span bridge);

b) add a 75-foot, fixed-span bridge alternative; and,

c) add two westbank design options for the 75-foot bridge alternative, a Caruthers/Moody alignment and a Caruthers/South Marquam alignment.

The eastbank touchdown point and station at OMSI would generally remain unchanged. On the westbank, the single DEIS alignment would be replaced with two options:

- The Caruthers/Moody Design Option would extend the Caruthers Bridge west, under the west end of the Marquam Bridge. The light rail alignment would extend northwest, at grade, parallel to and north of Moody Avenue. It would then turn north, running east of and parallel to Harbor Drive. An at-grade station could be located at SW Moody Avenue and SW River Drive.

- The Caruthers/South Marquam Design Option would extend southwest from the Caruthers Bridge, generally south of and parallel to the Marquam Bridge approach ramps. A second-story light rail station could be integrated into a proposed development just south of the proposed light rail alignment. After crossing SW Moody Avenue at grade, the alignment would turn north, running parallel to Harbor Drive.

Final determination of bridge height will be made through a permit process managed by the US Coast Guard. That process will conclude following the selection of the preferred river crossing. In response to this uncertainty, the study and documentation for the Caruthers Crossing should include a sensitivity analysis of varying bridge heights and their effect on the alternative's costs, station locations and other significant benefits and impacts.

Rationale:

- Cost. Based upon preliminary cost estimates, the 75-foot, fixed span option with the Caruthers/Moody and the Caruthers/South Marquam Design Options would respectively cost approximately $38 million and $33 million less than the 100-foot, fixed-span option currently in the DEIS (YOE$). (Note that the costs of a river crossing alternative reflect both the cost to construct the new bridge as well as the alignment and approach spans associated with the river crossing alternative.) There may be some cost associated with the 75-foot, fixed span option as a possible requirement to obtain a permit for the construction of the river crossing.

- Ridership. Station access with the 75-foot, fixed span would be more centrally located than with the 100-foot, fixed span, with direct light rail station access to redevelopment areas just south of the Marquam Bridge. Light rail travel times would be quickest with the Caruthers/Moody Design Option, resulting in somewhat higher ridership. The Caruthers/South Marquam Option would likely have somewhat higher through-ridership than the high-level Caruthers crossing. Further analysis is required to determine the ridership differential between the Caruthers/Moody and the Caruthers/South Marquam Design Options.

- Impact to Development Parcels. The 100-foot, fixed span option currently in the DEIS would impact a redevelopment parcel located south of the Marquam Bridge. The current alignment would be in the same location as a proposed seven-story office building. The Caruthers/South Marquam would integrate the light rail alignment and station into the second story of the proposed mixed-use development. The Caruthers/Moody would generally avoid the proposed mixed-use development by crossing under the Marquam Bridge north of the development parcel. It would, however, impact two parcels along SW Moody Avenue, requiring 15 to 25 feet of right-of-way from currently vacant properties.

- Impacts to Parklands. Each of the river crossing designs would have some impact to the Willamette River Greenway. The Caruthers/Moody Design Option could have an impact to a proposed park development just north of the Marquam Bridge.

- Local Traffic. The 100-foot, fixed span alternative would cross SW Moody Avenue at SW Harbor Drive at grade and would grade separate other local streets. The Caruthers/Moody Design Option would have an at-grade crossing of SW River Drive. The Caruthers/South Marquam Design Option would have an at-grade light rail crossing of SW Moody Avenue in two locations, one under the west approach ramps to the Marquam Bridge and one just east of SW Harbor Drive.

Recommendation 2:

Eliminate the Above-Grade Design Option of the Caruthers/Brooklyn Yard Alignment Alternative. This recommendation would retain the At-Grade Design Option and would modify it to include an at-grade crossing of the PTC freight line and a ground-floor OMSI Station. The eastbank touchdown point and station at OMSI would generally remain unchanged.

Rationale:

- Cost. The At-Grade Design Option would cost approximately $23 million less than the Above-Grade Design Option (YOE$).

- Ridership. With similar light rail travel times and station locations, light rail ridership would be similar with both design options. The ground-level stations associated with the At-Grade Design Option may attract somewhat higher ridership due to easier and more convenient station access.
• Urban and Visual Impacts. The Above-Grade Design Option would have greater impacts to urban form and local visual resources than the At-Grade Design Option due to the high structure needed to cross over McLoughlin Boulevard and SE 11th and 12th Avenues.

• Local Traffic Impacts. The At-Grade Design Option will have greater impacts to local traffic due to the higher number of LRT at-grade street crossings.

• Freight Railroad Impacts. The At-Grade Design Option could impact freight railroad operations on the spur tracks and the PTC line.

Ross Island Crossing Alternative:

There are no recommended changes to the Ross Island Crossing or the East of and West of McLoughlin Boulevard Design Options.
**X Downtown Portland**

The Downtown Portland Segment is generally bounded by the Willamette River to the East, by I-405 to the south and west and by the Broadway Bridge to the north (see Figure 9). Downtown Portland is characterized by high density office and retail development, with established and increasing levels of residential development in the south, east and north. It has access via a high level of transit service and numerous freeway and arterial connections. Downtown is currently served by the Eastside MAX light rail line, which opened in 1986 and currently carries over 28,000 rides on an average weekday. A light rail extension west to Beaverton and Hillsboro is scheduled to open in 1998.

The Downtown Portland Segment currently has one alignment alternative within the DEIS, via Harrison Street in the south through the core of downtown Portland generally via the center lane of the Transit Mall on 5th and 6th Avenues. In the north end of downtown Portland, two design options are currently under study, one would connect to the Steel Bridge via NW Glisan Street and one via NW Irving Street.

**Recommendation 1:**

*Replace the perpendicular turn from SW Harrison Street to SW 5th and 6th Avenues with the PSU Diagonal Alignment.* The PSU Diagonal Alignment would provide an opportunity for a station to be integrated with a pedestrian plaza and Urban Studies center planned for the blocks bordered by SW Harrison and Mill Streets and SW 4th and 6th Avenues.

**Rationale:**

- **Cost.** The PSU Diagonal Alignment would cost approximately $4 million less than the alignment currently in the DEIS (YOE$).

- **Ridership.** With similar travel times and station locations, the PSU Diagonal Alignment would have similar ridership when compared to the alignment currently under study.

- **Local Traffic Impacts.** The PSU Diagonal Alignment would have fewer local traffic impacts by providing two-way traffic on SW Harrison Street between SW 4th and 6th Avenues.

- **Urban Form.** By allowing the integration of the PSU light rail station with the proposed PSU pedestrian plaza and Urban Studies center, urban form objectives can be more easily met.

**Recommendation 2:**

*Add a MAX Connector Alternative to the DEIS for further study.* This recommendation would: 1) retain the existing full-mall alignment; and 2) add a second alternative in downtown Portland that would be composed of the full-mall alignment from the PSU Plaza to Morrison and Yamhill, where the South/North...
and the East/West tracks would be connected. The South/North mall improvements north of Yamhill and Morrison would be deferred to a later phase of project development. Using the MAX Connector, South/North trains would share the existing Eastside MAX tracks between the Pioneer Courthouse and the Steel Bridge.

Rationale:

- **Cost.** The MAX Connector would save approximately $108 to $123 million (YOE$) in costs for the first construction segment depending on whether the Glisan Street or Irving Street Design Option would be selected as the preferred alignment.

- **Ridership.** The MAX Connector would have approximately 300-800 fewer light rail riders than the full-mall alignment. The relatively low level of ridership loss is due primarily to the high level of bus service that would be present on the mall. There are relatively fewer trips destined to the north portions of the mall and those trips would have convenient transfers to frequent bus service to complete their trip.

- **Land Use and Development.** The MAX Connector would not serve the existing and future development in the River District, including Union Station, which would be served by high speed inter-city passenger rail service planned by the states of Oregon and Washington.

- **Access to Employment.** The MAX Connector would provide access to within two blocks to over 50 percent of downtown employment compared to the full-mall alignment that would provide access to 58 percent of current employment.

- **Local Traffic.** The most promising design of the MAX Connector would retain automobile access on SW Morrison and Yamhill Streets. Existing auto access would be retained on the mall under both alternatives.

- **Transit Operations.** Capacity of the MAX Connector is estimated to be reached by about 2015 as increased ridership levels would increase frequency on the combined East/West and South/North lines to exceed a design capacity of approximately 20 trains per hour in one direction. Bus operations and/or capacity may be affected by the light rail turning movement from SW Morrison Street to SW 5th Avenue.

- **Pedestrian Operations and Urban Form.** The MAX Connector would encroach on sidewalk areas currently occupied by Tri-Met bus shelters. Active sidewalk areas would remain about fifteen feet with the MAX Connector.

- **Noise.** Wheel squeal may result from the tight-radius turns associated with the MAX Connector.

### Other Options Considered:

- **Eastside Connector.** An Eastside Connector, linking the south corridor with the north corridor via an eastside alignment (rather than going into downtown Portland) was first removed from further study in the DEIS during the Scoping Process. At that time, the Steering Committee determined that planning and engineering work on the light rail alternatives to be studied further in the DEIS should allow for a future Eastside transit connection.

An Eastside Connector was reassessed during the cost-cutting process to determine if it was a promising option for reducing project costs that should be studied further within the DEIS. It was found that, while an Eastside Connector would cost significantly less than a full downtown Portland alignment, its proportional loss in ridership compared to a downtown alignment would be much higher, making it less cost-effective. An Eastside Connector’s high loss in ridership would be due to the significant increases in travel time that would be incurred by passengers bound for downtown Portland (over half of South/North riders). Those ridership losses would not be offset by ridership gains to the eastside and north Portland. Therefore, an Eastside Connector is not recommended to be studied further in the DEIS. Additionally, the project’s existing policy, that planning and engineering work on the light rail alternatives to be studied further in the DEIS should allow for a future Eastside transit connection, should be reaffirmed.

- **Hawthorne Bridge.** The Hawthorne Bridge could be used as a south Willamette River crossing for South/North light rail. It would connect on the eastside with a Brooklyn Yard or SE McLoughlin Boulevard alignment and with either a SW Front or First Avenue or transit mall alignment on the westside. A Hawthorne Bridge alignment alternative was first removed from further study at the conclusion of the Tier I Alternative Alignment Narrowing Process. It was found that, while a Hawthorne Bridge alignment would have lower capital costs than the a Ross Island or Caruthers crossing, overall it would be less cost effective.

A Hawthorne Bridge crossing was reassessed as a possible cost-cutting measure. It was found that, while a Hawthorne Bridge crossing with a SW First Avenue alignment would significantly reduce capital costs compared to a full-mall alignment, anticipated ridership losses would be proportionately much higher due to the significant increase in travel time for passengers bound for central downtown Portland and transit mall bus connections, as well as important destinations such as PSU, RiverPlace and the South Auditorium area. In addition, frequent bridge openings would lead to higher light rail operating costs and a deterioration in light rail speed and reliability. Therefore a Hawthorne Bridge crossing is not recommended for further study in the DEIS.
XI Eliot

The Eliot Segment extends from the Steel Bridge in the south to the Edgar Kaiser Medical Center between Interstate Avenue and I-5 in the north and it includes the Eliot Neighborhood (see Figure 10). The segment is characterized by a wide mix of uses including an industrial sanctuary, the Rose Quarter, commercial, retail, medical and a mix of low to high density residential development.

Two alignment alternatives are currently under study in this segment:

- **The East I-5/Kerby Alternative** would extend light rail north from the Rose Quarter Transit Center parallel to and east of I-5, with a potential station at NE Broadway Street and one on N Kerby Avenue at Emanuel Hospital serving the Eliot Neighborhood. There are two design options associated with this alternative, the Broadway/Weidler At-Grade Design Option and the Broadway/Weidler Above-Grade Design Option. The alignment would then extend north, parallel to and east of I-5 to a crossing of I-5 just west of the Edgar Kaiser Medical Facility.

- **The Wheeler/Russell Alternative** would extend light rail north from the Rose Quarter Transit Center parallel to and west of N Wheeler Avenue, adjacent to the Rose Garden Arena. Following an at-grade station and crossing of N Broadway and Weidler Streets, the alignment would extend north over I-5 on a new structure, generally in the vicinity of N Flint Avenue. A potential station would be located on N Russell Street, east of N Flint Avenue, serving the Eliot neighborhood and Emanuel Hospital. The alignment would then extend north parallel to and east of I-5 to a crossing of I-5 just west of the Edgar Kaiser Medical Facility.

All alternatives and design options within this segment have been developed to accommodate future improvements to I-5 between Greeley Avenue in the north and the Banfield ramps to I-5 in the south.

One north terminus option is located in this segment, at the Rose Quarter Transit Center. Termed MOS 2, the south terminus would be at the Clackamas Regional Center with the north terminus at the Rose Quarter Transit Center.

**Recommendation:**

*Add a lower-cost design of the Rose Quarter Transit Center.* The current design of the Arena Transit Center would implement a three-level complex separating automobile, transit and pedestrian activities to different levels. With a terminus at this location (MOS 2), this proposed amendment to the design of the transit center would replace the three-level transit center with one that would provide for minimal improvements to the existing Rose Quarter Transit Center and a new light
rail side track. Without a terminus at this location (for example with the Full-Length Alternative or MOS 5), both a low-cost transit center and the current three-level transit center would be studied in the DEIS. The low-cost design option would accommodate automobile, transit and pedestrian activities at the current street level. The PMG should work with adjacent property owners, the Lloyd District Transportation Management Association and other interested parties to determine the conceptual design of the Low-Cost Transit Center Design Option to be studied further in the DEIS.

Rationale:

- **Cost.** With an MOS 2 terminus, the lower-cost design option for the Rose Quarter Transit Center would save approximately $48 million in costs compared to the current design (YOE$). With any of the other length alternatives, the lower-cost Transit Center would be approximately $15 million less than the current DEIS design (YOE$).

- **Ridership.** With similar light rail travel times and station locations, the proposed design change would not significantly effect ridership.

- **Transit Operations.** Transit operations could be adversely affected with the lower-cost Transit Center. Reliability, especially during Rose Quarter events, could be impacted.

- **Local Traffic.** With an at-grade light rail crossing of Interstate Avenue, local traffic could be adversely impacted with the lower-cost Transit Center.
XII Kaiser to Lombard Street

The Kaiser to Lombard Street segment extends from the Edgar Kaiser Medical Facility in the south to the Lombard Street in the north (see Figure 11). It is characterized by established residential, commercial, retail and educational centers on both sides of I-5. The area between I-5 and Interstate Avenue has been designated within the City of Portland’s Comprehensive Plan, through the Albina Plan Update, as a higher density and mixed use area when light rail is extended into north Portland.

The segment encompasses two alignment alternatives: one adjacent to and west of I-5 (generally up at the neighborhood level in the vicinity of Minnesota Street) and one generally within the median of Interstate Avenue. Both alternatives would provide station opportunities at the same cross streets: the Edgar Kaiser Medical Facility, N Skidmore Street, N Killingsworth Street, N Portland Boulevard and N Lombard Street.

Two north terminus options are located in this segment, one at the Edgar Kaiser Medical Facility and one at the Expo Center.

At the conclusion of the Tier I Design Option Narrowing Process, it was determined that a crossover option should be studied further in the DEIS. These additional options were termed “crossovers” because they would cross over from the I-5 alignment to the Interstate Avenue Alignment.

Recommendation 1:

Add a design option to the I-5 Alignment that would move the existing southbound I-5 off-ramp at N Alberta Street to just north of N Going Street and would close the existing southbound on-ramp to I-5 from N Alberta Street (access southbound on to I-5 would be via the N Going Street on-ramp - see Figure 12). This recommendation would retain the current design and add the Alberta ramp closure as a design option. By closing the Alberta Street southbound ramps to and from I-5, light rail could be located within the vacated right-of-way, reducing displacements and costs.

Rationale:

- Cost. The closed Alberta Street ramps option would save approximately $10 million compared to the current option that would retain the ramps (YOE$).
- Ridership. Due to similar light rail travel times and station locations, ridership would not change under the proposed design option.
- Displacements. Potential residential displacements would be significantly reduced with the closed Alberta Street ramps option. The current DEIS option could displace 47 buildings consisting of a total of 85 residential units. By closing the Alberta Street ramps, the number of residential buildings displaced would be reduced to 8, consisting of 11 residential units.
- Local Traffic. Local access from business and residential areas east and west of I-5 in the vicinity of N Going Street and N Killingsworth Street would experience increased travel times for automobile trips accessing I-5 South.
Recommendation 2:

Modify the track treatment planned for Interstate Avenue to reduce costs while retaining urban design objectives. This recommendation would change the design standard for Interstate Avenue to a modified paved track design similar to the current design for central Hillsboro on Washington Street.

Rationale:

- **Cost.** The modified track design would reduce costs on Interstate Avenue by $7 to $8 million (YOE$) depending upon the terminus option selected (Lombard Street or Vancouver respectively).
- **Ridership.** Due to similar light rail travel times and station locations, ridership would not change under the proposed design change.
- **Urban Form.** The similar finish achieved with current and proposed track treatment allows similar urban form objectives to be met at a lower cost.

Recommendation 3:

Eliminate the north terminus option at the Edgar Kaiser Medical Facility and replace it with a terminus option at Lombard Street to be coupled with a south terminus at the Clackamas Regional Center.

Include in the DEIS a summary of the costs, ridership and other significant benefits and impacts associated with an alternate terminus location in Kenton.

Rationale:

- The Edgar Kaiser Medical Facility Terminus (coupled with the Clackamas Regional Center Terminus in the south) was intended to help determine the benefits, costs and impacts associated with a terminus in north Portland. Cost and ridership analysis to date has shown that an extension north from the Rose Quarter Transit Center to the Edgar Kaiser Medical Facility would not be cost-effective. That is, the proportional cost of adding the extension would be much greater than the proportional increase in ridership that would result from the extension.
- A terminus at N Lombard Street would provide light rail access to a majority of the proposed stations and, by connecting to bus routes on N Lombard Street, would provide most north Portland residents, businesses and community facilities with either walk or bus access to the South/North light rail line.

Recommendation 4:

The South/North DEIS will acknowledge that a crossover option between the Overlook Neighborhood and the Kenton Neighborhood may be the outcome of detailed technical studies. The examination of specific crossover options would be best explored during the FEIS phase of the Project.

Rationale:

- Specific alignment options could be better defined upon completion of the technical studies prepared for the DEIS (i.e., traffic, capital costs, right-of-way displacement, etc.) and the South/North Economic Development Study by the Portland Development Commission. The Locally Preferred Strategy would include further consideration of a crossover.
XIII Lombard Street to Vancouver

The Lombard Street to Vancouver Segment is characterized by a wide variety of uses and is traversed by several major transportation facilities (see Figure 13). This segment includes portions of north Portland residential and commercial centers (Kenton), commercial uses, community facilities, the Jantzen Beach retail center, downtown Vancouver and the terminus for the Full-Length Alternative and MOS 1 at the Veterans Administration Hospital and Clark College. This segment also includes a terminus at the Expo Center (MOS 4).

**Recommendation 1:**

Eliminate the north MOS terminus option at the Expo Center and replace it with a terminus option at Lombard Street to be coupled with a south terminus at the Clackamas Regional Center. Under this recommendation, a terminus location at the Veterans Administration Hospital and Clark College would continue to be studied within the DEIS as a north terminus for the Full-Length Alternative and for MOS 1.

As noted in Recommendation #3 for the Kaiser to Lombard Street Segment, include in the DEIS a summary of the costs, ridership and other significant benefits and impacts associated with an alternate terminus location in Kenton.

**Rationale:**

- The Expo Center Terminus (coupled with the Clackamas Regional Center Terminus in the south) was intended to help determine the benefits, costs, and impacts associated with a terminus in north Portland. Cost and ridership analysis to date has shown that an extension north from Lombard Street to the Expo Center would not be cost-effective. That is, the proportional cost of adding the extension (approximately $115 million YOE$) would be much greater than the proportional increase in ridership that would result from the extension (approximately 300-500 weekday rides). Also, traffic analysis to date for the I-5 Interstate Bridge indicates that the I-5 freeway would not have adequate capacity to accommodate park-and-ride travel from Clark County to access a park-and-ride lot at the Expo Center.

- A terminus at N Lombard Street would provide light rail access to a majority of the proposed stations and, by connecting to bus routes on N Lombard Street, would provide most north Portland residents, businesses and community facilities with either walk or bus access to the South/North light rail line.
A. **Current Special Studies**

- **North Milwaukie Park-and-Ride Lot.** Three potential park-and-ride lots are currently under study in North Milwaukie, in the area bounded by Highway 224, McLoughlin Boulevard and the SP Branch Line. The park-and-ride study is being coordinated with the Operations and Maintenance Facility Study because two of the sites being considered for a park-and-ride lot are also potential operations and maintenance facility sites.

- **Operations and Maintenance Facility.** Two potential operations and maintenance facility sites are currently under study in North Milwaukie and one is under study in SE Portland. The Operations and Maintenance (O&M) Facility Study is being coordinated with the North Milwaukie Park-and-Ride Study because two of the sites being considered for a park-and-ride lot are also potential operations and maintenance facility sites. The O&M Facility Study will also evaluate the costs and other trade-offs associated with a variety of scenarios that would provide all or some of the O&M functions at the existing Ruby Junction and Elmonica facilities and/or at a new South/North facility. The study will account for the sizing of the facility, trackage and land acquisition needed to accommodate the vehicle requirements of the length alternatives under study in the DEIS. The study will also evaluate the costs and benefits of the early purchase of right-of-way for an O&M facility if an O&M facility is not included as an element of the project’s first construction segment.

- **Downtown Portland Station Access Study.** Two areas within downtown Portland are being studied to determine which combination of stations should advance into the FEIS for further study. The two areas of study are: a) RiverPlace, South Auditorium area and PSU; and b) directly north and south of Burnside Street.

- **North Portland Economic Study.** The City of Portland, Metro and Tri-Met are conducting a study to determine the role that South/North light rail would play in the economic development of North Portland. The study will also help to determine whether the I-5 and the Interstate Avenue alignments would affect that economic development differently.

B. **Proposed New Studies**

Following are five proposed special studies that would seek to reduce project costs. Each of the special studies would be conducted concurrently with the DEIS and would conclude prior to the initiation of the FEIS. The purpose of these special studies would be to effect the Preliminary Engineering cost methods and results.

- **Revise utility protection/relocation policy and track bed/isolation design to minimize utility relocation and to share costs of relocation with public utilities.** This proposed study of utility relocation would be focused on reducing project costs by: 1) modifying the utility protection and relocation policies of Tri-Met and/or local jurisdictions; 2) developing design refinements for the light rail track bed and/or for electrical isolation of the trackway, which could reduce the number or scope of utility relocations required; and 3) determining whether participating local jurisdictions could share some of the cost of relocating public utilities located within public right-of-way.

- **Pre-packaged systems buildings.** This proposed study would determine whether the use of pre-packaged systems buildings, used for the operation of the light rail line, should be used for the South/North Light Rail Project. The study would include an assessment of the visual and aesthetic implications of a pre-packaged systems building.

- **Standardize LRT station shelters.** This proposed study would determine whether the use of standardized light rail shelters should be used within the South/North Light Rail Project as a way of reducing costs. The study would include an assessment of the visual and aesthetic implications of standardized shelters and whether alternate shelter designs could be financed by local jurisdictions and/or adjacent property owners.

- **Right-of-way/facility donation and Residual Right-of-Way Plan.** This proposed study would evaluate all potential public right-of-way that would be used by South/North light rail to determine if any parcels could be donated to the light rail project. This study would also evaluate the potential for and value of residual right-of-way following construction of the light rail facility and would develop a conceptual plan for managing residual right-of-way through the project development, construction and post-construction phases of the project.

- **Central City Bus Concept Plan.** Tri-Met and the City of Portland will be working together to develop a plan for bus routes serving the Central City. This plan will be developed in coordination with plans for the River District, the Central City Streetcar, South/North Light Rail and other Central City District transportation and development plans.
Appendix A

Cost-Cutting Approval Process
Schedule for Amending DEIS Alternatives to Reflect Cost-Cutting Measures

30-Day Public Comment Period

Project Staff Recommendation

Segment Meetings Informational

Project Recommendation

PMG Rec. CAC Discuss SC Hear Public Comment
PMG Revise Rec. CAC Rec. SC Adopt Rec.

Participating Jurisdictions' Recommendation

Portland Tri-Met Milwaukie Clackamas Opportunity to Recommend

Metro Adopt Amendments

JPACT Trans Council Adopt Adopt Adopt

PMG = Project Management Group
CAC = Citizens Advisory Committee
SC = Steering Committee
JPACT = Joint Policy Advisory Committee on Transportation
Rec. = Recommendation
Trans = Transportation Committee of the Metro Council

3/13/97
South/North Segment Maps:
Length and Alignment Alternatives and Design Options
Reflecting Proposed Additions, Deletions and Amendments
Figure B-1 - Clackamas Regional Center

Figure B-2 - Railroad Avenue/Highway 224 Segment
South/North Length Alternatives:

- **Full-Length Alternative** from the Clackamas Regional Center to the VA Hospital/Clark College
- **MOS 1** from the Milwaukie Market Place to the VA Hospital/Clark College
- **MOS 2** from the Clackamas Regional Center to the Arena Transit Center
- **MOS 5** from the Clackamas Regional Center to N Lombard Street

Note: MOS = Minimum Operable Segment.
Date: April 15, 1997

To: South/North Steering Committee

From: Richard Brandman, Chair, South/North Project Management Group

Re: Addressing Issues Raised During the Public Comment Period

The purpose of this memorandum is to address a variety of issues and comments raised during the cost-cutting comment period. As stated at the close of the public comment meeting on April 9, 1997, staff has been impressed by the degree of thought and effort that is represented through the comments that Metro has received. The quality of comments is evidence of two very important points. First, they illustrate that we are reaching and communicating clearly with a wide spectrum of citizens, businesses and organizations. Second, they demonstrate that the public is committed to participating in developing important transportation decisions that will shape our region’s future for generations to come.

Following is a summary of the major themes of public comment that Metro and the project has received during the public comment period and during the overall cost-cutting process. I have included an explanation of how the attached Project Management Group’s recommendations respond to those comments.

Reduce Project Costs

The project found in an analysis of voter attitudes following the November 1996 election, that while there remains strong regional support for the South/North light rail project, there was concern about cost. The Steering Committee and Metro Council echoed that concern as they directed the initiation of the cost-cutting process. The recommendations being forwarded by the PMG have, I believe, successfully responded to this issue. With the proposed cost-cutting measures, project costs would be reduced by approximately one-third, which represents a savings of over $500 million for a project serving both Clackamas County, downtown Portland and North Portland. Additionally, the project’s cost per mile would be reduced to a level equivalent to the current Westside Project. The end result of the cost-cutting process has been to enable the project to have higher ridership with less cost, which will enable it to compete more effectively for federal funding.

Additionally, more information is being communicated to the public about the relative cost of this project versus alternatives. For example, the cost of upgrading the existing roadways in the
corridor to a freeway standard, together with the connections to I-5, are estimated by ODOT to cost over $3 billion, more than three times as much as the proposed LRT option.

**Extend the Project into North Portland**

There has been strong support voiced for extending light rail into North Portland. A key accomplishment of the proposed cost-cutting measures is that they meet this objective by extending the alignment well into North Portland and support the project’s finance plan and request for federal funding. To achieve this objective, the recommendations include options which would defer alignment segments in the south, within downtown Portland and north into Clark County from the first phase of the project. The DEIS would, however, continue to study options to extend the project further to the south and north and to complete the downtown alignment during the first phase in the event that current funding assumptions change.

In particular, many citizens and neighborhood groups in North Portland asked that the recommended Lombard Street terminus option be extended north to the Kenton Central Business District (CBD). The cost of extending light rail from the Lombard Terminus to the Kenton CBD would be $32 million for an Interstate Avenue alignment and over $50 million for an I-5 alignment (note that all costs within this memorandum are in year of expenditure dollars). The cost per mile for these extensions north to Kenton is similar to the cost per mile for the general alignments south of N Lombard Street. A Kenton light rail station would attract over one thousand weekday riders. A Lombard Street Terminus would retain 600 to 800 of those riders who would use connecting bus service between Kenton and the Lombard Station to access light rail. While the objective of extending service into Kenton and further north is a continuing goal of the project, we cannot recommend extending the Lombard Terminus option to the Kenton CBD at this time because of the limited funds available for a first phase of the project. However, the full alignment to Vancouver will still continue to be analyzed and data will be provided regarding the extension of this alignment to Kenton.

Finally, we received several comments in support of the Interstate Avenue alignment over the I-5 alignment. While that comment is noted, it is recommended by the PMG and I think understood by the community, that the choice between Interstate Avenue and I-5 will be made following the completion of the DEIS. There is also a strong recognition by the community that the on-going North Portland Economic Study, being conducted by the Portland Development Commission, the City of Portland and Metro, should provide valuable information in making the alignment choice in North Portland.

**Eastside Connector**

The project has received many comments in support of an Eastside Transit Connector, that would avoid the cost of bringing light rail across the Willamette River and into downtown Portland.
The PMG does not recommend that the DEIS be amended to include an Eastside Transit Connector as an alternative alignment. In general, this recommendation is based on the findings that an Eastside Connector alignment, in lieu of a downtown Portland alignment, would result in a higher proportional ridership drop than the proportional savings in capital costs. (Ridership demand to downtown is approximately seven times higher than to the central eastside from the south corridor while the cost savings would be closer to ten percent.) This would lead to a drop in cost-effectiveness and would hinder our ability to compete for federal funds.

However, our recommendation recognizes that an Eastside transit connection should remain as a long-term option that would be studied for implementation after the South/North project is completed. This would offer service along the east side of the Willamette in addition to the downtown Portland alignment. Therefore, we have reworded our recommendation in response to comments made by Eastside organizations to recognize and reaffirm the Steering Committee’s policy that planning and engineering work on the light rail alignments within the DEIS should allow for a future Eastside transit connection.

**Caruthers Crossing**

The cost-cutting process elicited a strong response from the SE Portland community. First, there was almost unanimous support of the recommended cost-cutting measures proposed for the Caruthers/Brooklyn Yard alignment. Those recommended changes include a low-level fixed span bridge (at a height of approximately 75 feet), modified station configurations, both on the east and west bank, and the elimination of the above-grade alignment option between OMSI and SE Powell Boulevard.

Those citizens and organizations who supported the Caruthers cost-cutting measures also supported the Caruthers/Brooklyn Yard alignment over the Ross Island alignment. Again, it is recommended by the PMG and understood by the community, that the selection of a South Willamette River Crossing for light rail will be made following publication of the DEIS. If the cost-cutting measures for the modified Caruthers crossing are approved, the revised alternative’s costs, benefits and impacts will be studied and documented in the DEIS in comparison to the current Ross Island alignment.

**Downtown Milwaukie**

Over the past year, the project has received comments expressing concern over the two alignment alternatives that would run on SE Monroe Street. In addition, several businesses located in North Milwaukie along SE McLoughlin Boulevard have requested that the McLoughlin Boulevard alignment between Highway 224 and SE Tacoma Street be removed from further consideration. These concerns have been based in large part on potential residential and business displacements, local traffic impacts and other more general neighborhood impacts associated with the Monroe
Street alternatives. The PMG has responded by recommending the elimination of both Monroe Street alternatives and the addition of the Main Street/SP Branch Line alternative. This new alternative would avoid all of the residential displacements and lessen the commercial and local traffic impacts. The Main Street/SP Branch Line alternative would also better integrate light rail into the Milwaukie Regional Center by placing the station in the heart of the established central business district and by entering and exiting the CBD via established transportation corridors along Highway 224 and the Tillamook Branch Line. Finally, the new proposed alignment would save $31 million compared to the Monroe Street alternatives which would serve downtown Milwaukie or $10 million compared to the option which skirted the CBD.

Railroad Avenue

The project has received comments from citizens and neighborhood groups located along Railroad Avenue that expressed concern over the potential residential displacements and neighborhood impacts associated with the current Railroad Avenue alignment alternative. In response, the PMG is recommending that the DEIS study and evaluate three new alternatives for connecting the Milwaukie and Clackamas Regional centers, each of which would reduce potential residential displacements and lower capital costs.

Clackamas Regional Center

A variety of comments have been received by the project concerning the Clackamas Regional Center. They have included concern over potential residential impacts in the area bordered by SE Harmony Road, SE Fuller Road and SE 80th Avenue and concerns by the Clackamas Town Center (CTC) regarding a terminus at the Town Center and impacts associated with the alignment south of the Town Center. Also, Clackamas Community College (CCC), the Oregon Institute Technical (OIT) and the Clackamas Regional Parks Board have expressed concerns about the designs and localized impacts of the proposed alignment options directly adjacent to their facilities along SE Harmony Road. In response, the PMG's recommendations include the deletion of a SE Fuller Road alignment and replacing it with an alignment along SE 79th and 80th Avenues, reducing both potential residential displacements (by approximately 40) and costs (by $12 million to $24 million). A separated grade crossing over 82nd Avenue has also been eliminated which would reduce the cost of the North Clackamas Town Center option by $7 million. The PMG also recommends that project staff continue to work with Clackamas Town Center, CCC, OIT, the Clackamas County Regional Parks Department and other interested parties to look at opportunities to modify the alignment options in the vicinity of their facilities to further reduce costs and/or to improve the characteristics of the alignment design.
Commuter Rail

Several organizations have recommended that commuter rail be studied further in the DEIS, either in lieu of or in addition to South/North light rail. The attached *Commuter Rail: Analysis and Recommendations Report* provides a detailed response to those comments. In general, the PMG has found that commuter rail as a general technology does not address the same transportation problems and travel markets as light rail does. Commuter rail in the South/North corridor would be less expensive than light rail, but by being generally constrained to existing freight tracks, would not serve major activity centers, neighborhoods and business districts. It would therefore not have the same land-use benefit and would attract approximately five percent of the forecast light rail ridership. Therefore, the PMG does not recommend that commuter rail be included within the South/North DEIS.

However, commuter rail, as evidenced by experience in other metropolitan areas, may effectively serve other transportation markets. These markets would tend to be longer trips, connecting neighboring cities or smaller rural communities outside the urban growth boundary with the central city. The PMG is therefore recommending that Metro’s Joint Policy Advisory Committee on Transportation sponsor a series of workshops on commuter rail to determine whether commuter rail should be considered for inclusion in the Regional Transportation Plan.

Conclusion

In conclusion, these and many other more specific comments from the public have shaped the recommendations developed by the Project Management Group. In general, the strong showing of support and interest in the project has illustrated to the PMG the key role that this project will continue to play in our community’s discussion over how to best shape our future. By significantly reducing costs, these recommendations will allow South/North light rail to continue to be a viable tool in our efforts to retain and improve our community’s livability. Finally, the PMG believes that, when taken as a whole, these recommendations to reduce costs allow us to meet our cost-cutting goal, “To design the most cost-effective rail project that achieves livability and transportation goals within available funding.”

Please contact me at 503/797-1749, if you have any questions or if you would like to discuss these recommendations prior to the Steering Committee meeting scheduled for Wednesday, April 23, 1997, 7:30 - 9:00 a.m.

Attachments

I:\CLERICAL\V\CORRESPD\COM11.MM0
May 6, 1997

Jon Kvistad, Chair  
JPACT  
600 NE Grand  
Portland, OR 97232  

Dear Chair Kvistad and JPACT members:

On Wednesday, May 7, 1997, the Portland City Council unanimously approved the attached resolution approving the South/North Steering Committee’s recommended cost cutting measures. The Council supported the measures, including the MAX Connector and consideration for the Kenton Terminus in the DEIS. The Portland City Council requests that “JPACT and the Metro Council identify the MAX Connector as an interim solution requiring subsequent investment to complete the Full Mall and that the region’s first priority for light rail funding after Phase I of the South/North Project would be the completion of the Full Mall for light rail from SW Morrison Street to Union Station and the Rose Quarter.”

The MAX Connector is the major new cost-cutting measure. The Council understands the need for this and other measures. Previously, all Bi-State and Oregon minimum operable segment alternatives required the Full Mall alignment. The Full Mall was also the least costly of the downtown options evaluated. Completing the Full Mall for light rail will allow for the overall capacity increases needed to accommodate the growth anticipated on the light rail system over the next ten to fifteen years.

Central City Portland is the hub of the regional light rail system and provides the ridership base for the system. The MAX Connector is an interim solution that addresses short term financial concerns, but limits the overall growth of the light rail system. With the anticipated MAX ridership increases due growth in Gresham, Beaverton and Hillsboro, the South/North line, and the potential airport extension, the MAX Connector will constrain the system’s ability to meet this ridership demand. The MAX Connector is expected to reach capacity by 2015. The MAX Connector fails to fulfill all of the City and Regional objectives for a successful transit system. Portland’s planning for the Central City has been successful because it created a place where people want to be—at the heart of the downtown. Merely providing capacity for transit is not enough to attract people to the Central City. Because the MAX Connector could disrupt this special place, where public and private investments have revitalized this area, it is appropriate only as an interim solution.

The Central City Plan also has placed transit service and pedestrian amenities in areas where new transit supportive development is desired. The River District/Union Station is one of those areas and the MAX Connector will not serve this area.

The Regional Urban Growth Goals and Objectives (RUGGO), Objective 7.2 states that “the Central City area of Portland is an area of regional and state concern for economic, cultural, tourism, government, and transportation function, and that state and regional investments should recognize this special significance.” The completion of the Full Mall for light rail will meet Regional and City policy goals.
May 6, 1997

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Thank you for your consideration of this request. The City continues to support regional light rail priorities and requests concurrence that the Full Mall improvement be identified as the region’s priority to identify the regional priority after the Phase I of the South/North Project.

Sincerely,

Charlie Hales
Commissioner of Public Safety
RESOLUTION No.

Adopt cost cutting amendments to the South/North Light Rail alternatives and design options to be studied further in the project draft Environmental Impact Statement and recommending to JPACT and the Metro Council that completing light rail on the Transit Mall should be the region's first priority after in Phase I of the South/North Project.

WHEREAS, in March 1993, the Portland City Council adopted Resolution No. 35116 and in April 1993, the Metro Council adopted Resolution No. 93-1784 which selected the Milwaukee and North Corridors as the region's high-capacity transit priority for study and combined them into the South/North Transit Corridor to be studied within a federal Draft Environment Impact Statement; and

WHEREAS, the current alternatives being studied in the Draft Environmental Impact Statement were approved by the Portland City Council in November 1994 with the adoption of Resolution No. 35339 and the Metro Council in December 1994 with the adoption of Resolution No. 94-1989, and in December 1995 with the Portland City Council adoption of Resolution No. 35473 and the Metro Council adoption of Resolution No. 95-2243; and

WHEREAS, it is the role of the South/North Project Management Group, the South/North Citizens Advisory Committee, the South/North Downtown Portland Oversight Committee, the South/North Steering Committee and the project's participating jurisdictions to recommend alternatives to be studied further in the Draft Environmental Impact Statement; and

WHEREAS, it is the role of the Metro Council to make the final determination of the alternatives to advance into the Draft Environmental Impact Statement for further study; and

WHEREAS, in November 1996, Ballot Measure 32, which would have authorized $375 million in Oregon State Lottery funds to provide the State of Oregon's proposed share of South/North funds, failed statewide but passed with a 56% yes vote within Metro's boundary; and

WHEREAS, in December 1996, Metro Council endorsed the South/North Steering Committee's findings that there remains a strong base of public support for the South/North Light Rail Project, and endorsed the committee's plan to undertake a process intended to significantly reduce costs for the South/North Transit Corridor Study; and

WHEREAS, in February 1997, Metro Council adopted Resolution No. 97-2460 which endorsed the South/North Light Rail Project Finance Plan as adopted by the South/North Steering Committee that would require a significant reduction in South/North project costs; and

WHEREAS, in March 1997, the South North Project Management Group proposed significant cost-cutting measures for the South/North Light Rail Project in the South/North Briefing Document: Proposed Cost-Cutting Measures and initiated a 30-day public comment period on those proposed cost-cutting measures; and

WHEREAS, in April 1997, following the conclusions of the public comment period, the South/North Project Management Group, the South/North Citizens Advisory Committee, the South/North Downtown Portland Oversight Committee and the South/North Steering Committee adopted recommendations for proposed cost-cutting measures for the South/North Light Rail Project; and

WHEREAS, the proposed amendments to the alternatives and design options were developed and evaluated based upon the project's criteria and measures, including estimated costs,
ridership, bi-state land use and development goals and significant environmental benefits and impacts; and

WHEREAS, the cost-cutting measures as proposed by the South/North Steering Committee would reduce project costs by approximately one-third resulting in a year-of-expenditure savings of over $500 million dollars, consistent with the project's adopted Finance Plan, while allowing the proposed project to meet its goal and objectives; and

WHEREAS, public comments on the MAX Connector alternative in downtown Portland expressed concerns that this cost-cutting measure could reduce transit's presence between Pioneer Place and Union Station and impact the vitality and economic development potential in this area, and limit MAX's downtown operating capacity; and

WHEREAS, public comments on the cost-cutting measures indicated community desires to examined the potential for extending light rail to the Kenton Business District in order to meet the Albina Community Plan and Kenton Neighborhood Plan goals to promote economic development and to revitalize the business district; and

NOW, THEREFORE BE IT RESOLVED by the Council of the City of Portland, adopts the cost-cutting amendments to alternatives and design options to be further studied in the South/North Draft Environmental Impact Statement and are described in the South/North Cost-Cutting Measures Final Report: Amendments to Alternatives and Design Options (Exhibit A), which are generally as follows:

1. Clackamas Regional Center
   • Add a terminus option at the Clackamas Town Center Transit Center Station for both the North and South of CTC Alignment Alternatives.
   • Amend the North of Clackamas Town Center Alignment Alternative by deleting the proposed alignment generally adjacent to SE Fuller Road and linking the alignment between SE Monterey Avenue and SE Harmony Road with an alignment that would run in the vicinity of SE 79th and 80th Avenues.

2. Railroad Avenue
   • Amend the current Railroad Avenue Alternative being studied in the DEIS to reflect a narrower street design.
   • Add an alternative that would close sections of Railroad Avenue to through-traffic and would generally locate light rail within the right-of-way currently occupied by Railroad Avenue.
   • Add a North of Highway 224 alignment to be studied further in the DEIS. The proposed new alignment alternative would run north of and parallel to Highway 224, generally within right-of-way currently owned by ODOT.
   • Evaluate the Railroad Avenue Alignment alternatives with and without a Wood Avenue Station.

3. Central Milwaukie
   • Eliminate the two Monroe Street Alternatives and add a Main Street/SP Branch Line Alternative to the DEIS for further study.
4. McLoughlin Boulevard

- Study the McLoughlin Boulevard segment with two options, one that would include the reconstruction of the SE Bybee Boulevard overpass and one that would not include reconstruction of the overpass.

5. South Willamette River Crossing

- For the Caruthers Crossing Alternative:
  1) eliminate the Caruthers Modified Alignment Alternative (including the 100-foot, fixed-span bridge);
  2) add a 75-foot, fixed-span bridge alternative; and
  3) add two westbank design options for the 75-foot bridge alternative, a Caruthers/Moody alignment and a Caruthers/South Marquam alignment.

- Eliminate the Above-Grade Design Option of the Caruthers/Brooklyn Yard Alignment Alternative.

6. Downtown Portland

- Replace the perpendicular turn alignment design from SW Harrison Street to SW 5th and 6th Avenues with the PSU diagonal alignment design.

- Add a MAX Connector Alternative to the DEIS for further study. This recommendation would:
  1) retain the existing full-mall alignment; and
  2) add a second alternative in downtown Portland that would be composed of the full-mall alignment from the PSU Plaza to Morrison and Yamhill, where the South/North and the East/West tracks would be connected.

7. Eliot

- Add a lower-cost design of the Arena Transit Center.

8. Kaiser to Lombard Street

- Add a design option to the I-5 Alignment that would move the existing southbound I-5 off-ramp at N. Alberta Street to just north of N. Going Street and would close the existing southbound on-ramp to I-5 from N. Alberta Street (access southbound would be via the N. Going Street on-ramp).

- Modify the track treatment planned for Interstate Avenue to reduce costs while retaining urban design objectives.

- Eliminate the north terminus options at the Edgar Kaiser Medical Facility and replace it with a terminus option at Lombard Street to be coupled with a south terminus at the Clackamas Regional Center.

- Include in the DEIS a summary of the costs, ridership and other significant benefits and impacts associated with an alternate terminus location in Kenton.
9. Lombard Street to VA Hospital/Clark College

- Eliminate the north MOS terminus option at the Expo Center and replace it with a terminus option at Lombard Street to be coupled with a south terminus at the Clackamas Regional Center.

BE IT RESOLVED that the Council request that JPACT and the Metro Council identify the MAX Connector as an interim solution requiring subsequent investment to complete the Full Mall and that the region's first priority for light rail funding after Phase I of the South/North Project would be the completion of the Full Mall for light rail from SW Morrison Street to Union Station and the Rose Quarter.

BE IT RESOLVED that the Council supports efforts in the South/North Project's Draft Environmental Impact Statement to examine the costs, ridership and other benefits and impacts associated with a potential terminus location in the Kenton Business District.

Adopted by the Council,
Commissioner Charlie Hales
Stephen Iwata:db
April 30, 1997

BARBARA CLARK
Auditor of the City of Portland
By
Deputy
Dear Councilor Washington;

The purpose of this letter is to provide you and the South/North Steering Committee with the South/North Citizens Advisory Committee’s (CAC’s) recommendations for cost-cutting measures to be incorporated into the Draft Environmental Impact Statement (DEIS). The CAC met on April 16, 1997 to consider the Project Management Group’s recommended cost-cutting measures and then adopted the following recommendations for cost-cutting changes to the project’s alternatives and design options.

Before describing the CAC’s recommendations, I would like to point out that the CAC received several briefings on the proposed cost-cutting measures from project staff. We received public comment on the recommendations at meetings in March and April of 1997, and we had the opportunity to review and consider the letters and oral comments made during the 30-day public comment period. Finally, we spent more than three hours discussing and debating recommendations within each of the Corridor’s segments, struggling, as I am sure Steering Committee will, with how to reduce project costs while ensuring that the project’s goals and objectives are met.

1. Clackamas Regional Center

- Add a terminus option at the Clackamas Town Center Transit Center Station for both the North and South of CTC Alignment Alternatives.

- Amend the North of Clackamas Town Center Alignment Alternative by deleting the proposed alignment generally adjacent to SE Fuller Road and linking the alignment between SE Monterey Avenue and SE Harmony Road with an alignment that would run in the vicinity of SE 79th and 80th Avenues.
The CAC unanimously recommended these two cost-cutting measures for the Clackamas Regional Center (CRC) as proposed by the PMG. The committee’s support was based on the objective to reduce cost and on the reduction of potential residential displacements by replacing the SE Fuller Road alignment with the SE 79th/80th Avenue alignment.

The approval of this recommendation was preceded by a thorough discussion by Committee members of the merits of extending light rail to the Clackamas Town Center. While several members were not necessarily in favor of a Clackamas Regional Center Terminus, the committee came to the conclusion that the appropriate time to conclude that issue will be following the completion of the DEIS.

2. Railroad Avenue

- Amend the current Railroad Avenue Alternative being studied in the DEIS to reflect a narrower street design.

- Add an alternative that would close sections of Railroad Avenue to through-traffic and would generally locate light rail within the right-of-way currently occupied by SE Railroad Avenue.

- Add a North of Highway 224 alignment to be studied further in the DEIS. The proposed new alignment alternative would run north of and parallel to Highway 224, generally within right-of-way currently owned by ODOT.

- Evaluate the Railroad Avenue Alignment alternatives with and without a Wood Avenue Station.

The CAC unanimously recommends the three new alternatives for the segment that connects the Clackamas and Milwaukie Regional Centers. While committee members voiced concern over possible traffic impacts with the alternative that would close sections of SE Railroad Avenue, we agreed that the potential costs savings and reduction in the number of potential residential unit displacements merited a closer study of this option in the DEIS.

While the CAC agreed with the PMG’s recommendation concerning the Wood Avenue Station, we felt that it should be reworded to communicate more clearly that the Railroad Avenue Alternatives would be studied in the DEIS with and without a Wood Avenue Station, and that only following publication of the DEIS would the project decide whether or not to include the Wood Avenue Station. The wording above reflects our proposed change.
3. Central Milwaukie

- Eliminate the two Monroe Street Alternatives and add a Main Street/SP Branch Line Alternative to the DEIS for further study.

The CAC unanimously agreed with the PMG that, given the very promising characteristics of the Main Street/SP Branch Line Alternative, the two Monroe Street Alternatives should be removed from further study. The new alternative is an innovative solution to meeting regional objectives while lowering costs and minimizing localized impacts.

4. McLoughlin Boulevard

- Study the McLoughlin Boulevard segment with two options, one that would include the reconstruction of the SE Bybee Boulevard overpass and one that would not include reconstruction of the overpass.

The CAC unanimously agreed that the DEIS should study the McLoughlin Boulevard segment with the option to avoid reconstruction of the existing SE Bybee Boulevard overpass as a possible way to reduce project costs. However, we also felt that given the possibility of local traffic impacts, the original option which called for the reconstruction of the overpass should continue to be studied and documented in the DEIS. Then, when the DEIS is published the region will be in a better position to make an informed decision on the status of the overpass.

5. South Willamette River Crossing

- For the Caruthers Crossing Alternative:
  a) eliminate the Caruthers Modified Alignment Alternative (including the 100-foot, fixed-span bridge);
  b) add a 75-foot, fixed-span bridge alternative; and,
  c) add two westbank design options for the 75-foot bridge alternative, a Caruthers/Moody alignment and a Caruthers/South Marquam alignment.

- Eliminate the Above-Grade Design Option of the Caruthers/Brooklyn Yard Alignment Alternative.

- There are no recommended changes to the Ross Island Crossing or the East of and West of McLoughlin Boulevard Design Options.

The CAC unanimously concurred with the PMG’s recommendations to lower the design height of the Caruthers Crossing bridge (from approximately 100 feet to approximately 75 feet) which would lead to lower
costs and better station configurations. The CAC did, however, suggest that wording of this recommendation should be changed and reformatted (as reflected in our recommendation above) to more clearly describe the changes being proposed for the Caruthers Crossing Alternative.

The CAC also agreed that the appropriate time to select between the Caruthers Crossing and the Ross Island Crossing alternatives is following the publication of the DEIS.

6. Downtown Portland

- Replace the perpendicular turn from SW Harrison Street to SW 5th and 6th Avenues with the PSU diagonal alignment.

- Add a MAX Connector Alternative to the DEIS for further study. This recommendation would:
  a) Retain the existing full-mall alignment; and
  b) Add a second alternative in downtown Portland that would be composed of the mall alignment from the PSU Plaza to SW Morrison and Yamhill Streets, where the South/North and the East/West tracks would be connected.

- While an Eastside Connector is not recommended to be studied further in the DEIS, the project’s existing policy (i.e., that planning and engineering work on the light rail alternatives to be studied further in the DEIS should allow for a future Eastside transit connection) should be reaffirmed.

The CAC endorsed the PMG’s recommendations for downtown Portland cost-cutting measures, with a vote of seven in favor and two opposed. The vote on this recommendation reflects the discussion that the committee had concerning the Eastside Transit Connector. While some members suggested that an Eastside Connector should be added into the DEIS, other members agreed with the current policy reflected in the PMG’s recommendation that a future Eastside transit connection should be provided for as the alternatives within the DEIS are planned and designed. While there was disagreement between Committee members as to the timing of the Eastside Connector, we all agreed that transit, pedestrian and automobile access in the Lloyd District and the Central Eastside must be addressed by the City of Portland, Tri-Met and Metro if we are to achieve our mutual goals of continuing development on the Eastside with increasing transit use.

7. Eliot

- Add a lower-cost design of the Rose Quarter Transit Center.
The CAC unanimously agreed with the PMG by recommending that project staff should be directed to develop a low-cost Rose Quarter Transit Center design for further study in the DEIS. This low-cost design would then be compared to the current design, which has a higher cost but may have benefits that justify the added expenditure.

8. Kaiser to Lombard Street

- Add a design option to the I-5 Alignment that would move the existing southbound I-5 off-ramp at N Alberta Street to just north of N Going Street and would close the existing southbound on-ramp to I-5 from N Alberta Street (access southbound would be via the N Going Street on-ramp).

- Modify the track treatment planned for Interstate Avenue to reduce costs while retaining urban design objectives.

The CAC unanimously approved the recommendation to study a design that would modify the southbound I-5 ramps at N Alberta Street in order to reduce costs and potential residential displacements. However, the committee felt this recommendation should be reworded to more accurately describe the proposed modifications to the ramp configuration between N Alberta and Going Streets, as reflected in our recommendation above.

9. Lombard Street to VA Hospital/Clark College

The CAC has no recommendations to change alignments or design options within the segment from N Lombard Street in North Portland to the Clark County terminus at the Veterans Administration (VA) Hospital and Clark College.

10. Length Alternatives (Minimum Operable Segments (MOS))

- Keep the Full-Length Alternative from the CRC to the VA Hospital/Clark College
- Keep MOS 1 from the Milwaukie Market Place to the VA Hospital/Clark College
- Keep MOS 2 from the CRC to the Arena Transit Center
- Delete MOS 3 from the CRC to the Edgar Kaiser Medical Facility
- Delete MOS 4 from the CRC to the Expo Center
- Add MOS 5 from the CRC to N Lombard Street
- Add MOS 6 from the Milwaukie Market Place to N Lombard Street

The CAC first decided to modify the structure of the PMG's recommendations concerning length alternatives, removing the discussion of MOSs...
We had a detailed discussion about the PMG’s proposed MOSs. The CAC concluded, with a six to three vote, to endorse the length alternatives proposed by the PMG with the addition of one more MOS: MOS 6 from the Milwaukie Market Place to N Lombard Street. The majority of the committee felt that the DEIS should evaluate an MOS that would extend south to Milwaukie and north to N Lombard Street. By including this MOS in the DEIS, the region would then be provided with comparative data on the performance of this MOS in relationship to the other MOSs. While the committee is aware of past regional commitments that the next light rail line would extend south into Clackamas County, a majority of us felt that the DEIS should provide us with the technical information necessary to determine whether that priority for light rail improvements should remain or should change.

During the discussion on MOSs, several committee members voiced the position that the N Lombard Street Terminus should be extended north to the Kenton Central Business District (CBD). However, the committee concluded that the N Lombard Street Terminus should be studied further in the DEIS. The committee noted that with the Full-Length Alternative and MOS 1, the DEIS would include data on the costs and benefits of a Kenton CBD Station. This would allow the project to modify the northern terminus if our current funding assumptions change prior to selection of the locally preferred alternative.

11. Commuter Rail

- Commuter Rail should not be added to the South/North DEIS for further study.

- A sub-committee of Metro’s Joint Policy Advisory Committee on Transportation should conduct a series of workshops to determine whether commuter rail should be considered for inclusion in the Regional Transportation Plan.

The CAC voted unanimously in favor of the PMG’s recommendation concerning commuter rail. First, the committee agreed that commuter rail is not a promising alternative to light rail within the South/North Corridor and should therefore not be studied further in the South/North DEIS. Discussion on this topic included the position that commuter rail should not compete with the South/North Project for either planning or construction funds. Second, the committee agreed that commuter rail is an attractive mode of transportation and that it could be a cost-effective alternative in other travel markets in the region. Therefore, the region should commit the time and resources necessary to determine whether commuter rail should be a component of the Regional Transportation Plan.
Conclusion

In conclusion, these recommended cost-cutting measures, while somewhat different from the PMG's recommendations, still achieve the same cost-cutting targets while retaining as much value as possible within the project. We are encouraged by the prospects of light rail in the South/North Corridor and are heartened by the project's ability to so quickly respond to the loss of State of Oregon funding. The leadership that the Steering Committee has provided throughout this process is to be commended. In particular, the CAC especially appreciated the opportunity to participate in the joint cost-cutting work session with the Steering Committee in January 1997.

I look forward to discussing these recommendations with you at your meeting on April 23, 1997. If you have any questions concerning our recommendations that you would like to discuss prior to that meeting, please contact me at 503/236-6441.

Sincerely,

Rick Williams,
Chair
South/North Citizens Advisory Committee

cc: South/North Steering Committee
South/North Citizens Advisory Committee
South/North Project Management Group
May 7, 1997

Jon Kvistad, Presiding Officer
Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Dear Jon:

The Milwaukie City Council considered the South/North Steering Committee recommendation at a Public Hearing on May 6, 1997. The Council reviewed the Public Comment received by the project and heard comments from thirteen persons. The Council authorized me to send this letter identifying our recommendations for the project.

It is clear to the Council that our Hector Campbell Neighborhood Association is concerned about the Railroad Ave. alignment. They have also expressed concern about the impacts of light rail on Milwaukie and Railroad Avenue including: density, traffic, and sewers. They have taken their concerns to five of our neighborhood associations and received support for their position.

We ask that the South/North DEIS pay particular attention to identifying the traffic, air quality, energy, noise and vibration, parks and wetlands, wildlife displacements, land-use, soils, natural environment, visual quality, neighborhood changes, historic and cultural resources and other impacts of alternative alignments from the Clackamas Town Center Terminus through Milwaukie to the Portland Terminus at Lombard.

It is only through a thorough and detailed review of the impacts that we can make an informed regional choice. The City does not have funding to independently conduct a major study of these impacts. We are relying on a fair and impartial study paid for by federal funds and participating jurisdictions to provide answers to the questions being raised by our neighborhood associations.

We support the Cost-Cutting DEIS Changes in Milwaukie. These are:

Railroad Avenue
- Change the current Railroad Avenue alternative to a narrower street design.
- Add an alternative that would close sections of Railroad Avenue to through traffic.
- Add a North of Highway 224 alignment.
- Consider eliminating the Wood Avenue station.

Central Milwaukie
- Eliminate the two Monroe Street alternatives and add a Main Street/SP Branch Line alternative route.
The North of Highway 224 alignment addition will help address the Campbell Neighborhood concerns that an alternate alignment to Railroad Avenue be studied. A narrower street design or closing sections of Railroad Avenue will help reduce the impacts on Hector Campbell Elementary School and reduce the impacts on residential property. The Highway 224 Alternative provides an option that could completely eliminate impacts on Railroad and place a park and ride lot closer to Highway 224.

Elimination of the two Monroe Street alternatives and adding a Main Street/SP Branch Line alternative route removes the impact to several historic homes and residential properties. It is responsive to some of the concerns expressed by our Historic Milwaukie Neighborhood Association.

We support the ongoing effort to study the project impacts and identify mitigating measures to address impacts through the Final Environmental Impact Study. We recognize that a no-build alternative is still an option. We do not believe that stopping the project at this time would be a wise use of the local and federal funds spent to date. We understand that there will not be a state share of the project and recognize that the cost-cutting measures are necessary for the project to fit the available local match.

We believe the project is necessary to preserve the unique livability that is Milwaukie. We want to work with Metro and Tri-Met to ensure a high quality project that improves our Transit Center, improves our neighborhoods, and helps the region address planned growth management.

Sincerely,

Craig Lomnicki
Mayor

CC: Mike Burton, Metro Executive
    Richard Brandaman, PMG Chair
    file - ml039
CONSIDERATION OF RESOLUTION NO. 97-2507 FOR THE PURPOSE OF ADOPTING THE SOUTH/NORTH STEERING COMMITTEE COMMUTER RAIL OVERVIEW AND RECOMMENDATION REPORT

Date: April 30, 1997
Presented by: Richard Brandman

PROPOSED ACTION

This resolution adopts Exhibit A as the South/North Commuter Rail Overview Findings Report. The resolution also calls for commuter rail to be studied as part of the Regional Transportation Plan (RTP) and for the Joint Policy Advisory Committee on Transportation (JPACT) to conduct a series of commuter rail workshops to determine if commuter rail should be studied further and included in the Regional Transportation Plan.

FACTUAL BACKGROUND AND ANALYSIS

1. Background

The South/North Transit Corridor Study was initiated in April 1993 when Metro Council adopted Resolution No. 93-1784, which selected the Milwaukie and I-5 North Corridors as the region’s high capacity transit priority to be studied further within a Federal Draft Environmental Impact Statement (DEIS). In October 1993, the Federal Transit Administration (FTA) issued its intent in the Federal Register to publish a DEIS for the South/North Corridor.

Prior to the project’s process of determining the alternatives and design options to be studied in the DEIS, a number of South/North Corridor transportation modes were evaluated including light rail, commuter rail, river transit and busways. A series of mode and alignment workshops were held in June and July, 1993 to provide citizens with an opportunity to suggest modes and alignments that should be considered within the South/North Transit Corridor Study. At these workshops, citizens were issued a questionnaire to determine their high capacity mode preference for the South/North Corridor. Over 71 percent of respondents identified light rail as their preferred mode, while only 7 percent chose commuter rail.

In October 1993, the South/North Project Management Group (PMG) issued the South/North Scoping Process and Narrowing Report which evaluated river transit, commuter rail, busways and light rail to determine their potential performance in providing improved transit service in the South/North Corridor and proposed alternatives for further study. This report concluded that in the South/North Corridor: 1) commuter rail does not serve residential areas and employment centers as well as light rail and busways; 2) commuter rail has considerably lower projected ridership than light rail and busways; 3) commuter rail is most effective for trips at distances of 20 to 40 miles from an activity center; and 4) commuter rail may be incompatible with regional growth and land use policies.
In December 1993, following a 30-day public comment period on the South/North PMG's proposal of alternatives for further study, the Steering Committee adopted the *South/North Scoping Process and Narrowing Report* which recommended that commuter rail not be studied further as a mode alternative in the South/North Corridor.

2. Ballot Measure 32 Results

In November 1996, Ballot Measure 32 was defeated statewide. This measure would have provided $375 million in Oregon State Lottery funds for the state's share of South/North Light Rail's capital budget for the first construction segment. In response to the election results and analysis, the Steering Committee and Metro Council called upon project staff to develop a range of options and design changes to significantly reduce the cost of the project.

3. Evaluation of Commuter Rail as a Cost-Cutting Measure

In January 1997 the South/North Steering Committee and Citizens Advisory Committee (CAC) met in a joint work session to discuss project goals and objectives and cost-cutting measures, including other transportation modes such as commuter rail. In response, Tri-Met and Metro staff initiated work to review previous alignment choices and assess the viability of other modes which could be a promising alternative to light rail in the South/North Corridor.

In March 1997, the South/North PMG released the *Commuter Rail Overview and Recommendation* document which compared the functional differences between commuter rail and light rail, summarized commuter rail service in a number of west coast cities and revisited previous technical analyses of commuter rail service to downtown Portland. In this report the PMG recommended: 1) that commuter rail not be studied in the South/North DEIS; and 2) that JPACT host a series of workshops to determine whether commuter rail should be considered for inclusion in the RTP. Also in March, the South/North PMG released its recommendations for cost-cutting amendments to the project's alternatives and design options.

In its *Commuter Rail Overview and Recommendation* report, the PMG found that commuter rail typically serves longer trips and different markets than what is generally found within the South/North corridor travel shed. In an analysis of existing commuter rail service on the west coast, the length of routes was found to range from 40 to 75 miles with a minimum trip length of approximately 15 miles. In contrast, trips within the South/North Corridor are typically less than 15 miles long. In addition, the PMG concluded that commuter rail would not address the transportation problems in the South/North Corridor, would not serve neighborhoods and commercial districts, and would raise growth management issues since it would serve longer trips outside the Urban Growth Boundary (UGB).

The PMG initiated a 30-day public comment period on the proposed cost-cutting amendments and the *Commuter Rail Overview and Recommendation* document, beginning on March 14th. The 30-day public comment period included six project open houses throughout the corridor to provide the general public with the opportunity to obtain information and ask questions about commuter rail and cost-cutting measures. In addition, two public comment meetings were held...
to take oral testimony from citizens. Written comments were accepted through April 14th. In summary, there was diverse public comment regarding commuter rail which led to the staff recommendation. Both the CAC and the PMG discussed commuter rail at length and unanimously endorsed this recommendation.

On April 23, 1997, the Steering Committee adopted the recommendation: 1) not to study commuter rail further in the South/North DEIS; and 2) to request that JPACT hold a series of workshops to determine whether commuter rail should be considered for inclusion in the RTP.
WHEREAS, In April 1993, the Metro Council adopted Resolution No. 93-1784 which
selected the Milwaukie and I-5 North Corridors as the region’s high-capacity transit priority for
study and combined them into the South/North Transit Corridor to be studied within a federal Draft
Environmental Impact Statement; and

WHEREAS, In October 1993, the Federal Transit Administration issued notification of
intent in the Federal Register to publish a South/North Environmental Impact Statement; and

WHEREAS, In June and July, 1993, a series of South/North Transit Corridor Study mode
and alignment workshops were held and over 71 percent of respondents preferred light rail over the
other mode options while only 7 percent preferred commuter rail; and

WHEREAS, The 1993 South/North Scoping Process and Narrowing Report evaluated
commuter rail as one of several high-capacity mode alternatives for the South/North Transit
Corridor and, based on that analysis, it was determined that commuter rail should not be studied
further in the South/North Draft Environmental Impact Statement; and

WHEREAS, In November 1996, an analysis was initiated by the South/North Project
Management Group to evaluate commuter rail as a potential cost-cutting alternative for the
South/North Transit Corridor Study; and

WHEREAS, The South/North Project Management Group analysis found that commuter rail
generally serves longer distance inter-regional trips, typically 15 to 75 miles in length, while the
South/North Corridor travel market consists of shorter urban trips, generally less than 15 miles long;
and

WHEREAS, The South/North Project Management Group analysis found that commuter rail
in the South/North Corridor would not address the transportation problems and growth management
goals in the South/North Corridor; and

WHEREAS, The South/North Project Management Group analysis found that commuter rail
costs, ridership and other benefits and impacts are dependent upon a specific corridor’s travel
market and availability of existing freight rail lines and may be appropriate in some travel corridors;
and

WHEREAS, in March 1997, the South/North Light Rail Project initiated a 30-day public comment period on cost-cutting measures proposed by the South/North Project Management Group including a recommendation for the Joint Policy Advisory Committee on Transportation to host a series of workshops to determine if commuter rail should be considered further for inclusion in the Regional Transportation Plan; and

WHEREAS, in April 1997, the South/North Steering Committee endorsed the Project Management Group’s and Citizen Advisory Committee’s recommendation that commuter rail not be studied further in the South/North Draft Environmental Impact Statement and that the Joint Policy Advisory Committee on Transportation host a series of workshops to determine if commuter rail should be considered further for inclusion in the Regional Transportation Plan; now, therefore

BE IT RESOLVED:

1. That Exhibit A is hereby adopted as the South/North Commuter Rail Overview and Findings Report.

2. That commuter rail not be studied further in the South/North Draft Environmental Impact Statement.

3. That the Joint Policy Advisory Committee on Transportation conduct a series of workshops to determine if commuter rail should be considered further for inclusion in the Regional Transportation Plan.

ADOPTED by the Metro Council on this _____ day of _____, 1997.

___ Jon Kvistad, Presiding Officer

Approved as to Form:

Daniel B. Cooper, Legal Counsel
Commuter Rail Overview and Recommendation

Steering Committee

April 25, 1997
1. Introduction

During the South/North Scoping Process in 1993 commuter rail was studied as a possible high capacity transit (HCT) mode alternative for serving travel demand in the South/North corridor. Based on public comment and the analysis of criteria including ease of access, cost, ridership, and land-use implications, light rail was identified as the preferred mode for providing high capacity service in the corridor. It was recommended that commuter rail not be analyzed further in the South/North Transit Corridor Study.

Although it was determined that commuter rail was not a suitable HCT mode for the South/North Corridor, it may still serve a role in addressing future regional transportation needs. The purpose of this report is to update and summarize earlier technical analysis and to propose a course of action for further study of commuter rail in the Portland/Vancouver metropolitan region. The South/North Steering Committee recommends that commuter rail be evaluated as part of the comprehensive regional transportation planning process. To accomplish this, commuter rail needs to be addressed in a regionally coordinated effort and incorporated into Metro’s Regional Transportation Plan (RTP). The following describes the information and process which led to this recommendation and the decision not to study commuter rail in the South/North Corridor.

2. Commuter Rail Overview

2.1 Mode Description

Commuter rail is passenger rail service which typically operates within a large, expansive metropolitan area, typically during the a.m. and p.m. peak commute periods serving peak directional flows from outlying communities to major employment centers, usually the central business district (CBD). Commuter rail lines range in length, but on average the length from an exurban terminus to the central business district ranges from 40 to 80 miles. Commuter rail uses existing railroad right-of-way when possible, which can reduce construction costs and the need to acquire land. However, some degree of track improvement or new trackage is usually required by the host railroad company.

Operations is usually handled as part of the regional transportation system or by a railroad company under contract to a public agency. Oversight of rail operations is provided by a range of public agencies including local and regional governments, transit agencies, state departments of transportation (DOT) and non-profit, quasi-public, single-purpose passenger rail agencies.

In comparison with light rail, commuter rail is typically used for longer distance service from relatively large, outlying communities to a CBD with dense employment, stops are less frequent than LRT, averaging between one and four miles with some spaced as much as fifteen miles apart. Commuter rail trips are typically longer and more expensive than a light rail trip. Light rail also tends to carry many times more trips per station because its operation is typified by all-day service with frequent headways and frequent stops.

In order to understand better the characteristics of new commuter rail systems, Metro has conducted research, with particular emphasis on recent, west coast operations. The typical east coast
commuter rail service (e.g. New York, Philadelphia, Boston), tends to be much older and serves urban areas of a scale and type that are not representative of Portland. The following sections provide detail on west coast commuter rail operations, with particular focus on San Diego and Vancouver, British Columbia (B.C.) which are the two west coast cities with existing commuter rail operations that are most similar to Portland, although both are larger cities.

2.2 Fare Structure

Based primarily on west coast commuter rail service, fares are typically categorized by travel zones and range widely based on distance traveled. Discounts are offered for 10-ride tickets, monthly tickets and in many cases tickets are valid for transfers to other regional transit modes. Below are comparisons between the cost for a 20 mile trip to a CBD for various commuter rail lines.

**Commuter Rail Cost Comparisons for 20 Mile Trip**

<table>
<thead>
<tr>
<th>Commuter Rail Service</th>
<th>Cost of 1-Way 20 Mile Trip (1997)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MetroLink (Los Angeles Area)</td>
<td>$4.50</td>
</tr>
<tr>
<td>CalTrain (San Francisco)</td>
<td>$3.75</td>
</tr>
<tr>
<td>West Coast Express (Vancouver, B.C.)</td>
<td>$3.00 (U.S.)</td>
</tr>
<tr>
<td>The Coaster (San Diego)</td>
<td>$3.00</td>
</tr>
</tbody>
</table>

Source: Metro 1997

2.3 Station Spacing

Station spacing varies considerably among west coast commuter lines. Portions of CalTrain’s San Francisco service and Los Angeles’ MetroLink service, for example, have station spacing of 1 to 3 miles. For other sections of service, particularly on express trains, stations can be spaced 5 to 15 miles apart. The West Coast Express which serves Vancouver, British Columbia has spacing between stations of 2 to 15 miles. Such differences in station spacing appear to be linked to the density of population and employment in the areas served by a commuter rail line.

2.4 Description of Service

Commuter rail service hours of operation and headways vary substantially. Generally, in larger urbanized areas where commuter rail serves the CBD, as well as major population and employment centers, service is provided throughout the day with higher frequency in both directions during the morning and evening peaks. In San Francisco and Los Angeles, for example, some a.m. and p.m. peak period trains run at 10 to 15 minutes headways for lines which service large population and employment centers outside the CBD. Service continues mid-day for many lines (some lines are peak-hour only). Mid-day headways in these cities generally range from 30 to 60 minutes.
In comparison, in cities with well-defined CBDs and few additional large population and employment centers, service may be during the peak hour and in the peak direction only. Examples are San Diego and Vancouver, B.C. (peak periods are approximately 5:30 to 8:30 in the morning and 3:30 to 6:30 in the evening). Headways for both cities are 30 minutes. One mid-day train, and limited weekend and special event service have also been integrated in San Diego.

2.5 Function, Purpose and Market Niche

Findings in a recent study of planned and existing light rail and commuter rail service across the nation help define the function, purpose and market niche filled by commuter rail. They are listed below. Many of these findings were substantiated by a closer evaluation of five west coast commuter rail lines (4 existing and 1 planned) included in this memorandum.

- Commuter rail service requires dense Central Business Districts (CBDs) but can operate in low density residential areas, especially if access via park-and-rides and feeder bus service is provided.

- Commuter rail costs vary with CBD size and line length, however, cost-effectiveness increases with CBD employment size and residential density.

- In comparison with light rail, ridership depends on large CBDs and relatively long distance lines.

- In comparison with light rail, commuter rail provides service to lower residential densities further from the CBD.

Based on the abovementioned analysis and more recent commuter rail patron surveys conducted by San Diego and Vancouver, B.C., it has been found that the majority of commuter rail patrons hold professional/technical positions and ride the train during the peak periods to and from place of employment in or near the CBD. The percentage of home-to-work trips of all commuter rail trips was 79% in San Diego (1995), 84% in Los Angeles (1995) and approximately 95% in Vancouver, B.C. (1996). Surveys indicate that riders have above average income and are predominantly in the age range of 30 to 50. Most riders have 1 or 2 vehicles available for use in their household.

Most patrons board commuter rail via park-and-rides. However, as shown below, percentages for each mode of access can vary considerably between jurisdictions.
Mode of Access to Commuter Rail Stations

<table>
<thead>
<tr>
<th>Mode of Access</th>
<th>San Diego (Coaster)</th>
<th>Los Angeles (MetroLink)</th>
<th>Vancouver, B.C. (West Coast Express)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Park-and-Ride</td>
<td>60.4%</td>
<td>79%</td>
<td>70%</td>
</tr>
<tr>
<td>(including carpools)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus Service</td>
<td>9.8%</td>
<td>3%</td>
<td>20%</td>
</tr>
<tr>
<td>Walk-Ons</td>
<td>11.3%</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>Drop-Offs</td>
<td>15.3%</td>
<td>14%</td>
<td>5%</td>
</tr>
<tr>
<td>Other (e.g. bikes)</td>
<td>3.2%</td>
<td>1%</td>
<td>0%</td>
</tr>
</tbody>
</table>

1 1995 San Diego Association of Governments Onboard Transit Survey
2 June 1995 MetroLink Customer Satisfaction Survey
3 1996 West Coast Express Survey

2.6 Average Weekday Ridership Comparison

The following table provides average weekday ridership data for five operating west coast commuter rail lines. The average one-way length for these 5 operations is 59 miles and the average daily ridership is 8,500. The Caltrain operation between Gilroy and San Francisco displays exceptional ridership because it operates through several major employment centers such as San Jose, Santa Clara, Palo Alto and downtown San Francisco. The average daily ridership of the other four routes when not including the exceptional CalTrain Bay Area service is 4,850.

Each of these commuter rail routes are located in metropolitan areas with higher population and employment than is found in Portland and each has a central business district with higher employment levels than Portland’s CBD.

Comparisons in Average Weekday Ridership

<table>
<thead>
<tr>
<th>Commuter Rail Service Provider</th>
<th>1996 Average Weekday Ridership</th>
<th>Miles of Service to CBD</th>
<th>Regional Population (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MetroLink: Santa Clarita to Los Angeles</td>
<td>3,588</td>
<td>77</td>
<td>14.5</td>
</tr>
<tr>
<td>MetroLink: San Bernardino to Los Angeles</td>
<td>6,883</td>
<td>56</td>
<td>14.5</td>
</tr>
<tr>
<td>CalTrain: Gilroy and points north to San Francisco</td>
<td>23,000</td>
<td>77</td>
<td>6.3</td>
</tr>
<tr>
<td>West Coast Express: Mission to Vancouver, B.C.</td>
<td>6,000</td>
<td>41</td>
<td>1.5</td>
</tr>
<tr>
<td>The Coaster: Oceanside to San Diego</td>
<td>3,000</td>
<td>43</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: Metro 1997

April 25, 1997  Commuter Rail Overview and Recommendation – Steering Committee
3. **Summary of Commuter Rail in other Regions of the West Coast**

This section summarizes commuter rail service in other west coast cities including San Diego, CA, Los Angeles, CA, San Francisco, CA, Seattle, WA, and Vancouver, B.C. In general, the locations served by commuter rail in these areas are more densely populated and more extensively urbanized than the Portland metropolitan region. However, this information can provide insight into important criteria and objectives when studying commuter rail service in Portland and its environs.

3.1 **San Diego – The Coaster**

3.1.1 **Description of Service and Market Niche**

“The Coaster” built 2½ years ago operates on 43 miles of single track (with passing sides), with maximum speed of 90 mph, from Oceanside, CA to San Diego, CA. There are 8 stations. Service is primarily during the peak periods. Trains operate approximately every half-hour in the peak direction (Oceanside to San Diego) from 5:30 a.m. to 8:00 a.m. and from 3:45 p.m. to 6:35 p.m. There is one mid-day train and some special service on Friday nights and weekends.

3.1.2 **Planning Issues**

North County Transit District and Metropolitan Transit Development Board purchased the right-of-way for the Coaster in a joint purchase of Santa Fe right-of-way with Orange County and Los Angeles. The commuter rail service is a component of a multi-transportation district Regional Transportation Plan voted on in 1987. The transportation package called TransNet comprised commuter rail, light rail, high occupancy vehicle (HOV) lanes, and road expansion. Amtrak is under lease agreement to maintain and operate the Coaster. Express buses that provided similar service were redeployed in other corridors.

3.1.3 **Ridership Estimate/Boardings and Deboardings per Station**

Daily boardings are approximately 3,000. Below is mileage between Coaster stations.
Station Spacing on San Diego Coaster Commuter Rail

<table>
<thead>
<tr>
<th>Coaster Stations</th>
<th>Station Spacing (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oceanside (north terminus)</td>
<td>2.8</td>
</tr>
<tr>
<td>Carlsbad Village</td>
<td>4.1</td>
</tr>
<tr>
<td>Carlsbad Poinsettia</td>
<td>4.4</td>
</tr>
<tr>
<td>Encinitas Transit Center</td>
<td>4.1</td>
</tr>
<tr>
<td>Solana Beach</td>
<td>7.2</td>
</tr>
<tr>
<td>Sorrento Valley</td>
<td>15.2</td>
</tr>
<tr>
<td>Old Town Transit Center</td>
<td>3.4</td>
</tr>
<tr>
<td>Santa Fe Depot (San Diego)</td>
<td></td>
</tr>
</tbody>
</table>

Source: North County Transit District 1997

3.1.4 Current Status

An extension is currently being planned from Oceanside to Escondido using self-propelled diesel rail cars rather than locomotive push-pull in service today. This line would be a hybrid of light rail and commuter rail. Rail right-of-way has already been purchased. The line is not straight like Oceanside to San Diego and operating speeds will be substantially lower. Staff is currently developing the Environmental Impact Statement and the planned opening is estimated to be sometime in the year 2000.

3.1.5 Travel Time

56 minutes to 58 minutes from Oceanside to San Diego.

3.1.6 Fare Structure

$6.50 round-trip. $5.75 for trip-length less than Oceanside to San Diego. This cost is comparable to bus fare for similar service. Discounts similar to Tri-Met’s apply: 10% for ten tickets; discount for monthly pass.

3.1.7 Population and Employment Center Size

The City of San Diego is the primary population and employment center served by the Coaster. Other regional centers served along 43 mile route include DelMar, Carlsbad, Oceanside, however, majority of employment base is in San Diego. The 1995 regional population of the San Diego area was 2,498,016. Regional square mileage is 4,205.
1992 Population and Employment for Areas Served by the Coaster

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Population</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oceanside</td>
<td>147,200</td>
<td>29,300</td>
</tr>
<tr>
<td>Carlsbad</td>
<td>68,200</td>
<td>35,900</td>
</tr>
<tr>
<td>Encinitas</td>
<td>57,100</td>
<td>20,100</td>
</tr>
<tr>
<td>Solana Beach</td>
<td>13,600</td>
<td>7,500</td>
</tr>
<tr>
<td>Del Mar</td>
<td>5,100</td>
<td>5,000</td>
</tr>
<tr>
<td>San Diego</td>
<td>1,183,100</td>
<td>659,000</td>
</tr>
</tbody>
</table>

1 Population figures as of January 1996
2 Employment figures as of 1992

3.1.8 Capital and Operating Costs

Right-of-way purchase was $92 million and capital expenditure for cars, locomotives, stations, maintenance facility, and upgrading cost $70 million for a total capital cost of $162 million (1992). Annual operating expenses for 1996 are estimated at $8 million. Annual farebox revenue is approximately $2.4 million (a 30% farebox recovery rate).

3.1.9 Access (feeder buses, park-and-rides)

A total of 1,200 new parking spaces were constructed for access to the Coaster. In addition, a number of spaces are shared with Amtrak and MetroLink has a terminus at the Oceanside station. In a recent survey (1995) of mode of access to Coaster stations for inbound trips to San Diego, the following information was gathered: 53% drive alone, 7.4% carpool, 11.3% walk-on, 3.8% take a bus, 6% take a Coaster shuttle bus, 15.3% are dropped off, and 3.2% fall into the other category (e.g. bikes).

3.2 Los Angeles – MetroLink

3.2.1 Description of Service and Market Niche

MetroLink operates six lines providing service in Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties and also service from Los Angeles to Oceanside. Five of the six lines provide service to Los Angeles. One line provides service between San Bernardino and Irvine. Total length of service provided is 444 miles.
3.2.2 Ridership Estimate/Boardings and Deboardings per Station

Average weekday ridership for the entire 444 mile system was 23,100 in 10/96, 23,221 in 11/96 and 21,255 in 12/96. Ridership by line into Los Angeles is summarized in the table below.

<table>
<thead>
<tr>
<th>Line</th>
<th>1996 Ridership</th>
<th>Miles</th>
<th>Travel Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventura</td>
<td>2,900</td>
<td>66.1</td>
<td>1 hr 30 min</td>
</tr>
<tr>
<td>Santa Clarita</td>
<td>3,600</td>
<td>76.6</td>
<td>1 hr 45 min</td>
</tr>
<tr>
<td>San Bernardino</td>
<td>6,900</td>
<td>56.2</td>
<td>1 hr 20 min</td>
</tr>
<tr>
<td>Riverside</td>
<td>3,700</td>
<td>58.7</td>
<td>1 hr 10 min</td>
</tr>
<tr>
<td>Orange County</td>
<td>4,900</td>
<td>87.2</td>
<td>1 hr 50 min</td>
</tr>
</tbody>
</table>

Source: MetroLink 1997

3.2.3 Current Status

All lines have been built.

3.2.4 Population Center Size

Regional population of Los Angeles was 14,531,529 in 1995. Regional square mileage: 33,966.

3.2.5 Fare Structure

Base one-way cost is $3.50 with a $1 zone charge (approximately every 11 miles). There are a total of seven zones. A one-way ticket traveling through all seven zones costs $9.50.

3.2.6 Capital and Operating Costs

Annual operating expenses for 1995/96 were $63.3 million.

3.2.7 Access (feeder buses, park-and-rides)

Some employer transportation provided from station to employment sites.
3.3 **San Francisco – CalTrain**

### 3.3.1 Description of Service and Market Niche

CalTrain consists of 48 miles of service in the urbanized area from San Francisco to San Jose with 27 stations. Stops include populated areas such as San Mateo, Sunnyvale, Santa Clara, Mountainview, Burlingame. Commuter rail service continues south 28 miles south from San Jose to Gilroy (more agricultural/rural areas) with 5 stations.

### 3.3.2 Ridership Estimate/Boardings and Deboardings per Station

Average weekday ridership is 23,000 trips per day. Saturday: 12,000 to 13,000 and Sunday 8,000 to 9,000. Average increase in ridership per year is 5%. Ridership attributed to improved bike program (approximately 1,000 bikes per day access CalTrain), shuttle bus access and marketing.

### 3.3.3 Travel Time

Varies depending on service. Fastest express train from San Francisco to San Jose would be 64 minutes. With basic service (all station stops) it would be 90 minutes. Headways vary depending on population density and demand, for example, Gilroy to San Francisco trains operate at 30 minutes headways in the a.m. and p.m. peak while San Jose peak headways are 10 minutes and Palo Alto to San Francisco headways are approximately 15 minutes during the peaks. Below is a list of stations and spacing.

<table>
<thead>
<tr>
<th>Station</th>
<th>Spacing (miles)</th>
<th>Station (cont’d)</th>
<th>Spacing (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilroy (south terminus)</td>
<td>6.1</td>
<td>Redwood City</td>
<td>2.4</td>
</tr>
<tr>
<td>San Martin</td>
<td>3.6</td>
<td>San Carlos</td>
<td>2.2</td>
</tr>
<tr>
<td>Morgan Hill</td>
<td>12.3</td>
<td>Belmont</td>
<td>1.3</td>
</tr>
<tr>
<td>Blossom Hill</td>
<td>3.5</td>
<td>Hillsdale</td>
<td>1.6</td>
</tr>
<tr>
<td>Capitol</td>
<td>2.4</td>
<td>Hayward Park</td>
<td>1.4</td>
</tr>
<tr>
<td>Tamien</td>
<td>2.0</td>
<td>San Jose</td>
<td>1.0</td>
</tr>
<tr>
<td>College Park</td>
<td>1.2</td>
<td>College Park</td>
<td>1.6</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>1.4</td>
<td>Burlingame</td>
<td>1.1</td>
</tr>
<tr>
<td>Lawrence</td>
<td>3.5</td>
<td>Broadway</td>
<td>1.5</td>
</tr>
<tr>
<td>Sunnyvale</td>
<td>2.0</td>
<td>Lawrence</td>
<td>2.1</td>
</tr>
<tr>
<td>Mountainview</td>
<td>2.7</td>
<td>Sunnyvale</td>
<td>2.3</td>
</tr>
<tr>
<td>Castro</td>
<td>1.3</td>
<td>Mountainview</td>
<td>4.1</td>
</tr>
<tr>
<td>California Avenue</td>
<td>3.0</td>
<td>Castro</td>
<td>1.1</td>
</tr>
<tr>
<td>Palo Alto</td>
<td>1.7</td>
<td>California Avenue</td>
<td>2nd Street</td>
</tr>
<tr>
<td>Menlo Park</td>
<td>1.2</td>
<td>Palo Alto</td>
<td>2.2</td>
</tr>
<tr>
<td>Atherton</td>
<td>1.1</td>
<td>Menlo Park</td>
<td>San Francisco</td>
</tr>
</tbody>
</table>
3.3.4 Population Center Size

The 1995 regional population of the San Francisco Bay area was 6,253,311. Regional square mileage is 7,369. The table below contains 1990 population for the cities and towns served by CalTrain.

<table>
<thead>
<tr>
<th>City/Town</th>
<th>1990 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilroy</td>
<td>31,487</td>
</tr>
<tr>
<td>Morgan Hill</td>
<td>23,928</td>
</tr>
<tr>
<td>San Jose</td>
<td>782,225</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>93,613</td>
</tr>
<tr>
<td>Sunnyvale</td>
<td>117,229</td>
</tr>
<tr>
<td>Mountainview</td>
<td>67,460</td>
</tr>
<tr>
<td>Castro Valley</td>
<td>48,619</td>
</tr>
<tr>
<td>Palo Alto</td>
<td>55,900</td>
</tr>
<tr>
<td>Menlo Park</td>
<td>28,001</td>
</tr>
<tr>
<td>Atherton</td>
<td>7,163</td>
</tr>
<tr>
<td>Redwood City</td>
<td>66,072</td>
</tr>
<tr>
<td>San Carlos</td>
<td>26,167</td>
</tr>
<tr>
<td>Belmont</td>
<td>24,127</td>
</tr>
<tr>
<td>Hayward</td>
<td>111,498</td>
</tr>
<tr>
<td>San Mateo</td>
<td>85,486</td>
</tr>
<tr>
<td>Burlingame</td>
<td>26,801</td>
</tr>
<tr>
<td>Millbrae</td>
<td>20,412</td>
</tr>
<tr>
<td>San Bruno</td>
<td>38,961</td>
</tr>
<tr>
<td>San Francisco</td>
<td>723,959</td>
</tr>
</tbody>
</table>

3.3.5 Fare Structure

9 zone system. One-way travel within Zone 1 is $1.25. Increment per zone of travel is $0.50 to $0.75. For a 77 mile one-way trip from Gilroy to Francisco, the fare is $6.00.

3.3.6 Access (feeder buses, park-and-rides)

Park-and-rides between San Jose and Gilroy, but none in the 48 mile urbanized area between San Francisco and San Jose. Subsidized shuttles/mini-vans to employer doorsteps.
3.4 Seattle

3.4.1 Description of Service and Market Niche

Commuter rail planning is underway to add two-way peak period train service using existing Burlington Northern railroad track between Everett, Seattle, Tacoma, and Lakewood, Washington. The completed system would be 81 miles in length with 14 stations. Additional stations may be built in the future. Several shared stations with Amtrak are planned to connect to intercity rail service between Portland and Vancouver, B.C.

The first line planned to begin operating is Tacoma to Seattle, including a spur to Renton. It is estimated that track and signal improvements may take two to four years to complete. The approximate length is 46 miles with 9 stations.

Planned train frequency is every 15 minutes during peak periods in peak direction only. The morning peak is expected to be from 6:00 - 9:00 a.m. and the evening peak is expected to be from 3:30 to 6:30 p.m. Limited special event service may also be provided.

3.4.2 Planning Issues

Commuter rail is one component of a ten year Regional Transit System Plan proposed by the Central Puget Sound Regional Transit Authority referred to as “Sound Move.” Sound Move comprises plans for expanding the capacity of the major transportation corridors by adding new high-capacity transportation facilities and services. This includes commuter rail, HOV lanes, regional express bus routes, and light rail. The plans include improved suburban and urban connections to the rest of the region.

3.4.3 Current Status

Currently working on environmental assessment for south corridor (Seattle to Tacoma). Should be complete by Fall 1997. South service expected by 12/99.

3.4.4 Travel Time

Seattle to Tacoma: 55 minutes
Seattle to Lakewood: 68 minutes
Seattle to Everett: 55 minutes to 1 hour

3.4.5 Fare Structure

The fare structure is currently under development. Current express bus service between Tacoma and Seattle cost $2.50 for a one-way trip.
3.4.6 Population Center Size

The 1995 regional population of the Seattle area was 2,559,164. Regional square mileage: 5,892.

3.4.7 Access (feeder buses, park-and-rides)

As many as 7,075 new park-and-ride spaces are planned, approximately 200 - 700 spaces per commuter rail station. Network of bus routes serving commuter rail stations.

3.5 Vancouver, B.C. – West Coast Express

3.5.1 Description of Service and Market Niche

The West Coast Express operates between Vancouver and Mission (east of Vancouver) and began service in 11/95. The line is slightly more than 41 miles in length with 5 trains into Vancouver during the a.m. peak and 5 trains to Mission in the p.m. peak. Peak hour trains in the morning leave Mission between 5:30 to 7:00 a.m. and arrive in Vancouver between 6:45 to 8:15 a.m.

The commuter rail line uses existing Canadian Pacific track. There are 8 stations and equipment includes 28 Bombardier cars which seat 146 people and 5 locomotives. Trains are typically 4 to 7 cars in length.

<table>
<thead>
<tr>
<th>West Coast Express Stations</th>
<th>Station Spacing (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission (eastern terminus)</td>
<td></td>
</tr>
<tr>
<td>Port Haney</td>
<td>15.0</td>
</tr>
<tr>
<td>Maple Meadows</td>
<td>3.6</td>
</tr>
<tr>
<td>Pitt Meadows</td>
<td>0.9</td>
</tr>
<tr>
<td>Port Coquitlam</td>
<td>4.6</td>
</tr>
<tr>
<td>Coquitlam Center</td>
<td>1.5</td>
</tr>
<tr>
<td>Port Moody</td>
<td>2.2</td>
</tr>
<tr>
<td>Vancouver (north CBD)</td>
<td>13.5</td>
</tr>
</tbody>
</table>

3.5.2 Planning Issues

Canadian Pacific Railroad maintains, crews, and operates West Coast Express under contract for BC Transit. BC Transit also pays the railroad for use of their track.
Competitive service issues: some express buses to downtown Vancouver were redeployed to serve as feeder buses to commuter rail stations, however trunk route and local bus service with frequent headways remain in place in the corridor.

3.5.3 Ridership

In the opening months of West Coast Express service, ridership was approximately 5,000 person rides per day. Currently, it is approximately 6,000 person rides per day. Total number of riders from 11/95 to 11/96 was 1.5 million.

West Coast Express reports that 7% of daily ridership is intra-suburban; 93% is from outlying areas to downtown Vancouver.

3.5.4 Passenger Profile

The average age of West Coast Express patrons is between 30 and 50 years (slightly higher than the average age of SkyTrain patrons). There are slightly more men than women riders. The typical West Coast Express passenger is professional with higher than average income compared with other transit patrons. 90% of passengers are one to two car households. It is estimated that 75% of patrons used to commute by personal vehicle prior to West Coast Express service. Approximately 95% of passenger trips are home to work based.

3.5.5 Current Status

There are no current plans for expansion. The mayor of Vancouver has expressed concern over the level of operating cost per rider. The long-term viability of this service will be based on the willingness of the province and region to continue an appropriate level of subsidy.

3.5.6 Travel Time

The distance between Vancouver and Mission is 41 miles with a total trip length of 71 minutes.

3.5.7 Fare Structure

One way fares:

- $3 (Canadian) for two zones (basically downtown only); $2.20 U.S.
- $4 (Canadian) for three zones; $3.00 U.S.
- $5 (Canadian) for four zones; $3.70 U.S.
- $7 (Canadian) for five zones; $5.20 U.S.

(Exchange rate: $1 Canadian = 0.74 U.S.)

Return trips are 2½% off. Weekly tickets are 10% off and Monthly tickets are 25% off.
3.5.8 Population and Employment Center Sizes

The 1995 regional population for the Vancouver, B.C. area was 1,547,000. Below is a breakdown of population and employment in cities and districts served by the West Coast Express. The Tri-cities area to east does have a small employment area, but does not comprise a significant percentage of ridership.

Population and Employment in Cities and Districts Served by West Coast Express

<table>
<thead>
<tr>
<th>City or District</th>
<th>Station</th>
<th>Population</th>
<th>Number of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Vancouver</td>
<td>Waterfront</td>
<td>521,050</td>
<td>345,100</td>
</tr>
<tr>
<td>City of Port Moody</td>
<td>Port Moody</td>
<td>20,500</td>
<td>5,900</td>
</tr>
<tr>
<td>City of Coquitlam</td>
<td>Coquitlam Central</td>
<td>100,900</td>
<td>31,100</td>
</tr>
<tr>
<td>City of Port Coquitlam</td>
<td>Port Coquitlam</td>
<td>45,700</td>
<td>17,000</td>
</tr>
<tr>
<td>District of Pitt Meadows</td>
<td>Pitt Meadows</td>
<td>13,900</td>
<td>3,100</td>
</tr>
<tr>
<td>District of Maple Ridge</td>
<td>Maple Meadows Way and Port Haney</td>
<td>56,700</td>
<td>16,200</td>
</tr>
<tr>
<td>District of Mission</td>
<td>Mission City</td>
<td>37,900</td>
<td>9,100</td>
</tr>
</tbody>
</table>

1. District of Mission population figure is for 1996 from BC Stats; all other population figures are for 1995 and were obtained from Greater Vancouver Regional Council.

2. Employment figures are from Estimation of 1994 Spatial Distribution of Employment in Greater Vancouver.

3.5.9 Funding and Subsidies

Implementation of the West Coast Express was subsidized by the provincial government (1/3), Vancouver Regional Transit Commission (1/3) and fares which go directly to the province (1/3). The capital budget was $96.2 million (1995 U.S. dollars). This amount included infrastructure improvements, land acquisition, station and parking construction, locomotive acquisition and project management. The 28 bi-level passenger cars were acquired through an operating lease and therefore are included in the annual operating budget. For 1996/97, annual operating costs are expected to be approximately $14.8 million (U.S.). This includes fees to the Canadian Pacific Railroad for operating rights on its track.

3.5.10 Access (feeder buses, park-and-rides)

A total of 1,900 new parking spaces were built to accommodate West Coast Express riders. There are park-and-rides at 6 of the 8 stations ranging in size from 112 to 370 spaces.

Approximately 20% of all riders arrive at commuter rail stations via feeder buses which were realigned to serve stations instead of downtown Vancouver, 5% of riders are walk-ons, 5% are drop-offs and the remaining 70% are park-and-riders. West Coast Express estimates that 75 to 80% of riders formerly used their car to travel to Vancouver and environs.
The tri-cities area (suburban area near Vancouver) has a higher percentage of riders arriving at station via bus (25-30%) compared to other stations. In addition, there is a suburban station very close to a densely populated residential area with higher than average walk-on riders.

3.6 Summary Table

The table below summarizes key characteristics of the five commuter rail lines discussed above.

<table>
<thead>
<tr>
<th>City</th>
<th>Regional Population (millions)</th>
<th>Commuter Rail Line</th>
<th>Length of Line to CBD</th>
<th>Average Weekday Ridership</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego, CA</td>
<td>2.5</td>
<td>The Coaster</td>
<td>43 miles</td>
<td>3,000</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>14.5</td>
<td>MetroLink: Ventura</td>
<td>66 miles</td>
<td>2,900</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Santa Clarita</td>
<td>77 miles</td>
<td>3,600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>San Bernardino</td>
<td>56 miles</td>
<td>6,900</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Riverside</td>
<td>59 miles</td>
<td>3,700</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orange County</td>
<td>87 miles</td>
<td>4,900</td>
</tr>
<tr>
<td>San Francisco, CA</td>
<td>6.3</td>
<td>CalTrain</td>
<td>77 miles</td>
<td>23,000</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>2.6</td>
<td>(in planning)</td>
<td>46 miles</td>
<td>–</td>
</tr>
<tr>
<td>Vancouver, B.C.</td>
<td>1.6</td>
<td>West Coast Express</td>
<td>41 miles</td>
<td>6,000</td>
</tr>
</tbody>
</table>

4. Commuter Rail in the Portland/Vancouver Region and South/North Corridor

4.1 Overview

The analysis of commuter rail concepts within the South/North Corridor have been summarized in two reports: Commuter Rail Phase I Conceptual Alternatives Report and the Scoping Process Narrowing Report. The initial assessment was documented in the Commuter Rail Phase I Conceptual Alternatives report. This report included a general description of potential rail lines and operating concepts, an assessment of ridership potential and a discussion of capital and operating costs.

This report was used to provide a general framework for the discussion of commuter rail as a mode option in the South/North Corridor. Following discussion of this report, it was determined that a more detailed ridership assessment was needed to adequately evaluate commuter rail as a mode option. The results of this more detailed ridership analysis and other data are summarized in the Scoping Process Narrowing Report.

The analysis in the Scoping Process Narrowing Report is formatted to address criteria such as ridership, access, transit operations, environmental impacts and land use. The assessment of land use focused on the objective "Promote Desired Land Use Patterns and Development." This analysis
found that commuter rail is not an appropriate option to provide transportation capacity conforming to changes in growth patterns or to emerging growth corridors within the Urban Growth Boundary (UGB). It also found that commuter rail encourages growth in outlying areas and does not limit sprawl.

The *Scoping Process Narrowing Report* utilized the updated commuter rail ridership analysis and portions of the other analyses from *Commuter Rail Phase I Conceptual Alternatives*, to compare commuter rail with busways, river transit and light rail as high capacity transit mode alternatives for serving the South/North Corridor. The *Scoping Process Narrowing Report* did not include specific capital and operating costs for the commuter rail mode.

As commuter rail continued to be discussed as a mode to consider in the corridor, it was clear that the best available data should be used to inform that discussion. Revised ridership estimates were prepared and included in the *Scoping Process Narrowing Report*, which provided the basis for the decision to not study commuter rail further as a mode option in the South/North Corridor. The data on capital and operating costs for commuter rail were not revised, nor specifically addressed, during the scoping process. Updated costs for commuter rail service sized consistently with the level of forecast demand have since been prepared and are included in this report.

The following sections describe the ridership estimates for commuter rail in the corridor and present an updated commuter rail cost discussion.

### 4.2 Ridership Estimates

Ridership estimates for commuter rail in the South/North corridor have been prepared twice using two different methodologies. The first estimate was prepared for the *Commuter Rail Phase I Conceptual Alternatives* report, the second was prepared for the *Scoping Process Narrowing Report*. These two estimates differed in method and assumptions.

**Commuter Rail Phase I Conceptual Alternatives**

Year 2010 ridership estimates included in the *Commuter Rail Phase I Conceptual Alternatives* report were determined to be of marginal value since they were based on a sketch-level analysis which assumed that commuter rail would function as complementary service to light rail.

**Scoping Process Narrowing Report**

The Scoping Process Narrowing Report includes a more detailed analysis of the ridership potential of a commuter rail line serving the South/North corridor.

The commuter rail year 2010 ridership forecast included in this report was based on modeling a commuter rail line through the South/North Corridor from Canby to Ridgefield, Washington. This analysis used the regional travel demand model to forecast ridership on a commuter rail line assuming no light rail in the corridor. This report provided the data which was used by decision-makers to determine whether to study commuter rail further in the corridor.
Specific assumptions are required to model all modes of travel. The assumptions used in this modeling effort were as follows:

- Headways were assumed at 20 minute peak and 60 minute off-peak.
- Fares were assumed to be consistent with existing Tri-Met and C-TRAN fares for a similar distance trip.
- Bus service was assumed to remain in the major trunk corridors, such as I-5/Interstate Avenue and McLoughlin Boulevard.
- Feeder bus service was assumed to continue to serve major transit centers (i.e. Clackamass Town Center, Milwaukie Transit Center and Downtown Vancouver Transit Center) and where possible, to serve commuter rail stations.
- Park-and-ride access was provided to commuter rail stations and to trunk bus lines.
- Commuter rail stations were assumed at Canby, Oregon City, Clackamas, Milwaukie, Brooklyn, OMSI, Union Station, Willbridge (N.W. Portland), East St. Johns, Vancouver Amtrak Station, Vancouver Junction (North Vancouver) and Ridgefield.

The year 2010 ridership forecast for Canby to Ridgefield was 2,100 daily trips. The proportion of forecast ridership in the south portion of the corridor and in the north portion of the corridor is roughly equal at approximately 1,000 daily trips each (500 trips in each peak direction).

4.3 *Commuter Rail Capital and Operating Costs*

This section presents an updated assessment of the potential capital and operating costs associated with providing commuter rail service in the South/North Corridor. This section describes the capital improvements and operating scenario for commuter rail serving the forecast demand of approximately 1,000 daily trips. Also presented are the improvements and operations that could be added to provide a higher capacity service, if such a higher level of service should be desirable. Current projections indicate that there is not enough demand to justify such higher service levels.

4.3.1 *Assumptions in Cost Estimates*

In order to develop cost estimates it is necessary to define the assumptions on capital needs and operating concept. In the case of commuter rail there are perhaps more uncertainties than are found in cost estimates for other transportation modes. Contributing to the uncertainty is the lack of eminent domain authority over railroad property. This means that government agencies are required to negotiate a lease or purchase agreement with a railroad which is under no obligation to settle. Therefore, the capital and lease costs described below are tentative and are based on a reasonable assessment at this time what is likely to be sought by the railroad company.

Conversations with local railroad officials indicate that a high level of improvements may be necessary for commuter rail to function from Portland to Canby at any service level. This is due to possible capacity limitations as freight service and intercity passenger service increases.

Costs in this section are revised from previous estimates and are based on a 23.2 mile Canby-to-Portland commuter rail line (see Figure 1) operating in the peak direction only. Costs are in year
2000 dollars. Costs are estimated for: 1) a basic service level that is appropriate to serve the ridership level identified in the Scoping Process Narrowing Report (approximately 1,000 for the south portion of the corridor); and 2) additional enhancements to the basic service level that provides the same capacity as LRT in the corridor.

The vehicle type assumed for the cost estimates below is the Bombardier bi-level car and diesel locomotive used in Vancouver, B.C., San Diego and Los Angeles. This vehicle was selected because it is approved by the Federal Railroad Administration (FRA) and can be operated mixed with freight traffic without a special FRA waiver. The Siemens Regio Sprinter was considered, however, it would require a waiver from the FRA for operation in this corridor, or a third main track solely dedicated for commuter trains would need to be constructed. The Regio Sprinter costs are comparable to the Bombardier bi-level trains, therefore, the locomotive technology does not significantly affect capital costs.

Stations assumed include Canby, Oregon City, Highway 212/224, Milwaukie, Hawthorne Bridge and Union Station. Parking would be provided at all stations except Hawthorne Bridge and Union Station.

4.3.2 Service Level Scenarios

Forecast Based Service Level (Basic Service)

The capital improvements included in the cost estimates for commuter rail service that could serve the forecast demand of 1,000 daily trips are:

- Equipment and stations;
- Crossovers at East Portland and centralized train control between Willsburg Junction (SE Tacoma Street) and East Portland to allow commuter trains to bypass freight traffic;
- Two yard leads between Brooklyn Yard and SE Tacoma Street to allow freight trains to quickly exit mainline;
- Improvements at Canby to allow commuter trains to enter and exit mainline; and
- Track rehabilitation effort to allow continued maximum operating speed.

In this scenario, two trains are assumed to operate in the peak direction only. The capacity of two trains with three passenger cars each would be 960. The Canby to Portland alignment would include 15 miles of single track for the 23.2 mile line. Freight traffic could impact commuter trains on the single track sections between Willsburg Junction and Canby which could affect reliability. Morning inbound runs of commuter trains may be affected by UP's intermodal train and UPS train.
Figure 1
Canby to Portland
Commuter Rail Alignment
These trains are given highest priority over the UP system and commuter trains would likely be held if these two trains are within the area. With the low level service it is unlikely that reliable mid-day service could be provided. The capital cost for this service level is estimated to be approximately $98 million (Year 2000 dollars). The tables below summarize capital cost and characteristics.

### Capital and Operating Costs (Year 2000 $) for Forecast Based Commuter Rail Service Between Canby, OR and Portland, OR

<table>
<thead>
<tr>
<th>Forecast Based Service Level</th>
<th>Total Capital Cost</th>
<th>Annualized Capital Cost</th>
<th>Annual Operating Cost</th>
<th>Annual Railroad Lease</th>
<th>Annual Rolling Stock Lease</th>
<th>Total Annualized Cost Per Rider Including Annualized Capital Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Capital Cost</td>
<td>$98 million</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annualized Capital Cost</td>
<td>$8.0 million</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Operating Cost</td>
<td>$2.4 million</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Railroad Lease</td>
<td>$6.5 million</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Rolling Stock Lease</td>
<td>$1.7 million</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Annualized Cost Per Rider</td>
<td>$71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Including Annualized Capital Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Tri-Met 1997

### Characteristics of Forecast Based Commuter Rail Service Between Canby, OR and Portland, OR

<table>
<thead>
<tr>
<th>Forecast Based Service Level</th>
<th>Equipment</th>
<th>Service</th>
<th>Assumed Stations</th>
<th>Maintenance Facility</th>
<th>Trackwork</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two trains composed of one locomotive and three cars each</td>
<td>2 trains in peak direction only</td>
<td>6 stations:</td>
<td>Canby *</td>
<td>Oregon City</td>
<td>Highway 212/224</td>
</tr>
<tr>
<td>None</td>
<td>Crossovers in East Portland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Tri-Met 1997
Higher Capacity Service

A policy choice could be made to provide a higher level of capital improvements or a higher level of service. This level of service would not be necessary to accommodate the forecast demand but it would allow commuter rail to function with mid-day and off-peak direction service, more similar to light rail service.

The higher level of capital improvements that could be added to provide a higher service level includes:

- Rolling stock purchased instead of leased
- Construction of 5 to 15 miles of second and third track sections between Union Station and Canby including central train control with universal crossovers
- A maintenance facility at Canby

In this scenario, six trains could operate in the peak direction with two of those trains also operating in the reverse peak. The capacity of six trains operating with three passenger cars each would be 2,880. There would be a double track main line from Canby to Portland with a series of crossovers and track improvements. This type of high cost upgrade may be necessary under any commuter rail scenario if UP determines that such improvements are required. High level improvements could provide the ability to expand capacity during the peak and possibly have off-peak and evening service. Freight traffic could avoid impacting commuter trains by using the other main of the two main tracks. If commuter trains are relegated to only one of the main lines, it may be difficult to provide reliable reverse commute trips. This may require more rolling stock to enable trains to meet schedules for round trip service. The capital cost for the high service level is estimated to be between $205 and $280 million (Year 2000 dollars) depending on the service level provided. The tables below summarize capital cost and characteristics.

| Capital and Operating Costs (2000 $) for Higher Capacity Commuter Rail Service Between Canby, OR and Portland, OR |
|--------------------------------------------------|--------------------------------------------------|
| Total Capital Cost                               | Higher Capacity Service Level                      |
| $205 - 280 million                               | $205 - 280 million                                |
| Annualized Capital Cost                          | $16.5 - 22.6 million                              |
| Annual Operating Cost                            | $3.1 - 3.4 million                                |
| Annual Railroad Lease                            | $6.5 million                                     |
| Annual Rolling Stock Lease                       | $0                                               |

Source: Tri-Met 1997
Comparison of Characteristics of Higher Capacity
Commuter Rail Service Between Canby, OR and Portland, OR

<table>
<thead>
<tr>
<th></th>
<th>Additions Required for a Higher Capacity Service Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
<td>Two additional trains composed of one locomotive and three cars each</td>
</tr>
<tr>
<td>Service</td>
<td>4 additional trains in peak direction with 2 of these also in reverse peak</td>
</tr>
<tr>
<td>Assumed Stations</td>
<td>Same as for Forecast Based Service</td>
</tr>
<tr>
<td>Maintenance Facility</td>
<td>Canby</td>
</tr>
<tr>
<td>Trackwork</td>
<td>Double track main line from Canby to Portland with a series of crossovers and track improvements.</td>
</tr>
</tbody>
</table>

Source: Tri-Met 1997

5. Public Comment

In June and July, 1993, Metro in coordination with Tri-Met and participating jurisdictions, conducted a series of mode and alignment workshops as part of the South/North Transit Corridor Study public involvement work plan. The workshops were part of a comprehensive effort to identify potential alternatives to be studied during Tier I of Alternatives Analysis. The primary goals of the public involvement effort were to educate the public about the South/North project and to gather information from the public about their particular concerns and preferences for modes and alignments along the corridor.

The public involvement effort included eight public Mode and Alignment Workshops and additional meetings with individual neighborhoods, organizations, businesses, and elected officials. Public comment was obtained in the form of: 1) participant surveys distributed at eight mode and alignment workshops; 2) written comments and light rail alignment recommendations posted on the maps by workshop participants and 3) other written comments submitted during the public comment period from October 12 to November 12, 1993.

Of the 372 people who attended the workshops, 237 completed surveys. In the survey, respondents were asked which mode option they preferred: light rail transit, river transit, busway, or commuter rail. Over 71% (169) of respondents preferred light rail over the other mode options; 11% (26) preferred busways, 7% (16) preferred commuter rail, and 6% (13) preferred river transit.¹

¹ Total does not equal 100% due to survey respondents circling more than one choice or not answering the question.
6. Conclusion and Recommendation

South/North Corridor

This report and previous studies conclude that commuter rail and light rail differ substantially in purpose and function. Because of this difference it is essential that they be studied in appropriate forums. The South/North Steering Committee recommends that commuter rail be addressed as part of the Regional Transportation Plan (RTP) and not as part of the South/North LRT Draft Environmental Impact Statement.

The following conclusions were made in past evaluations of commuter rail as a mode alternative in the South/North Corridor. These conclusions were based on the analysis in the Scoping Process Narrowing Report and on public comments received during the scoping process. This analysis led to a recommendation by the South/North Steering Committee and the Metro Council that commuter rail not be studied further as a high capacity mode in the South/North Corridor. Although commuter rail can perform well with regard to travel time, reliability and capacity expansion, the updated information presented in this report is consistent with previous conclusions on commuter rail in the South/North Corridor. These include:

- Commuter rail would not directly serve the main trip generators in the corridor such as Clackamas Regional Center, Downtown Milwaukie, North Macadam/RiverPlace, South Downtown/Portland State University, Central Downtown and Rose Quarter.

- Distribution of trips in downtown Portland would be slow with transfers required either at Union Station or at a Hawthorne Bridge/OMSI station.

- Commuter rail attracted only 5% of the ridership projected for light rail in the same corridor.

- Commuter rail is unlikely to influence land use in the same manner as light rail given potential station locations and the qualities that allow light rail to be integrated into a built environment.

- While implementation costs are less than for light rail, the cost-effectiveness of commuter rail in the South/North Corridor is poor given the ridership potential.

Recommendation for the Regional Transportation Plan

Current regional discussions on commuter rail in the South/North corridor, the Washington County inter-city passenger rail study and proposed commuter rail studies in Yamhill County and Clark County point to the need for a coordinated regional approach to understand the potential role of commuter rail in the Portland/Vancouver metropolitan area. The role of commuter rail should be incorporated into the revision of Metro’s Regional Transportation Plan (RTP) and coordinated with the Metropolitan Transportation Plan in Clark County and planning efforts in Yamhill County.
The Steering Committee recommendation is to form a Joint Policy Advisory Committee on Transportation (JPACT) subcommittee to conduct a series of three workshops covering a broad base of information on commuter rail. The workshops would evaluate commuter rail potential and provide an opportunity for public input. It is recommended that the following topics be addressed:

- Background information on west coast/national commuter rail experience. The purpose would be to examine where commuter rail has been implemented and consider the applicability of that information to the Portland/Vancouver region. Areas to be examined include:
  - Vancouver, B.C.
  - San Diego
  - Los Angeles
  - San Francisco
  - East Coast/Midwest

- Information on local issues. The purpose would be to identify which rail corridors within the region might have potential for commuter rail. Information to be considered could include:
  - Inventory of existing rail lines
  - Freight operations
  - Amtrak/passenger rail operations
  - Previous local studies of commuter rail
  - Local station and development opportunities
  - Consistency with state and local planning goals

- A meeting to formulate a recommendation to JPACT. The JPACT subcommittee would evaluate information from the first two workshops and recommend a course of action on commuter rail for inclusion in the Regional Transportation Plan.
Appendix A: Previous Studies and Analyses of Commuter Rail in the South/North Corridor

The following documents contain data on early sketch-level analyses and more detailed assessments of commuter rail:


- **Commuter Rail Phase I Conceptual Alternatives, Tri-Met, February 8, 1993.** Several commuter rail alignments including a Canby to Ridgefield line are developed. Capital costs, operating costs and ridership estimates are provided. A high level of service and improvements were assumed for fairly low ridership projections.

- **Draft Description of Wide Range of Alternatives Report, Metro, July 20, 1993.** Describes assumptions used for determining ridership for the commuter rail line from Canby to Ridgefield.

- **Scoping Process Narrowing Report, Metro, October 25, 1993.** Document adopted by Metro that provided data on mode alternatives under consideration as high capacity transit options in the South/North Corridor. Other mode alternatives analyzed in this report include busway, river transit and light rail. The South/North Steering Group and the Metro Council, based on the analysis in this report, concluded that commuter rail should not be studied further as a high capacity transit mode in the South/North Corridor.