

Major Investment Study Final Report Kx11

November 28, 1995 Metro

# Major Investment Study Final Report

# South/North Transit Corridor Study

# November 28, 1995

# Metro

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# **Overview of the Major Investment Study and its Consistency with Federal Requirements**

#### **1.1** Purpose of the Major Investment Study

As indicated in 23 CFR 450.318, the Major Investment Study (MIS) is a subset of the comprehensive metropolitan transportation system planning process. The metropolitan planning process includes initial analyses at a system level which identify regional needs and assess strategies for serving demands at a relatively coarse level of detail. In selected cases there is a need to address transportation needs on a corridor or subarea scale, using more focused analyses to help decision-makers understand the options for addressing corridor or sub-area transportation problems. The Major Investment Study serves this need.

The purpose of this MIS was to select the design concept and scope for the locally preferred alternative for the South/North Corridor. The study included consideration of all reasonable strategies for addressing the South/North Corridor's current and future transportation problems. Quantitative and qualitative information on costs, benefits and impacts were developed, in tiers of increasing levels of detail, to evaluate the likely impacts and consequences of the alternative transportation investment strategies for the South/North Corridor. This provided the information necessary to evaluate and compare alternative improvement strategies for the corridor.

The technical work was paralleled by an open and participatory process consisting of both affected governmental entities and the general public. These technical and participatory processes were employed during each stage of identifying and evaluating alternatives and the ultimate selection of the locally preferred design concept and scope.

Under 23 CFR 450.318(f), the participating agencies have the option of:

- (a) Option 1: documenting the results of the MIS in a final report with a subsequent preparation of Preliminary Engineering (PE) and the Draft Environmental Impact Statement (DEIS), or
- (b) Option 2: preparing a DEIS as part of the MIS process.

As concluded in the *Transitional Project Consultation* (discussed in Section 1.3 of this report), the South/North Corridor Study has been proceeding under Option 1.

In this context, the *Major Investment Study Final Report* documents the process and results of the multi-tiered effort to select the locally preferred design concept and scope. It documents the range of alternatives considered and the data produced at each stage of the MIS process. It shows that the narrowing decisions were consistent with federal objectives and approval criteria. It also documents the "cooperative and collaborative process" and shows that a "proactive public involvement process" was undertaken which provided: timely information about transportation issues and processes; timely public notice; and, full public access to all key decisions.

### **1.2** Transitional Projects

The federal Metropolitan Transportation Planning Rule, effective November 11, 1993, provides that major projects seeking federal funding participation must comply with MIS requirements. The rule also established special provisions for projects where the environmental process had been initiated but not completed -- so called "transitional projects". For transitional projects, the Rule provides that the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) "shall be consulted to determine what, if any, changes should be made to the study in order to meet the requirements" of the C.F.R. § 450.318(i).

The South/North Corridor Transit Study was initiated in September 1993 when FTA approved the Application to Initiate Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) (Metro, June 28, 1993) and the South/North Preliminary Work Plan (Metro, June 28, 1993). On October 12, 1993, FTA issued notice in the Federal Register of its intent to publish an environmental impact statement for high capacity transit improvements in the South/North Corridor. The notification included a description of the study process, including the tiered approach, which was to be used to narrow the range of alternatives to be examined in the DEIS. On the basis of this notice, the federally-required Scoping Process was undertaken. Because the South/North Corridor Transit Study was initiated but not completed before the effective date of the Rule, the Study is grandfathered under the Rule and subject to the transitional provisions determined in the Consultation.

### **1.3** Consultation for Transitional Major Investment Studies

On December 12, 1994, the federally-required *Consultation Meeting* was held in the Metro Center. In attendance were representatives of FTA, FHWA, Metro, Oregon Department of Transportation (ODOT), Washington State Department of Transportation (WSDOT), Southwestern Washington Regional Transportation Council (RTC), Tri-Metropolitan Transportation District of Oregon (Tri-Met), and Clark County Transportation Benefit Area Authority (C-TRAN).

The meeting started with a detailed explanation of the tiered study process which was previously approved by FTA and had been already begun to be implemented by Metro. It was determined that the approved study met the technical and public participation objectives of the MIS rule. Specifically, it was concluded during the Consultation that adoption of the *Tier I Final Report* would constitute the final step of the MIS requirements, the selection of the locally preferred design concept and scope and would lead to amendments to the regional transportation plans by Metro Council and the Southwest Washington Regional Transportation Councils (RTC), the two metropolitan planning organizations within the study area. It was also concluded that an *MIS Final Report* would be prepared to document the entire Tier I study and would complete the MIS requirements set forth in the Metropolitan Planning Rule.

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### **1.4** Selection of Locally Preferred Design Concept and Scope

The tiered study approach approved for the South/North Corridor was a "funneling" process in which a broad set of mode and alignment options were to be narrowed to a locally preferred design concept and scope in a series of stages of increasing detail. The technical analysis for each stage was developed at the level of detail which was germane to the issues to be resolved at that stage.

Table 1-1 shows the various stages of the MIS and describes their respective roles. These stages included the work of fifteen different governmental entities having some responsibility for the project, including: five cities, four counties, Tri-Met, C-TRAN, Metro, RTC, Oregon Department of Transportation (ODOT), Washington State Department of Transportation (WSDOT) and the Port of Portland. The organization, roles and responsibilities of these entities are described later in this report (see Section 4.1.2). Table 1-2 shows the major reports prepared in each of the study stages (which are incorporated herein by reference).

As shown, the Systems Planning and Preliminary Alternatives Analysis stages, which pre-dated the Consultation, identified the current and future problems in the South/North Corridor which serves as the purpose and need for considering light rail alternatives in the Corridor.

The Scoping and Tier I Final Report stages focused on the selection of the locally preferred design concept and scope. By the time the *Tier I Final Report* was recommended for adoption by the Metro Council and the C-TRAN Board of Directors, the design concept and scope: (i) had been subjected to sufficient technical analysis to meet MIS requirements; (ii) had gone through sufficient public and inter-governmental involvement to meet MIS requirements; and, (iii) was sufficiently detailed to meet the EPA requirements of an air quality conformity analysis (40 CFR part 51). On December 15, 1994 the C-TRAN Board enacted Resolution No. BR-94-011 and December 22, 1994 the Metro Council enacted Resolution No. 94-1989 adopting the *Tier I Final Report*. In doing so, they selected the locally preferred design concept and scope for the South/North Corridor.

### **1.5** Regional Transportation Plan (RTP) Actions and Determinations of Air Quality Conformity

Following the *Tier I Final Report*, Metro and the RTC adopted amended regional transportation plans (RTPs) and transportation improvement programs (TIPs) and prepared the associated air quality conformity determinations. These actions completed the MIS requirements.

Concurrent with the release of the *Tier I Final Report*, the RTC enacted Resolution No. 12-94-30 which adopted the "financially constrained" *Metropolitan Transportation Plan* (MTP) for Clark County. The MTP incorporated the design concept and scope recommended for the South/North Corridor in the *Tier I Report*. The Plan cited the *Tier I Technical Summary Report: Briefing Document* as the technical basis for the project's inclusion. The Plan included a "Clean Air

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Table 1-1Sequence of Stages of the Major Investment Study

Stage in MIS Process	Scope and Purpose	Chapter in MIS Final Report
System Planning	The <i>System Planning</i> stage was multi-modal in nature and consisted of a series of studies regarding highway traffic, freight movement, transit deficiencies and land use policies which establish the need to consider high capacity transit options in the South/North Corridor.	2
Pre-AA	The <i>Pre-AA</i> stage evaluated and recommended the <i>Priority Corridor</i> for the South Study Area and the North Study Area. It also recommended the integration of the two priority corridors into the singular South/North Corridor. It included an early assessment of High Capacity Transit (HCT) options in the corridor.	3
Scoping Process	The <i>Scoping Process</i> provided the initial identification and narrowing of modal and alignment alternatives to be examined. The first step in selecting the locally preferred design concept and scope was taken by narrowing the modal alternatives to one, light rail transit.	4
Tier I Final Report	The <i>Tier I Final Report</i> stage completed the selection of the locally preferred design concept and scope by determining the preferred terminus and alignment alternatives. While these alternatives were later refined in the Design Option Narrowing stage, the Tier I Final Report defined the locally preferred design concept and scope at sufficient detail to support amendments to the Regional Transportation Plan and the associated air quality conformity analysis. Thus, the analysis at this stage was sufficiently detailed to complete the MIS.	5
RTP/TIP/Air Quality Conformity	At this stage, the Regional Transportation Council's (RTC) RTP and Metro's financially constrained RTP and TIP were amended to incorporate the locally preferred design concept and scope. As required by the Metropolitan Transportation Planning Rule, these RTPs and TIPs were determined to conform with air quality requirements. The conclusion of these activities delineated the completion of the MIS.	1
Design Option Narrowing	The <i>Design Option Narrowing</i> stage was a post-MIS phase of Tier I in which selected elements of the South/North Corridor Project were refined within the design concept and scope adopted by the <i>Tier I Final Report</i> . Specifically, this stage identified the LRT alignment options; general location of potential light rail stations or transit centers on each of the proposed alignment options and Minimum Operable Segments (MOS) to be evaluated in the DEIS.	6

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Stage in MIS Process	Key Reports Prepared
System and Corridor Planning	<ul> <li>Washington State Legislative Study (1980)</li> <li>Bi-State LRT Study (1986)</li> <li>Columbia River Crossing Accessibility Study (1988)</li> <li>Bi-State Study (1991)</li> <li>I-205 Corridor Plan (1994)</li> </ul>
Pre-AA	<ul> <li>Phase I Technical Reports: Expert Review Panel (ERP) Meeting (Feb. 1993)</li> <li>Priority Corridor Analysis: Findings and Recommendations (Apr. 1993)</li> </ul>
Scoping Process	<ul> <li>Description of Wide Range of Alternatives Report (July 1993)</li> <li>Public Workshop Report and Survey Appendix</li> <li>Initial Analysis of Modal Alternatives and Design Options</li> <li>Preliminary Alternatives Report for Scoping Meeting (October 1993)</li> <li>Mode and Alignment Workshop Report: Appendix II (October 1993)</li> <li>Scoping Process Narrowing Report (December 1993)</li> <li>Scoping Meeting and Public Comment Period</li> <li>Tier I Description of Alternatives Report (December 1993)</li> </ul>
Tier I Final Report	<ul> <li>Tier I Evaluation Methodology (December 1993)</li> <li>Light Rail Transit Representative Alternatives and Order of Magnitude Cost Estimates (May 1994)</li> <li>Tier I Technical Summary Report (July 1994)</li> <li>Briefing Document: Tier I Technical Summary Report (August 1994)</li> <li>Tier I Final Recommendation Report (September 1994)</li> <li>Tier I Public Comments Report (September 1994)</li> <li>Tier I Final Report (December 1994)</li> </ul>
RTP/TIP/Air Quality Conformity	<ul> <li>Metropolitan Transportation Plan for Clark County (1994) (Includes Air Quality Conformity Determination)</li> <li>Portland Area FY 1996 through Post-1999 Transportation Improvement Program (1994)</li> <li>Federal Regional Transportation Plan (Metro 1995)</li> <li>Conformity Determination for the Portland Metropolitan Area 1995 RTP and FY 1996 through Post-1999 TIP (1995)</li> </ul>
Design Option Narrowing	<ul> <li>Design Option Narrowing Technical Summary Report (June 1995)</li> <li>South/North Design Option Narrowing Public Comments Report (September 1995)</li> <li>Downtown Portland Oversight Committee: Central Business District (CBD) South/North LRT Alignment Recommendations (September 1995)</li> <li>Briefing Document: Design Option Narrowing (October 1995)</li> <li>Design Option Narrowing: Final Report (November 1995)</li> </ul>

# Table 1-2 Key Reports by Study Stage

South/North Transit Corridor Study Major Investment Study Final Report Conformity Determination." On January 12, 1995, FHWA and FTA found that the MTP and its associated TIP met conformity regulations.

On January 19, 1995, Metro adopted Resolution No. 95-2058 which amended the regional *Transportation Improvement Program* to include funding for the Tier II DEIS, Final Environmental Impact Statement (FEIS) and Preliminary Engineering (PE) for the South/ North Corridor Project. In March 1995, the Oregon Transportation Commission approved Amendment 95-05 to the Statewide Transportation Improvement Program which incorporated the funding for DEIS/FEIS/PE activities for the South/North Corridor.

On May 25, 1995, the Metro Council adopted Resolution No. 95-2138A which approved the federally-required "financially constrained" *Regional Transportation Plan*. As required by MIS guidelines, the locally preferred design concept and scope for the South/North Corridor Project was incorporated in this plan. On September 28, 1995, the Metro Council enacted Resolution No. 95-2196 which adopted the *Portland-Area (Air Quality) Conformity Determination*. This Determination found that the "financially constrained" *Regional Transportation Plan* and regional *Transportation Improvement Program* conforms with the *State Implementation Plan* (SIP) and all applicable air quality regulations.

With: 1) the adoption of the *Tier I Final Report* specifying a locally preferred design concept and scope for the South/North Corridor; 2) the adoption of applicable regional transportation plans and transportation improvement programs incorporating that design concept scope; and, 3) the determination that those Plans and Programs conform with air quality regulations, the Major Investment Study for the South/North Corridor Project was complete.

### **1.6** Refinement of the Locally Preferred Design Option and Scope

The Design Option Narrowing stage was a post-MIS phase of Tier I in which the design for the South/North Corridor Project was refined within the adopted design concept and scope. The results of Design Option Narrowing are provided in this report and represent the final information to be developed prior to the commencement of PE/DEIS activities. Further refinement of the design concept and scope will be made as the project progresses through the EIS/PE phase.

### 1.7 Public Involvement Process for Major Investment Study

A regional public involvement effort has been an integral part of the South/ North Transit Corridor Study since the early planning phase in the summer of 1992. As documented below and further documented throughout this report, this effort provided an early comprehensive opportunity for citizens, interested parties, affected public agencies and private providers of transportation to participate in the study process. As such, the process complied with the requirements of §450.318(b). The communications plan supporting the South/North Corridor MIS is described below.

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### **1.7.1** The Citizens Advisory Committee

In August 1992, a twenty-eight member Citizens Advisory Committee (CAC), with membership representing the McLoughlin, I-5 and I-205 travel sheds was appointed. Following the selection of the Priority Corridor, this committee was restructured to better reflect population and geographical areas within the McLoughlin/I-5 Priority Corridor. This committee has been meeting regularly, forming independent recommendations to the project Steering Group and, as outlined below, providing a constant public forum for dialogue with all the communities within the corridor:

- Monthly (at a minimum) meetings with public comments taken at the beginning and close of each meeting.
- In depth workshops for committee members.
- Tours of the entire study area.
- Participation in Open Houses, Large Community Meetings, Community Workshops, Scoping Meeting, and business association meetings within representative areas
- The meetings are held in wheelchair-accessible meeting rooms and devices for the hearing impaired are available at all CAC meetings.
- Formation of recommendations to the South/North Corridor Steering Group.

### 1.7.2 Workshops, Open Houses, and Study Wide Community Meetings

Efforts to involve the community began early in the planning process. Since the fall of 1992 nearly one hundred informational meetings or workshops have been held. The following outlines the key meetings held to date:

- Introductory Study Planning Meetings (Jan-Feb 1993): A series of eleven meetings providing early study process, planning, and projected schedule information. A twelve minute audio visual presentation, and large graphic display were among the materials used to introduce the study to the public.
- *Priority Corridor Open Houses (March 1993)*: A series of three, six-hour public meetings were held at the end of the Priority Corridor analysis. Citizens reviewed technical study results with study planning and engineering staff from throughout the study area. Technical summary reports for each of nine technical reports, maps, comparative matrices, background materials and general study information provided the basis for discussion.
- *Mode and Alignment Workshops (Summer 1993)*: A series of eight hands-on meetings where the public was invited to become "citizen planners." Over 400 people attended these workshops. Citizens reviewed and commented on initially identified modes and alignments for

the corridor and suggested new alternatives for suggestion. Several recommended alignments received at these early meetings are included in the design options currently under study.

- Scoping Meetings (October 1993): A series of four Scoping Meetings were held throughout the South/North corridor. These meetings initiated a formal thirty day public comment period and helped to establish which alternatives would be studied further. All comments received from these well attended meetings were recorded and documented.
- *Tier I Informal Open Houses (July 1994)*: A series of four open houses were conducted where technical findings were released on the Tier I terminus and alignment alternatives. One-on-one discussion with the over 300 members of the public who attended was encouraged. Draft technical summary reports, detailed segment maps, and simplified individual area technical fact sheets were provided.
- Tier I Steering Group Public Comment Meetings (September 1994): This series of four meetings before members of the Study Steering Group helped further identify which alternatives held wide public support or opposition, prior to the Group making its final Tier I recommendation to the Metro Council and C-TRAN Board of Directors.
- Design Option Narrowing Segment Meetings (May 1995): Individual segment meetings in four areas were organized to discuss LRT design options being considered for that segment. Notices were mailed to citizens within the geographical areas immediately adjacent to each of the segments and advertisements were placed in neighborhood newspapers.
- Downtown Oversight Committee Public Comment Meetings (May 1995): A public meeting was held by the Downtown Portland Oversight Committee to receive public comment on design options and alignment alternatives being considered for the Portland Central Business District (CBD).
- Design Option Open Houses (June 1995): A series of three regional open houses provided an opportunity for citizens to review technical information and data on the design options being considered for each segment throughout the corridor. Citizens, using county based Light Rail Workbooks and Tech Fact Sheets with user friendly technical information, were able to compare and assess each of the options under review.
- Design Option Narrowing Public Comment Meetings (June 1995): Citizens submitted written and oral testimony to members of the South/North Steering Group at two formal public comment meetings. For the first time, citizens had the opportunity to call in comments directly to the meeting.

# **1.7.3** Community Meetings and Presentations

• Hundreds of meetings have been held with neighborhood groups, citizen planning organizations, business associations, community service organizations and other interested groups.

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• Study staff has met with potentially impacted businesses, individual residents, special interest groups, property owners or their designated representatives on nearly a daily basis.

### **1.7.4** Jurisdictional Community Groups

- The Cities of Milwaukie, Portland and Vancouver each have developed *Citizen Working Groups* to help identify the opinions and concerns of local constituencies. Many of these groups have held design forums, walking tours, and working meetings.
- Jurisdictional public meetings and hearings have been held with Planning Commissions and City and County Commissions at key intervals throughout the life of the study.

### **1.7.5** Informational Materials

- The Study newsletter the *South/North News* and Study-wide *Meeting Notices* have been published and distributed.
- The Study has produced Fact Sheets, *Tech Facts* user-friendly technical summary documents, maps, *Light Rail Workbooks* for each of the counties, an introductory "How do I get involved" brochure, technical reports and documents (each with simplified executive summaries), compilations of comments/letters received, meeting notices mailed to targeted communities, and other written support information, including materials for children.
- Two slide presentations, photographs, slides, computer generated images, site-specific renderings, maps, table top displays, and free standing informational displays used in public spaces such as malls and at special events have been prepared.
- Draft and final versions of the Scoping Process Wide Range of Alternatives Report, the Tier I Technical Summary Report, the Tier I Briefing Document, the Design Option Narrowing Technical Summary Report and the Design Option Narrowing Briefing Document were distributed for public and CAC review.
- The Study helps to maintain a *Transportation Hotline* that advertises meeting dates and informational material available for public review. The Hotline was also used as a public comment forum during the Design Option Narrowing Process. Public comments on the options were recorded on the Hotline and summaries of the comments were included in the *Design Option Narrowing Summary of Public Comment Report*.
- Summaries of public comment received during Scoping, during the Tier I Final Report Stage and during the Design Option Narrowing Process were prepared and distributed to committees and jurisdictions prior to adoption of recommendations and reports,

### 1.7.6 Study Mailing List/Speakers Bureau

- The Study has maintained a mailing list which currently contains over 23,000 interested citizens.
- The Study has implemented a *speakers bureau* for citizen, businesses and community groups.

### 1.7.7 Media Outreach

- Several of the neighborhood publications carried a special monthly column, written by Metro staff, providing regular updates on issues relating to transportation.
- News releases and advisories accompanied major meetings and all key decision points.
- Editorial briefings and updates were provided regularly.
- Informational materials and special media opportunities to review and assess technical information were provided.

### **1.7.8** Advertisements

- Paid advertisements in the regional, local, and community newspapers have supported each of the primary public meetings, workshops or hearings.
- The study published regular notices regarding CAC meetings, segment meetings and other decision making meetings.
- In keeping with federal guidelines, 30 day notices were published prior to any public comment meeting or key decision point.

# 1.8 Organization of the Report

This report is organized in accordance with the study stages. As shown in Table 1-2, the stages are summarized on a chapter-by-chapter basis. Each of these chapters include a description of the alternatives considered, data prepared, public involvement undertaken and conclusions reached during the stage focused on in that chapter. Chapter 6 also includes a summary of the ridership estimates, benefits and impacts of the locally preferred design concept and scope proposed for the DEIS/PE stage. Chapter 7 describes the costs and financing plan for that design concept and scope.

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# System Analyses Establishing the Need to Evaluate HCT Alternatives in the South/North Corridor

### 2.1 Overview

The justification for considering high capacity transit (HCT) options for the South/North Corridor stems from a series of system and corridor studies of transportation and air quality problems, growth in the corridor and the growing dependence of the land use and economic development goals of the bi-state region on the implementation of a regional HCT system. The following sub-sections explain these results.

### 2.2 Transportation Plans and Issues

### 2.2.1 Transportation Plans and Policies

Regional transportation planning, which began locally in 1959, has shifted from an emphasis on accommodating automobiles to a broader approach aimed at maximizing the efficient use of land and the transportation system. In 1973, a Governor's Task Force was formed to clarify the transportation decision-making within the region. The *Regional Transportation Plan* in 1982 noted that "This Task Force made landmark recommendations ... with far-reaching implications ... Fiscal and environmental realities made it impractical to rely solely upon new freeways as the solution for urban travel needs ... Transit and highway planning should be done together, with shared rights-of-way and preferential treatment for transit in the major travel corridors ... As a result of the recommendations, regional leaders decided to ... assign most of the new commuter growth to transit ..."

The shift in regional transportation planning priorities was cemented on May 3, 1976, when the U.S. Department of Transportation formally approved the withdrawal of the proposed Mt. Hood Freeway from the Interstate System. This was followed by the withdrawal of the I-505 Freeway in Northwest Portland in 1979. These actions initially made approximately \$200 million and ultimately about \$500 million available to the urban portion of the Portland-Vancouver SMSA for substitute transportation projects. On May 10, 1976, the Governor of Oregon sent a letter to the Columbia Region Association of Governments (which was composed of local elected officials from the Oregon and Washington portions of the region) which requested the Board's assistance in allocating the funds and prioritized "Regional Transit Corridor Projects" for the use of the funds.

The importance of this decision to the future of transportation and land use development in the Portland region cannot be overemphasized. This action symbolized the regional policy that new major radial highway capacity would no longer be constructed in the region. Instead, the future

capacity and level of service on major radial corridors would be primarily dependent on high capacity transit. Highway improvements would primarily be employed to fix bottlenecks, balance the system and respond to safety and weave problems.

There were also secondary implications. The decision to prioritize major regional transit corridors meant that the rest of the transportation system would be sized and designed on that basis, the pattern and type of development in the Portland region would be dependent on high capacity transit and the comprehensive plans of the counties and cities in the region would be based on that assumption. In retrospect, this policy fundamentally affected almost every major planning and development decision in the region over the past seventeen years.

Over the 15 years following the withdrawal of the Mt. Hood Freeway, there were a series of major transportation analyses and policies implementing the basic policy shift. In 1978, the Columbia Region Council of Governments (CRAG) adopted the *Regional Transportation Corridor Improvement Strategy*, which identified the need to consider transitways in the major radial corridors in the region. In 1980, the *Southern Corridor Improvement Strategy*, a multi-modal analysis of the corridor connecting downtown Portland and Clackamas County, concluded with improvements to a number of bottlenecks along McLoughlin Boulevard and expansions to the area's transit service and rideshare programs.

Between 1977 - 1979, a Washington State Legislative Study concluded that congestion would reappear on the I-5 bridge by the year 2000 (even with the then yet-to-be-opened I-205 bridge) and defined six potential locations for a third river crossing. In 1979, the FHWA Feasibility Study narrowed the list of potential third bridge locations to one (just west of the I-5 bridge) and determined that a third bridge was not economically justified at the time. In 1980, another Washington State Legislative Study re-examined the potential for a third bridge crossing and concluded that the a third bridge was not economically feasible, instead Transportation System Management (TSM) measures (such as ramp metering) would handle the immediate problems on the freeway, and transit improvements should be considered to meet travel demand beyond the year 2000.

In 1981, a Governors' Bi-State Task Force on Transportation for the Portland-Vancouver Corridor studied the I-5 and I-205 connections between Oregon and Washington. It concluded that a third highway bridge was not a cost-effective solution and that transportation objectives could better be met through expansion of transit service and rideshare programs in the I-5 and I-205 corridors. It also concluded that " ... as part of the development of the Regional Transportation Plan, the potential of a transitway to produce greater operating cost savings should be examined" (Metropolitan Service District (MSD) July 1981).

In July 1982, MSD adopted its first *Regional Transportation Plan*. Regarding the major radial corridors in the region, including that which is now known as the South/North Corridor, this Plan concluded that " ... adding significant highway capacity to existing major routes beyond the improvements recommended in this plan would violate two established regional policies ... adequate transportation capacity to meet growth in travel demand in the radial corridors must be

South/North Transit Corridor Study Major Investment Study Final Report provided by selective highway improvements to remove bottlenecks and 'balance' the capacity of the overall highway system together with a major expansion in transit ... ".

The 1982 Plan identified several highway improvements to address "bottlenecks" in the North and South Corridors, including the I-5/Slough Bridge, the Delta Park/Jantzen Beach interchange reconstructions, the Greeley ramps (to provide freight access to the industrial sanctuary in North Portland), arterial improvements to the airport (also for freight access to newly planned industrial uses), selected widenings along McLoughlin Boulevard and the Oregon City Bypass. It also determined that a phased approach to implementing the third priority transitway (after the Banfield and Westside LRTs) be undertaken in which "Phase I ... will ... identify the next corridor that warrants consideration of a transitway investment ... Phase II will ... examine alternatives in detail and select the one that is most cost-effective ... (and) conclude with an Environmental Impact Statement".

Between 1984 and 1986, Metro, in cooperation with its regional partners, conducted a Phase I study of transitway alternatives in the region. This system-level planning effort included several elements including the *Milwaukie Corridor Study*, the *I-205 Corridor Study* and the *Bi-State Light Rail Study*. These studies were system level evaluations which compared light rail alternatives to no-build and TSM alternatives within these corridors. These Phase I studies recommended that Phase II studies of light rail be undertaken in the I-5, McLoughlin and I-205 corridors.

In 1988, the Washington Legislature called for a *Columbia River Accessibility Study* to examine the "economic feasibility of constructing a bridge across the Columbia River to Oregon". The results of the study determined there was a capacity deficiency across the Columbia River, but recommended that a transit solution be pursued, not another highway crossing. Following the transmittal of the final report to the legislature, the IRC (the predecessor agency to RTC) and Metro signed a joint resolution establishing the *Bi-State Transportation Study*. The Bi-State Study found that: (i) projected growth of traffic on I-5 would result in unacceptable levels of service; and, (ii) the location and number of interchanges at both ends of the I-5 bridge result in extensive "merge/weave" activities which contribute to the congestion being experienced on the freeway. It concluded that high capacity transit was the feasible solution in these corridors.

Taken together, the decade of studies described above provided a wealth of information and past policy direction regarding the current and future transportation problems and opportunities in the South/North Corridor. These problems and opportunities, described below, establish the purpose and need for the high capacity transit and light rail alternatives studied in the South/North Major Investment Study and documented herein.

### 2.2.2 Transportation Problems

Topographic features, suburbanization, a deficient road network and public policies encouraging growth in Clark and Clackamas Counties have combined to make congested traffic conditions typical of daily travel to, from and within the South/North Corridor. In the future, transportation problems in the Corridor will worsen from projected growth.

Traffic in the southern portion of the South/North Corridor is exceeding the capacity of the highway system. The last comprehensive analysis of McLoughlin Boulevard prepared by ODOT was in 1986 and used 1980 as the base year. The results of that analysis is shown in Table 2-1. As shown, McLoughlin was exhibiting Level-of-Service E for the entire segment between S.E. Holgate in Portland and Highway 224 in Milwaukie. Table 2-2 shows growth in Average Daily Traffic (ADT) at various points along McLoughlin Boulevard. As shown, traffic on McLoughlin Blvd. continued to grow between 1981 and 1991. In the areas shown in Table 2-1 to have an LOS E, Table 2-2 shows that ADT grew by 6% - 18% between 1981 and 1991, adding to the already poor LOS. In Milwaukie, where 1980 LOS on McLoughlin Boulevard was D, ADT grew by 9% - 41% between 1981 and 1991. Even greater traffic growth between 1981 and 1991 was exhibited in the southern part of the corridor.

A sketch analysis of 1990 and 2010 conditions on McLoughlin Boulevard was prepared during the Pre-AA study. The results are shown in Table 2-3 which indicates that McLoughlin Boulevard was exhibiting 1990 Levels of Service E or F at all representative points tested. Even with the committed highway improvements, year 2010 conditions are not expected to improve.

Good accessibility between the Vancouver and Portland portions of the region has always been a key to the economy and quality of life of the region. The first bridge across the Columbia River opened in 1917, with its twin structure being completed in 1958. To address problems in the I-5 corridor, the I-205 Glen Jackson Bridge was built between 1979 - 1982 and opened to traffic in 1983, providing the second connection between the two portions of the region. At about the same time as the Jackson Bridge was opened, portions of I-5 were widened and interchanges were altered to address bottlenecks on I-5. Together, the I-5 improvements and the second bridge crossing were expected to provide sufficient capacity to allow desired levels of service in the North Study Area. However, traffic in the North Study Area has grown at such a rate as to exhibit traffic volumes on I-5 that are closing in on what they were a decade ago, prior to the opening of the Jackson Bridge.

Table 2-4 summarizes trends in the traffic volumes crossing the Columbia River. As shown, traffic crossing the state line has uniformly grown 25-33% every five years since 1970. By 1990, traffic on the I-5 Bridge had once again approached 95,000 daily trips. As a result, many segments of I-5 in the North Study Area are at or above capacity (see Table 2-5). Even with the committed improvements to I-5, significant problems are projected for the future (see Table 2-6). High levels of traffic growth are also expected on the major arterials serving the corridor. Between 1990 and 2010, peak-hour traffic is expected to grow by 33% on SR 500, 26% on Fourth Plain, 46% on Mill Plain and 50% on Columbia Boulevard.

The I-5 corridor provides a vital link between freight distribution centers and port facilities that not only serve the western United States, but markets for trade worldwide. The continuation of current traffic congestion trends will seriously impair the movement of goods between Washington and Oregon. A balanced approach is required in order to maintain freight access between the two states.

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Segment of McLoughlin Boulevard	P.M. Peak-	
	Hour LOS	
Ross Island Bridge to S.E. Holgate	D	
S.E. Holgate to S.E. 17th	D-E	
S.E. 17th to S.E. Reedway	E	
S.E. Reedway to S.E. Tacoma	F	
S.E. Tacoma to S.E. Ochoco	E	
S.E. Ochoco to Highway 224	E	
Highway 224 to S.E. River Road/17th	D	
S.E. River Road/17th to S.E. Harrison	D	
Source: Metro 1994		

Table 2-1				
1980	Service Levels on McLoughlin Boulevard			

Table 2-2	·
Historic Growth in Traffic Volumes on McLoughlin Bouleva	ard

McLoughlin Boulevard at:	1971 ADT	1981 ADT	71-81 Growth	1991 ADT	81-91 Growth
North of Ross Island Bridge	39,900	43,700	10%	46,700 .	7%
South of Ross Island Bridge	51,400	55,800	9%	62,500	12%
S.E. 17th	37,200	40,500	9%	47,900	18%
S.E. Tacoma	36,600	42,200	15%	44,700	6%
Southern City Limit of Portland	36,100	42,100	17%	44,700	6%
Highway 224	30,300	32,600	8%	45,900	41%
S.E. Jefferson	29,800	33,100	11%	40,800	23%
Southern City Limit of Milwaukie	29,400	31,000	5%	33,700	9%
S.E. Concord	23,600	29,900	27%	37,200	24%
Northern City Limit of Gladstone	24,200	27,100	12%	31,200	15%
Southern City Limit of Gladstone	25,300	28,000	11%	35,500	27%
l-205	22,200	27,700	25%	36,000	30%
10th Street, Oregon City	20,000	21,800	9%	26,600	22%
Southern City Limit of Oregon City	8,600	8,800	2%	16,100	83%

Source: Metro 1994

Location	1990 V/C Ratic	2010 V/C Ratio <sup>2</sup>
McLoughlin at Holgate	0.87	0.96
McLoughlin at Tacoma	1.08	0.91
Sellwood Bridge	1.21	1.40
McLoughlin at Milport	1.17	1.17
224th at Lake Road	0.47	0.99
Sunnyside at 82nd	0.60	0.48

Table 2-3					
Levels of Service <sup>1</sup> in the McLoughlin Segment					
at Representative Sites					

<sup>1</sup> P.M. Peak Hour, Peak Direction
 <sup>2</sup> Forecast. Includes committed highway improvements. Source: Metro 1994

### Table 2-4

Average Weekday Traffic Crossing the Columbia River into Portland

YEAR	I-5	I-205	TOTAL	FIVE YEAR GROWTH
1970	69,151	NA	69,151	NA
1975	87,225	- NA	87,225	26%
1980	108,616	NA	108,616	25%
1985	92,301	52,568	144,869	33%
1990	94,574	88,606	183,180	26%

Source: Bi-State Transportation Study, TM No.1, Kittleson & Assoc., July 1991

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Location	Northbound	Southbound <sup>1</sup>
179th-134th Street	OK	ок
134th-78th Street	OK	ок
78th-Highway 99	At-Capacity	OK
Highway 99-SR 500	At-Capacity	OK
SR 500-4th Plain	At-Capacity	ОК
4th Plain-Mill Plain	ОК	ок
Mill Plain-SR 14	ОК	ОК
SR 14-Hayden Island	Over-Capacity	At-Capacity
Hayden Island-Marine Drive	Over-Capacity	ОК
Marine Drive-Denver Avenue	At-Capacity	OK
Denver AveColumbia Blvd	Over-Capacity	At-Capacity
Columbia Blvd-Lombard St.	Over-Capacity	OK '
Lombard StPortland Blvd	OK	OK
Portland Blvd-Going St.	At-Capacity	At-Capacity
Going StFreemont Bridge	Over-Capacity	At-Capacity
Fremont Bridge-Broadway	Over-Capacity	At-Capacity
Broadway-I-84	Over-Capacity	Over-Capacity

# Table 2-5 Existing Level of Service on I-5 P.M. Peak Hour

<sup>1</sup> OK means volumes are below capacity and Level of Service is D or better. Source: Bi-State Transportation Study, TM No.1, Kittleson & Assoc., July 1991

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Location	Northbound	Southbound <sup>1</sup>
179th-134th Street	ОК	ок
134th-78th Street	OK	OK
78th-Highway 99	OK	ок
Highway 99-SR 500	Marginal	ок
SR 500-4th Plain	Marginal	ок
4th Plain-Mill Plain	ок	ок
Mill Plain-SR 14	Over-Capacity	ОК
SR 14-Hayden Island	Over-Capacity	Marginal
Hayden Island-Marine Drive	Over-Capacity	ОК
Marine Drive-Denver Avenue	Marginal	OK
Denver AveColumbia Blvd	Over-Capacity	ОК
Columbia Blvd-Lombard St.	Over-Capacity	OK
Lombard StPortland Blvd	Over-Capacity	ок
Portland Blvd-Going St.	Marginal	ок
Going StFreemont Bridge	Over-Capacity	ОК
Freemont Bridge-Broadway	Marginal	OK
Broadway-I-84	OK	Marginal

# Table 2-6 Future (Year 2005) Levels of Service on I-5 P.M. Peak Hour

<sup>1</sup> OK means volumes are below capacity and Level of Service is D or better. Assumes all committed projects.

Source: Bi-State Transportation Study, TM No.2, Kittleson & Assoc., July 1991.

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Tri-Met operates several trunk routes on McLoughlin Boulevard between Oregon City and the Portland CBD. As shown earlier, traffic congestion has worsened in the past ten years, resulting in slower travel speeds on McLoughlin Boulevard. As a result, transit travel times between Oregon City and the Portland CBD have increased by five minutes and service hours and the number of buses serving the segment have had to increase just to provide the same level of service.

As congestion and travel times worsen along McLoughlin Boulevard, schedule reliability also degrades. Timed-transfer operations are particularly sensitive to trunk line reliability. As a result, the operations of the Milwaukie Transit Center, Clackamas Town Center Transit Center and the Oregon City Transit Center will become less reliable.

Bus service in the North segment of the Corridor is provided by Tri-Met (Portland) and C-TRAN (Clark County). The services these two systems provide are quite different. For example, while the C-TRAN system provides mostly local service in Clark County, it primarily provides express service along its routes in Portland. C-TRAN coverage is limited, and park-and-rides provide a significant amount of the access to the system. In contrast, Tri-Met's routes in the north segment are all local in nature (no express bus service) and are primarily accessed by walk-ons.

As seen in Table 2-7, both systems suffer from the same problem -- poor travel times. For the most part, the express buses between Clark County and Portland travel at speeds below 30 miles per hour in the peak-hour -- quite poor for service which have very few or no stops along the way. The Tri-Met service in the north segment exhibits peak-hour speeds in the 10 -15 mile per hour range. Tri-Met's *Five Year Transit Development Plan* identifies the north segment (other than the Interstate Avenue line) as having the worst transit/auto travel time ratio anywhere in their district other than part of Eastern Multnomah County.

#### 2.3 Land Use Plans and Issues

As seen in Tables 2-8 and 2-9, the South/North Corridor encompasses portions of two rapidly developing counties. Between 1970 and 1990, population in the region grew by 40 percent. In comparison, Clackamas County population grew by 68 percent and Clark County grew by 86 percent. Between 1970 and 1990, employment in the region grew by 93 percent. In comparison, Clackamas County employment grew by 131 percent and Clark County grew by 136 percent. Looking towards the next twenty years, both Clackamas and Clark Counties will continue to be high growth areas (both population and employment) compared to the region as a whole.

Both state and federal policy establish land use as a critical consideration in the evaluation of major transit investments. Oregon and Washington land use laws require transportation projects to achieve specific land use and economic objectives and explicitly consider certain land use and economic development factors. These issues are described below.

Table 2-7 Peak-Hour Bus Service in the North Segment of the South/North Corridor

ROUTE NO.		PK. HR. SPEED	NO. OF STOPS
5	I-5 Express	28.0	0
14	Camas/Washougal Express	26.9	2
75	Evergreen Express	29.5	1
76	Vancouver Mall Express	22.2	0
134	Salmon Creek Express	38.1	0
1	Greeley	14.0	Local
4	Fendessen	13.4	Local
5	Interstate	15.2	Local
6	MLK	11.8	Local
8	NE 15th Avenue	10.1	Local
40	Mocks Crest	11.9	Local

Source: Tri-Met 1994

### Table 2-8 Population Growth in the South/North Corridor

County	1970	1980	1990	2010 <sup>1</sup>
Clackamas County	166,088	241,903	278,850	367,907
Clark County	128,454	192,206	238,053	353,067
Four County Total	1,009,129	1,241,895	1,412,344	1,789,428

Forecast

Source: Metro 1994

# Table 2-9 Employment Growth in the South/North Corridor

County	1970 -	1980	1990	<u>2010<sup>1</sup></u>
Clark County	38,948	62,072	92,153	136,849
Clackamas County	35,312	50,993	80,866	113,390
Four County Total	366,808	520,746	707,456	929,390
<sup>1</sup> Forecast				

Source: Metro 1994

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### 2.3.1 Land Use Goals and Plans in Oregon

In 1974, the Oregon Legislature enacted statewide Land Conservation and Development goals and required cities and counties to adopt enforceable comprehensive plans which comply with the state goals. Each comprehensive plan includes a land use plan with parcel-by-parcel designations showing the type, level and location of development adopted by the community. Transportation elements are required which support the specific land uses. The comprehensive plan also establishes policies and implementation measures aimed at meeting the jurisdiction's development objectives.

To comply with the state law regarding urbanization, Metro adopted a regional Urban Growth Boundary (UGB) in 1976 that circumscribed the area in which urban development and urban investment would occur in the Oregon portion of the Portland metropolitan region. State law requires that the UGB contain sufficient land to accommodate growth for twenty years and that there be sufficient land for various uses to ensure market choice. Outside the UGB, state law and county governments have prohibited or sharply restricted urban level development. Inside the UGB, local plans were required to assure that they made adequate provision of the urban services required for the development envisioned in the UGB assumptions.

A detailed analysis of the provisions of the regional and local land use plans which affect the North and South Corridors is documented in the North/South Transit Corridor Study Phase I Technical Report: Land Use and Economic Development, Metro, February 1993. These plans were initially developed, at least in part, on the basis of the transportation policies first set in 1976 and refined since. As a result:

- (a) land use designations, patterns and policies in Clackamas County, the City of Portland, Oregon City and the City of Milwaukie have been established on the basis of a high capacity transit in the radial corridors; and
- (b) water, sewer, transportation and other infrastructure plans in these jurisdictions have been prepared to support such development.

Given the enormous public and private investments made on the basis of these plans; land use, development and high capacity transit have become inextricably and irreversibly linked.

In April 1991, the Land Conservation and Development Commission (LCDC) promulgated rules on how to implement the state goal regarding transportation. Cities and counties are required to amend their subdivision, code regulations and comprehensive plans to comply with the requirements of the rule which includes the following:

 (a) local governments must consider changes to land use densities and designs as a way to meet transportation needs. Consideration of land use changes includes setting higher residential and commercial densities and similar measures as a means of reducing demand for transportation improvements. Local governments are also required to consider establishing maximum parking limits for commercial development.

- (b) local governments must adopt changes to their subdivision and development ordinances to encourage more transit, pedestrian and bicycle friendly development and street patterns. Specifically, local governments must adopt land use and subdivision regulations to require:
  - 1) Facilities providing pedestrian access within and from new subdivisions, planned developments, shopping centers and industrial parks to nearby transit stops.
  - 2) Design of transit routes and transit facilities to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate.
  - 3) New retail, office and institutional buildings at or near existing or planned transit stops to provide preferential access to transit.
  - 4) A 10% reduction in the number of parking spaces per capita.
  - 5) All major industrial, institutional, retail and office developments to provide either a transit stop on site or connection to a transit stop along a transit trunk route when the transit operator requires such an improvement.
- Metro is required to plan for a reduction in vehicle miles traveled per capita. The targets are for a three-step reduction over thirty years: no increase over ten years, a 10% reduction over twenty years and a 20% reduction over thirty years.
- (d) Plan amendments must be reviewed to assure that the transportation system is adequate to support planned land uses. In turn, land use changes will need to be reviewed to assure that they do not exceed the capacity of the planned transportation system.
- (e) Local governments must amend their comprehensive plans to allow transit oriented developments (TOD) on lands along transit routes. A TOD is defined as a mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused on a major transit stop designed to support a high level of transit use.

The effect of this rule is that it will tie land use, development and transit even closer together. Furthermore, it accelerates the need to know the mode, alignment and timing of the transit improvements in the South and North Corridors to ensure that the updated land use plans, which are required by the rule, maximize the benefit of an investment in transit.

# 2.3.2 Land Use Goals and Plans in Washington

In 1990, the Washington State legislature passed the Growth Management Act to guide development and land use in the state. The Act requires all counties of 50,000 people or more that grew 10 percent in the past decade (or counties that grew 20 percent in the last decade,

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notwithstanding their population) and the cities within such counties to prepare and adopt comprehensive plans. The Act established thirteen goals for comprehensive plans and the development regulations and capital facilities plans which implement them. The most pertinent goals to this analysis include:

- (a) Encourage development in urban areas where adequate public facilities exist or can be provided in an efficient manner.
- (b) Encourage efficient multi-modal transportation systems that are based on regional priorities and coordinated with comprehensive plans.
- (c) Ensure that those public facilities and services which are necessary to support development are adequate (current service levels are not decreased below locally established minimum standards) and available at the time a new development is available for occupancy.

Each comprehensive plan must (i) designate the urban growth area, (ii) include land use, housing, utilities, and transportation elements, and (iii) a capital facilities plan. The urban growth area must include sufficient land area and densities to permit the amount of growth projected for that area. The capital facilities plan must include a six-year financial plan with clearly specifies funding sources for implementing the capital facilities called for in the plan. The plan must also include a requirement to reassess the land use element, capital facilities plan and financing plan if probable funding falls short of that which is specified in the financing plan.

The transportation element must include:

- (a) Specific levels of service standards for arterials and transit routes. These become the standards by which compliance with Goal (c), above, is judged.
- (b) Specific actions and requirements for bringing into compliance any facility or service which falls below the adopted service standards.
- (c) A multi-year financing plan which serves as the basis for the six-year financing element of the capital facilities plan. The transportation element must include a requirement to determine, if probable funding falls short of that which is specified in the multi-year financing plan, how additional funds will be raised or how land use assumptions will be reassessed to ensure level of service standards are met.

After adoption of the comprehensive plan, cities and counties must adopt and enforce ordinances which prohibit the approval of proposed developments which cause levels of service to fall below the adopted standards *unless* transportation improvements or strategies to accommodate these impacts are made *concurrent* with the development. Concurrency, as it relates to the transportation element, means that either the strategies are in place at the time of development or

that a financial commitment is in place to complete the improvements or strategies within six years.

The State of Washington's Commute Trip Reduction Law was adopted by the 1991 Legislature and incorporated into the Washington Clean Air Act. Its intent is to improve air quality and reduce traffic congestion through employer-based programs that encourage the use of alternatives to the single-occupant vehicle (SOV) for commute trips.

The law applies to "major employers" with one hundred or more full-time employees at a worksite, who are scheduled to begin their work on weekdays between 6:00 and 9:00 a.m. and are located in counties with over 150,000 population. The law establishes goals for reducing the amount of vehicle miles traveled for commute trips by employees of affected employers. These goals include a 15 percent reduction by 1995, a 25 percent reduction by 1997 and a 35 percent reduction by 1999 as compared against the 1992 average for the area in question.

Each county and city which includes a major employer must adopt a commute trip reduction plan and ordinance which is consistent with comprehensive plans and includes, among other requirements:

- (a) Goals for reductions in the proportion of SOV commute trips and the vehicle miles traveled for commute trips per employee.
- (b) Requirements for major public and private employers to implement commute trip reduction programs for employees.
- (c) A review of local parking policies and a determination of any revision which may be necessary to comply with the commute trip reduction goals.

After a jurisdiction adopts its commute trip reduction plan and ordinance, each major employer within that jurisdiction must develop a commute trip reduction program which is consistent with the plan and submit it to the jurisdiction for their review. The employer's program must be aimed at meeting the reduction goals established by the jurisdiction. If the plan is unacceptable to the jurisdiction, then the jurisdiction can require the employer to make necessary changes. Cities and counties may impose civil penalties for employers who fail to implement an acceptable trip reduction program.

Clark County, the City of Vancouver, Regional Transportation Commission (RTC) and C-TRAN are currently intensely involved in regional and local efforts to respond to the Growth Management and Trip Reduction Acts. A fundamental product of these efforts is the draft "Community Framework Plan" which serves as the guide for preparing the detailed comprehensive plans of the county and its cities.

The framework plan concentrates growth in urban centers in the county, each center being separate and distinct from the others. While these centers are different in size and contain different types of developments, each is to provide a place to live, work and learn within a small

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enough area to maintain a sense of community. To accomplish this goal, development would have to occur at 11 units per acre, a higher average density than currently exists. Consistent with the requirements of the Growth Management Act and the Trip Reduction Act, the fundamental transportation policy in the Community Framework Plan is to reduce reliance on the singleoccupant vehicle. The Framework Plan is dependent on high capacity transit to provide connections between activity centers.

Concurrent with the preparation of the Framework Plan, Clark County, Vancouver, RTC and C-TRAN are working toward meeting the requirements of the Commute Trip Reduction Act. In early 1993, Clark County and Vancouver enacted Commute Trip Reduction ordinances. C-TRAN is continuing to coordinate and implement a transportation demand management strategy, including the development and approval of employer programs.

These activities in Clark County are reminiscent of those a decade ago in the tri-county area. By structuring the city and county comprehensive plans on the basis of state goals set forth in the Growth Management Act and Trip Reduction Act:

- (a) land use designations, patterns and policies in Clark County and the City of Vancouver are being established on the basis of a high capacity transit in corridors between major regional activity centers; and
- (b) water, sewer, transportation and other infrastructure plans in these jurisdictions are being prepared to support such development.

If the resulting transit plans are not achieved, the economic vision, development goals and land use plans for the county and its cities will have to be revised. As more and more public and private investment is made based on these goals and plans, it will become more and more difficult, if not impossible, to turn-back on the plan. And akin to the situation that exists on the Oregonside of the region, land use, development and high capacity transit will become inextricably and irreversibly linked.

#### 2.4 Air Quality Plans and Issues

The Portland/Vancouver region has been classified as a non-attainment area for air quality under the U.S. Environmental Protection Agency (EPA) standards. EPA has designated the region's violations as "marginal" for ozone and "moderate" for carbon monoxide. These ratings represent improvements in air quality which have primarily been achieved through technological innovations during the past two decades. However, with relatively large population growth anticipated for the future and without the promise of commensurate technological advances, the region has to look towards behavioral and market solutions to reach and maintain national ambient air quality standards.

Transit expansion is a critical component of the State Implementation Plan (SIP) for air quality and the proposed Air Quality Maintenance Plan (AQMP) for the Portland region. In order to be approved by EPA, the AQMP must demonstrate a 32% reduction in Volatile Organic Compound (VOC) emissions and a 15% reduction in Nitric Oxide (NOX) emissions by the year 2007. The transit expansion program, including the associated implementation of transit-supportive land uses, is projected to yield almost 20% of the required reduction in VOC and almost 30% of the required reduction in NOX.

Without an EPA approved AQMP, all new industries and businesses which emit CO, VOC or NOX must use the "Lowest Achievable Emission Reduction (LAER)" technologies to meet federal requirements, which tend (depending on types of emissions and other specifics) to cost in the \$20,000 - 25,000 per ton of emission range. With an approved AQMP, new business and industries would be allowed to used "Best Available Technology (BACT)" to meet federal requirements. Since BACT methods tend to cost in the \$5,000 per ton of emission range, the existence of an approved AQMP reduces the air quality-related costs of new industry and business by roughly \$20,000 per ton of emission.

Over the past few years, during which business development has been slow, there has be roughly a 100 ton per year increase in new business related pollutant emissions. Thus, an approved AQMP would save new industry about \$2 million per year. It is generally expected that as industry begins to expand at more normal rates, an approved AQMP would save new industries about \$6 - \$10 million per year. Evidence of this level of emission increases can be observed from recently reviewed applications (neither project was implemented) for an Intel plant (which would have emitted 200 tons of VOC) and a US Steel plant (which would have emitted 1000 tons of CO). Averaging all of these factors, transit expansion could save new industry about \$2 million per year (1990 dollars) in air quality clean-up costs.

### 2.5 Purpose and Need Summary

In summary, the purpose and need for evaluating high capacity transit in the South/North Corridor stems from the following:

- (a) Over the past seventeen years, there has been a continuous progression of regional and local policy and investment decisions, both on the Oregon and Washington sides of the region, aimed at establishing growth corridors and activity centers which are supported by high capacity transit.
- (b) In 1976, the region established high capacity transit corridors as the spine of the regional transportation system. Since that time about \$1 billion in transportation improvements have been sited, sized and designed on the basis of this policy. In the next five years that figure will roughly double.
- Since 1976, all applicable local and regional land use policies on the Oregon side of the region; including the Clackamas County, Oregon City, Milwaukie and Portland Comprehensive Plans, Metro's Urban Growth Boundary, Metro's Regional Urban Growth Goals and Objectives (RUGGO) and the Regional Transportation Plan; have

been formulated on the basis of high capacity transit in regional corridors. As a result, for almost two decades, land use designations; zoning patterns; and water, sewer and other infrastructure investments, in each of these jurisdictions, have been located and sized on the basis of high capacity transit corridors.

(d) The recent adoption of the Oregon's Transportation Planning Rule requires even greater attention to transit and transit-related land use than that contemplated by existing regional and local plans -- thus, tightening the linkage between land use and transit development.

(e) Historically, South/North Corridor population and employment is growing at a faster rate than the region as a whole. This trend is projected to continue into the future. The existing and programmed South/North Corridor transit systems will provide inadequate service (coverage, reliability, frequency and speed). There are indications that the highway network will not be able to accommodate future growth in these corridors. Additional capacity deficiencies are projected on arterials and highways.

(f) There is growing concern that reduced accessibility to the South/North Corridor may reduce their ability to attract industrial and commercial development in the future. This emerging problem adds to the existing concern in Clark County regarding the relative loss of per capita income which may result in an unstable or deficient tax base in the county. The income associated with Clark County commuters to Oregon is significant to the quality and stability of the County's economy and tax base.

(g) The recently enacted Growth Management Act and Commute Trip Reduction Act in Washington require the preparation of comprehensive plans and transportation demand management strategies in Clark County and Vancouver. In response to the state goals, the Community Framework Plan and enacted Trip Reduction ordinance are based on a reduced reliance on single-occupant vehicles and the implementation of a high capacity transit strategy.

As a result, all applicable local and regional land use policies in Clark County, including the detailed county and city comprehensive plans and the Regional Transportation Plan; will be formulated on the basis of high capacity transit in regional corridors. Akin to what occurred in Oregon, land use and economic development will become inextricably linked to the implementation of high capacity transit corridors.

If the resulting transit plans are not achieved, the economic vision, development goals and land use plans for the county and its cities will have to be revised. As more and more public and private investment is made based on these goals and plans, it will become more and more difficult, if not impossible, to turn-back on the plan. And akin to the situation that exists on the Oregon-side of the region, development and high capacity transit will become inextricably and irreversibly linked.

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(h)

Given the growing linkage in the region between land use, economic development and high capacity transit, as well as the growing public and private investment in support of these policies; it has become essential at this time to determine if and when a fixed guideway project can be pursued in the South/North Corridor.

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(i)

# The Preliminary Alternatives Analysis Stage: Selection of the Priority Corridor

#### 3.1 Background

The system/sub-area planning studies summarized in Chapter 2 concluded that there was a need to examine high capacity transit options in both the South and North corridors. As a result, Metro, C-TRAN and eleven affected state and local jurisdictions embarked on a multi-staged study to determine if and where HCT options could prove to be cost-effective. The "Preliminary Alternatives Analysis" (Pre-AA) was the first stage of this study. This chapter summarizes the analysis and results of the Pre-AA study (for complete details see *Priority Corridor Analysis: Findings and Recommendations, Metro, April 1993*).

The primary purpose of the Pre-AA study was to evaluate and recommend the *Priority Corridor* for the South Study Area and the North Study Area. The *Priority Corridor* designation had two implications, it was the local determination that:

- (a) more detailed analysis of HCT options in the corridor was warranted, and
- (b) the selected corridor was the next corridor (after the Westside-Hillsboro Corridor Project) for which the region would seek federal HCT funds (e.g., Section 3 "New Start" funds).

A second major purpose of Pre-AA was to define the relationship between the Priority Corridors for the North and South Study Areas. Specifically, the Pre-AA study considered whether the South *Priority Corridor* should proceed into the AA/DEIS stage ahead of the North *Priority Corridor*, as was then prescribed by adopted regional policy, or if they should be integrated into a singular *Priority Corridor* and proceed concurrently.

While not directly relevant to this MIS report, it should be noted that the Pre-AA report also recommended the preparation of improvement strategies for those corridors which were <u>not</u> selected as *Priority Corridors*. Improvement strategies for these corridors were ultimately adopted via a study process which paralleled the one reported herein.

#### **3.2 Definition of Priority Corridor Options**

Two options for the North *Priority Corridor* were evaluated (see Figure 3-1):



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Figure 3-1

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(a) **I-5 North Corridor:** which was represented by an LRT alignment between downtown Portland and 179th Street in Clark County. The analysis also showed results for a shorter alignment terminating in North Vancouver (78th Street).

(b) I-205 North Corridor: which was represented by a Busway alignment between the Gateway Transit Center and 179th Street in Clark County. The analysis also showed results for a shorter alignment terminating at the Vancouver Mall. It is important to note that while the I-5 North Corridor analysis assumed an LRT and the I-205 North Corridor analysis assumed a busway; the issue *at this stage in the planning process* was *not* choice of mode. These differences in modal assumptions resulted from previous studies which found a busway to be potentially more suitable in the I-205 North Corridor than LRT. The issue at hand was, regardless of the type of HCT option, which corridor most merits further investigation.

It is also important to note that while data is shown for shorter alignment options in both corridors, the issue *at this stage in the planning process* was *not* the selection of a terminus. The data for the various termini was shown to demonstrate that the conclusions being drawn are generally independent of the ultimate selection of the terminus. Terminus options were later investigated in the Tier I stage of the MIS.

Two options for the South *Priority Corridor* were evaluated (see Figure 3-2):

- (a) Milwaukie Corridor: which was represented by an LRT alignment connecting downtown Portland, Milwaukie, Clackamas Town Center, and Oregon City. The analysis also showed results for shorter alignments including one terminating in Milwaukie and one terminating at the Clackamas Town Center. Again, the data on the short alignment options was for comparative purposes, *not (at this point)* to select a terminus.
- (b) I-205 South Corridor: which was represented by an LRT alignment connecting downtown Portland, Clackamas Town Center and Oregon City via the existing MAX line between downtown Portland and Gateway and a new alignment on I-205 from Gateway south. The analysis also showed results for a shorter alignment terminating at the Town Center.

The **I-205 South Corridor** was initially analyzed as a continuous alignment between Oregon City and the Airport intersecting with the existing MAX line at the Gateway Transit Center. That analysis found that only 10 percent of the trips in the corridor actually continued through the Gateway Transit Center, 90 percent of the trips in the corridor between Oregon City and the Gateway Transit Center either disembarked at the Gateway Transit Center or continued on the Banfield segment to points west or east. The same was true for trips in the segment between the Airport and the Gateway Transit Center.

Thus, it was determined to be most appropriate to consider the I-205 Corridor as two distinct corridors: one from Oregon City to Gateway to downtown Portland; and a second from the

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Airport to Gateway to downtown Portland. The corridor segment between Oregon City, Gateway and downtown Portland was defined as the I-205 South Corridor and was evaluated as an option to the Milwaukie Corridor. The Airport Study Area between the Airport and the Gateway Transit Center was evaluated on its own merits and ultimately proceeded along a study track which was parallel to the MIS.

#### 3.3 Evaluation Methodology

Staff evaluated each corridor in each study area on the basis of nine criteria:

- (a) Traffic and Transit Ridership
- (c) Operations & Maintenance Cost
- (b) Land Use and Economic Development
- (d) Capital Cost

(e) Environmental Sensitivity

(f) Equity (h) Public Opinion

(g) Cost Effectiveness

(i) Funding Options

Each of these criteria were measured in accordance with technical methodologies and data approved by an Expert Review Panel.

#### **3.4 Public Involvement**

Public Opinion was one of the nine criteria by which the corridor options were evaluated. The Pre-AA stage included an extensive public involvement program which consisted of newsletters nine CAC meetings and:

• Introductory Study Planning Meetings (Jan-Feb 1993): A series of eleven meetings providing early study process, planning, and projected schedule information. A twelve minute audio visual presentation, and large graphic display were among the materials used to introduce the study to the public.

• Priority Corridor Open Houses (March 1993): A series of three, six-hour public meetings were held at the end of the Priority Corridor analysis. Citizens reviewed technical study results with study planning and engineering staff from throughout the study area. Technical summary reports for each of nine technical reports, maps, comparative matrices, background materials and general study information provided the basis for discussion.

#### 3.5 Results of Analysis

The following sub-sections summarize the results of the Pre-AA study for the South and North study areas. Summary statistics for the South Corridor are shown in Table 3-1 and for the North

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**TABLE 3-1** SUMMARY STATISTICS FOR THE SOUTH CORRIDOR

FACTOR/TERMINUS OPTION		I-205 SOUTH CORRIDOR
NUMBER OF HOUSEHOLDS (2010)		
Full <sup>1</sup>	31,300	21,200
Short <sup>2</sup>	23,600	14,100
CORRIDOR EMPLOYMENT (2010)		
Full	65,800	50,900
Short	58,200	30,600
CORRIDOR CONGESTION: 2010-NO BUILD (PEAK HOUR V/C RATIOS IN CORRIDOR)	0.91 - 1.40	0.54 - 0.88
CORRIDOR HCT RIDERSHIP (2010)		
Full	19,100	9,500
Short	16,800	6,700
CAPITAL COST: WITH DOWNTOWN IMPVTS. \$1993, Millions		
Full	\$ 864	\$ 707
Short	\$ 599	\$ 467
NET ANNUAL OPERATING COST (2010)		
Full	\$ 6.51	\$ 7.33
Short	\$ 3.95	\$ 3.63
FAREBOX RECOVERY RATIO (2010)		
Full	29.4%	15.5%
Short	39.1%	20.7%

<sup>1</sup> HCT line between Downtown Portland, Clackamas Town Center and Oregon City <sup>2</sup> HCT line between Downtown Portland and Clackamas Town Center

Source: Phase I Technical Reports: ERP Meeting (Metro 1993)

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# TABLE 3-2 SUMMARY STATISTICS FOR THE NORTH CORRIDOR

FACTOR/TERMINUS OPTION	I-5 NORTH CORRIDOR	I-205 NORTH CORRIDOR
NUMBER OF HOUSEHOLDS (2010)		
Full <sup>1</sup>	35,700	33,000
Short <sup>2</sup>	24,900	19,200
CORRIDOR EMPLOYMENT (2010)		
Full	74,400	30,700
Short	67,700	23,000
CORRIDOR CONGESTION: 2010 NO-BUILD PEAK HOUR V/C RATIOS IN CORRIDOR	0.77 - 1.21	0.69 - 0.85
CORRIDOR HCT RIDERSHIP (2010)		
Full	21,800	10,900
Short	19,300	9,300
CAPITAL COST:WITH DOWNTOWN IMPVTS. (\$1993, Millions)	LRT	BUSWAY
Full	\$ 914	\$ 383
Short	\$ 709	\$ 288
NET ANNUAL OPERATING COST (2010)	LRT	BUSWAY
Full	\$ 7.00	\$ 4.13
Short	\$ 4.33	\$ 3.64
FAREBOX RECOVERY RATIO (2010)		
Full	31 %	27 %
Short	<u> </u>	27 %

<sup>2</sup> HCT line between Downtown Portland and 179th Street in Clark County <sup>2</sup> HCT line between Downtown Portland and North Vancouver (78th Street/Vancouver Mall) Source: *Phase I Technical Reports: ERP Meeting* (Metro 1993)

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Corridor in Table 3-2. More detailed data is provided in *Phase I Technical Reports: ERP Meeting* (Metro 1993). The reader should note that while these data were appropriate for the *Priority Corridor* decision, they have been superseded by more refined data generated during later stages of the MIS.

#### 3.5.1 Analysis of South Study Area Alternatives

Land Use and Economic Development: The Milwaukie Corridor contains more existing and year 2010 population and employment than the I-205 South Corridor. The Milwaukie Corridor, due to its longer length, contains more developable and redevelopable land than the I-205 South Corridor.

*Traffic and Transit Ridership*: McLoughlin Blvd. is currently and will continue to be more congested than I-205. All of the representative highway segments analyzed on McLoughlin Boulevard are at or approaching Level of Service E, while all of the representative segments on I-205 are well below capacity. In the year 2010, the Milwaukie Corridor is projected to attract over twice as many HCT daily riders as the I-205 South Corridor. Year 2010 peak-hour, peak direction riders in the Milwaukie Corridor are projected to be 2.3 - 5.0 (depending on the location) times greater than in the I-205 South Corridor.

*Environmental Sensitivity*: In overall terms, the Milwaukie Corridor has a greater potential for environmental risks than does the I-205 South Corridor.

*Equity*: The Milwaukie Corridor serves a larger population of minority, poor, youth and elderly than does the I-205 South Corridor.

*Operating Costs and Efficiencies*: The Milwaukie Corridor is projected to exhibit almost twice the Farebox Recovery Rate of that in the I-205 South Corridor. The Milwaukie Corridor provides greater long-term HCT capacity than does the I-205 South Corridor.

*Capital Costs*: The capital cost of the full-length (Clackamas Town Center and Oregon City) system is 22 percent higher in the Milwaukie Corridor than in the I-205 South Corridor. For the \$157 million premium, the Milwaukie Corridor serves Milwaukie directly while the I-205 South Corridor does not.

*Cost Effectiveness*: The total annualized cost-per-HCT rider in the Milwaukie Corridor is almost 60 percent better than in the I-205 South Corridor.

#### 3.5.2 Analysis of North Study Area Alternatives

Land Use and Economic Development: The I-5 North Corridor contains more existing and year 2010 population and employment than the I-205 North Corridor. The I-205 North Corridor contains more developable and redevelopable land than the I-5 North Corridor.

South/North Transit Corridor Study Major Investment Study Final Report (c) Securing sufficient funds to operate a South/North HCT project and related bus feeder system.

As a result, staff was directed to refine and analyze alignment, station and terminus options in the integrated South (Milwaukie)/North (I-5 North) Corridor and return to JPACT with a recommendation on a small set of promising options for preparation of a Draft Environmental Impact Statement.

#### 3.6.2 Non-Priority Corridor Action Plan

The Metro Council determined that the Airport Corridor, which runs along I-205 between the Gateway Transit Center and Portland International Airport, would be pursued as a non-Priority Corridor. Staff was directed to determine the design and possible funding sources for constructing and operating an HCT corridor to the Portland International Airport and to return to JPACT with a recommendation. Staff was also directed to prepare an intermediate-term improvement strategy for the I-205 South and I-205 North (in Clark County) Corridors which do not include HCT improvements.

*Traffic and Transit Ridership*: I-5 is currently and will continue to be more congested than I-205. By the year 2010, almost all of the representative highway segments analyzed on I-5 are approaching or exceeding Level of Service (LOS) E, while almost all of the representative segments on I-205 are at LOS D or better. The I-5 North Corridor is projected to attract twice as many HCT daily riders, in the year 2010, as the I-205 North Corridor. Year 2010 p.m. peakhour, peak direction riders in the I-5 North Corridor are projected to be 85 percent more than in the I-205 North Corridor.

*Environmental Sensitivity*: In overall terms, the I-5 North Corridor has a greater number of environmentally sensitive sites than the I-205 North Corridor, although the I-205 North Corridor has greater ecosystem risks.

*Equity*: The I-5 North Corridor serves a larger population of minority, poor and elderly than does the I-205 North Corridor. The amount of "youth" in both full-length corridors is roughly the same.

*Operating Costs and Efficiencies*: LRT in the I-5 North Corridor is projected to exhibit a 10 percent better Farebox Recovery Rate of than a Busway in the I-205 North Corridor. The I-5 North Corridor provides greater long-term HCT capacity than does the I-205 North Corridor.

*Capital Costs*: The capital cost of the full-length I-5 North LRT is substantially higher than the I-205 North Busway. This difference is due to the different mode assumed for the I-205 North Corridor, not the location, configuration or characteristics of the corridor itself.

*Cost Effectiveness*: In spite of its higher capital cost, the total annualized cost-per-HCT rider in the full-length I-5 North Corridor is almost 20 percent less than in the I-205 North Corridor. The difference is even greater with a North Vancouver terminus option.

#### 3.6 Preliminary Alternatives Analysis Conclusions

#### 3.6.1 **Priority Corridor Designation**

In April 1993 (Resolution No. 93-1784), based on the findings summarized in Section 3.6.1, the Metro Council selected the Milwaukie Corridor as the "South" Priority Corridor and, based on the findings summarized in Section 3.6.2, the I-5 North Corridor as the "North" Priority Corridor.

Furthermore, the Metro and RTC resolutions enacted an Action Plan to merge the Milwaukie and I-5 North Corridors into a singular South/North Corridor for the purpose of:

- (a) Preparing a singular Alternatives Analysis/Draft Environmental Impact Statement;
- (b) Securing capital financing for a singular South/North HCT project; and

# Scoping Mode and Alignment Alternatives

#### 4.1 Background

#### 4.1.1 Overview of Study Process

After completion of the Preliminary Alternatives Analysis (Pre-AA) study, Metro requested and received FTA approval of the *Application to Initiate Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS)* (Metro, June 28, 1993) and the *South/North Preliminary Work Plan* (Metro, June 28, 1993). The South/North Corridor Transit Study was initiated in September 1993. On October 12, 1993, FTA issued notice in the *Federal Register* of its intent to publish an environmental impact statement for high capacity transit improvements in the South/North Corridor. The notification included a description of the study process, including the tiered approach, which was to be used to narrow the range of alternatives to be examined in the DEIS.

The approved Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) process included a:

- (a) Tier I stage in which the preferred mode and study termini would be selected and alignment alternatives would be narrowed; and a
- (b) Tier II stage in which a DEIS and Preliminary Engineering (PE) would be prepared on the preferred mode and a narrowed set of alignment alternatives.

Four basic study selections were intended to be made in Tier I:

- (a) Narrow the modal alternatives to be included in the South/North Corridor DEIS to a No-Build Alternative, a Transportation System Management (TSM) Alternative (based on later conversations with FTA, the TSM Alternative was determined to be unnecessary and was, therefore, eliminated from further consideration) and one High Capacity Transit (HCT) modal alternative;
- (b) Narrow the number of HCT alignment alternatives (major route choices such as McLoughlin Boulevard versus the Macadam Avenue) to be included in the DEIS to one-or-two per segment, if possible;
- (c) Narrow the number of HCT design options (secondary routing choices such as, for example, alignments variations along Macadam Avenue) to be included in the DEIS to one-or-two per alternative, if possible; and

(d) Select the study termini to be addressed in the DEIS.

There were two points during Tier I at which alternatives were narrowed:

- (a) Scoping Process: Modal alternatives were narrowed during the Scoping Process, at the beginning of Tier I. The Scoping Process also identified alignment options to be examined in later stages. This chapter focuses on the Scoping Process stage of the MIS.
- (b) *Tier I Final Report*: Alignment alternatives and options and terminus alternatives were narrowed during the Tier I Final Report stage, as discussed in Chapter 5.

#### 4.1.2 Study Organization

At the beginning of Tier I, the South/North Corridor Steering Group adopted the *Tier I Evaluation Methodology Report* which defined the criteria and study organization to be used during Tier I. While similar to that used in Pre-AA, the adopted organization formalized the roles of the affected parties. Table 4-1 shows the roles of the oversight bodies in the Tier I evaluation process. The following paragraphs explain the oversight bodies.

*Metro/JPACT/TPAC*: Metro is the lead agency for Tier I and Tier II of the South/North AA/DEIS. Major study decisions must be approved by the Metro Council, the MPO for the Oregon portion of the corridor. Recommendations to the Metro Council come through the Joint Policy Advisory Committee on Transportation (JPACT) which is composed of elected officials and agency directors. The Transportation Policy Alternatives Committee (TPAC) is a senior staff level committee which makes recommendations to JPACT.

*RTC/JRPC/C-TRAN*: Major study decisions must also be approved by the RTC, the MPO for the Washington portion of the corridor and C-TRAN, the local transit district in Clark County. The Washington State HCT Act requires that a policy forum, or Joint Regional Policy Committee (JRPC) be formed to qualify projects for State of Washington funds. In 1991, C-TRAN established a JRPC to ensure that the study adheres to state requirements.

*Steering Group*: The South/North Steering Group is made up of one policy-level person from each of the participating jurisdictions and Metro. The Steering Group provides policy direction to the study and forwards recommendations to the participating jurisdictions, JPACT, Metro, RTC, JRPC and C-TRAN.

*Project Management Group (PMG)*: The PMG consists of senior management staff from the participating jurisdictions. The PMG oversees the general management of the study. Staff recommendations to the Steering Group are made through the PMG.

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#### Table 4-1 Tier I Study Organization

Study Organization\Product	Preliminary Alternatives Report for Scoping Meeting	Tier I Description of Alternatives Report	Tier I Final Report	Narrow Design Options
Technical Advisory Committee	Review	Review	Review	Review
Project Management Group	Approve	Recommend to Steering Group	Recommend to Steering Group	Approve or Recommend to Steering Group
Expert Review Panel	NA	Technical Validity Review	Technical Validity Review	NA
Citizens Advisory Committee	Review	Recommend to Steering Group	Recommend to Steering Group	Review
Steering Group	NA	Approve	Recommend to Participating Jurisdictions	NA or Approve per PMG Action
Participating Jurisdictions	NA	NA	Recommend to RTC, JRPC, C-TRAN, JPACT, Metro	Review and Concur
RTC/JRPC/C-TRAN	NA	NA	Approve	NA
TPAC/JPACT/Metro	NA	NA	Approve	NA

Source: South/North Tier I Evaluation Methodology Report, Metro, December 1993.

*Citizens Advisory Committee (CAC:* The CAC is comprised of citizens from throughout the South/North Corridor. The CAC receives all materials transmitted to the Steering Group and prepares independent (from staff) recommendations on Steering Group actions. The CAC also provides regularly scheduled, on-going opportunity for public testimony.

*Expert Review Panel (ERP)*: The ERP consists of about ten outside experts, some local and some from throughout the country. The membership includes transit industry officials, academicians and other specialized professional backgrounds. The purpose of the ERP is to review all major study products for technical validity and sufficiency. The results of its reviews are sent to the governors of both states, the TAC, PMG and Steering Group.

*Technical Advisory Committee (TAC)*: The South/North TAC is composed of technical staff from all of the participating agencies and jurisdictions who monitor the technical aspects of the study and reports its findings to the PMG.

#### 4.1.3 Scoping Process Overview

This chapter focuses on the analysis and decision-making involved in the Scoping Process stage. It summarizes the findings included in the following reports:

- Description of Wide Range of Alternatives Report (July 20, 1993)
- Initial Analysis of Modal Alternatives and Design Options (1993)
- Preliminary Alternatives Report for Scoping Meeting (October 25, 1993)
- Mode and Alignment Workshop Report: Appendix II (October 25, 1993)
- Scoping Process Narrowing Report (December 17, 1993)
- Scoping Process Narrowing Report: Appendix I (December 17, 1993)
- Scoping Meeting and Public Comment Period (1993)
- Tier I Description of Alternatives Report (December 17, 1993)

The Tier I Scoping Process stage is diagramed in Figure 4-1. The criteria used in the Scoping Process are shown in Table 4-1.

#### 4.2 Initial "Wide Range of Alternatives"

Six alternatives were initially identified for consideration in the *Scoping Process*. A summary description of those alternatives are included below. A more detailed description of the initial alternatives and options may be found in the *Draft Description of Wide Range of Alternatives Report*, *Metro*, July 1993.

#### 4.2.1 No-Build Alternative/Transportation System Management Alternative

The definition and use of the No-Build and Transportation System Management (TSM) alternatives were discussed at the December 1994 *Transitional Project Consultation Meeting*. It was determined that, because the Tier I process concluded with the selection of a locally preferred design concept and scope, the TSM Alternative would not have to be examined in the DEIS. However, a TSM Alternative would be developed for the purpose of calculating a cost-effectiveness index during Tier I. The TSM alternative was to include a major expansion of bus service with a network configuration of trunk lines served by feeder lines.

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South/North Transit Corridor Study, Scoping Process Narrowing Report

# Table 4-1Evaluation Criteria for Scoping Process

NARROW MODAL	NARROW ALIGNMENT ALTERNATIVES	NARROW DESIGN	NARROW STUDY TERMINI ALTERNATIVES
Transit Service Ease of Access Transferability Travel Times Reliability Ridership	Alignment Alternatives will not be narrowed during the Scoping Process	Transit Service Ease of Access Transferability	Study Termini Alternatives will not be narrowed during the Scoping Process
Transit Operations Modal Compatibility		Transit Operations NA	
Ability to Accommodate Growth Design Capacity Future Expansion Capability	· · · · · · · · · · · · · · · · · · ·	Ability to Accommodate Growth NA	
Minimize Traffic and Neighborhood Infiltration NA		Minimize Traffic and Neighborhood Infiltration NA	
Promote Land Use Desired Patterns and Development Support Major Activity Centers Support Bi-State Policies	· · · · · · · · · · · · · · · · · · ·	Promote Land Use Desired Patterns and Development Support Major Activity Centers Support Bi-State Policies	
Fiscal Stability and Efficiency Cost		Fiscal Stability and Efficiency Cost	
Engineering Efficiency and Environmental Sensitivity Environmental Impacts		Engineering Efficiency and Environmental Sensitivity Environmental Impacts Design Considerations	

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To comply with FTA regulations, a transit network was prepared for inclusion in the "financially constrained" *Regional Transportation Plan.* It was thought that this transit network would also serve as the No-Build Alternative in the DEIS. This "financially constrained" transit network included all service increases and TSM measures which would be affordable within existing transit revenue sources. Thus, it became evident that the "financially constrained" transit network contained the elements of a archetypal TSM alternative, as used in cost-effectiveness computations. Based on discussions with FTA, it was agreed that: (i) this network was an appropriate baseline alternative for calculating the cost-effectiveness indices for the LRT alternatives; and, (ii) if it was so used, there was no need for preparing and modeling a separate TSM Alternative. Thus, the "financially constrained" transit network assumed in the RTP will be evaluated in the DEIS as the No-Build Alternative and serve, in lieu of the TSM Alternative, as the baseline for calculating the federal cost-effectiveness index.

#### 4.2.2 Busway Alternative

This alternative included the construction of an exclusive busway facility primarily along McLoughlin Boulevard and the I-5 freeway with potential branch lines along Highway 224 to the Clackamas Town Center and along SR-500 to Vancouver Mall. The alternative would improve the point-to-point travel times by including access ramps at key locations to improve bus operations. Bus service would be substantially increased, transit coverages will be improved, headways would be shortened and new park-and-ride lots would be added.

#### 4.2.3 Commuter Rail Alternatives

Commuter Rail would operate as passenger train service between the core and periphery of the metropolitan region and usually runs on existing railroads ROW. The South/North Corridor is served by two major rail carriers:

Southern Pacific (SP): The Valley Line is the SP mainline between Portland and Eugene. From Eugene, the line runs north through the Willamette Valley serving Junction City, Harrisburg, Albany, Jefferson, Salem, Woodburn, Canby and, in the Portland metropolitan area, Oregon City, Milwaukie and Portland. The line is maintained to standards which allow passenger trains to operate at 70 miles per hour (though some communities restrict top speeds to lower levels). The line is currently used daily by one Amtrak train in each direction. The proposed commuter rail line would extend between Canby, Oregon City, Milwaukie and Union Station.

Burlington Northern (BN): This is the BN mainline between Portland and Vancouver, B.C. The BN would connect with the SP line serving the southern segment of the corridor at Union Station. The line would then extend north to the west of downtown Vancouver using the exclusive railroad bridges to cross both the Willamette and Columbia Rivers. From Vancouver, the line would extend north to Ridgefield.

In total, the line would be about 47 miles long. The existing railroad lines would be upgraded as necessary to achieve the desired speeds. Passenger stations and maintenance facilities would also be added. High capacity passenger coaches and diesel locomotives would operate bi-

directionally. Initially, trains would run only in the peak-hour to serve primarily work trips between the Portland CBD and its suburbs. Trains may be operated by Tri-Met or by a contractor such as Amtrak or a freight railroad.

#### 4.2.4 River Transit Alternatives

The Columbia and the Willamette Rivers are navigable rivers which traverse the South/North Corridor and, thus, provide the opportunity for river transit alternatives. River transit is regularly scheduled, passenger-only boats which would operate over a defined route which connects a series of landings located to serve trips to work and other destinations. The alternatives considered for the South/North Corridor would employ certain aspects of the RiverBus system in London, England, the Parramatta system in Australia and the Seabus system in Vancouver, Canada.

The conceptual system evaluated included a system running from Vancouver, Washington to Oregon City, Oregon and would include eight stops in between at: St. Johns, Swan Island, Old Town, Riverplace, John's Landing, Sellwood, Milwaukie, and Lake Oswego.

#### 4.2.5 LRT Alternative

This alternative would provide high capacity light rail transit service generally separated from traffic congestion and an expanded feeder bus network to residential areas and employment sites in Clark County, North/Northeast Portland and Clackamas County. The South/North LRT line would connect with the Westside LRT line in downtown Portland and the Banfield LRT line at the Rose Quarter Station in Northeast Portland.

A number of light rail options were identified which included various combinations of alignment alternatives and terminus alternatives. The major alternatives identified in the *Wide Range of Alternatives Report* are summarized below by segment.

#### 4.2.5.1 Study Termini Alternatives

Study Termini define the limits of the Corridor. They should not be mistaken for Minimum Operable Segments (MOS) which will be addressed in the DEIS. The Scoping Process identified three terminus options for the southern portion of the Corridor:

- (a) South of Milwaukie CBD
- (b) Clackamas Town Center
- (c) Oregon City

and three terminus options for the northern portion of the Corridor:

(a) North of Vancouver CBD (N.E. 88th Street)

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(b) Vancouver Mall

(c) N.E. 179th Street

#### 4.2.5.2 Alignment Alternatives and Design Options

Alignment alternatives represent the major route choices to be investigated in Tier I. Alignment alternatives are sufficiently different from each other to require separate forecasts of travel times, ridership, and network statistics. Design options represent secondary routing choices which are not sufficiently different from each other to necessitate separate network analyses. The following subsections describe the LRT alignment alternatives and options identified in the *Scoping Process*.

**Oregon City to Milwaukie/Clackamas Town Center**: The southernmost terminus alternative for the South/North LRT is Oregon City. There are four alignment alternatives to Oregon City which can be divided into two main categories: those that connect Milwaukie and Oregon City and those that connect the Clackamas Town Center and Oregon City. From Milwaukie, two fundamental alternatives were identified: one which follows McLoughlin Boulevard and one which follows the PTC ROW. From Clackamas Town Center, two fundamental alternatives were identified: one which follows an SP ROW in the vicinity of I-205. In addition, a series of options were defined which would start along McLoughlin Boulevard, cut through Gladstone, connect with the SP ROW near I-205 and traverse to Oregon City.

**Clackamas Town Center to Milwaukie**: Another possible southern terminus for the South/North LRT is the area east of the Clackamas Town Center area. Several alignment options between central Milwaukie and the Clackamas Town Center were identified, including alignments along Highway 224, Harmony Road, Lake Road and Railroad Avenue.

Milwaukie to Portland CBD: A Macadam Avenue alignment alternative was identified which would head south from the Portland CBD along the west bank of the Willamette River generally along an abandoned Southern Pacific (SP) right-of-way (ROW). The alignment may leave the SP ROW and swing over to Macadam Avenue for several blocks in order to avoid a complex of multi-family units. The alignment would cross the Willamette River in the vicinity of the Sellwood Bridge. From the bridge it would join the Portland Traction Company (PTC) ROW and, utilizing one of a number of alignment sub-options, traverse to the City of Milwaukie and, depending on the terminus option, other points in Clackamas County.

In addition, a PTC ROW alignment alternative was identified which would head east from the Portland CBD and cross the Hawthorne Bridge. It would then head south via the PTC ROW along the east bank of the Willamette River to Sellwood, the City of Milwaukie and, depending on the terminus option, other points in Clackamas County.

In addition, a McLoughlin Boulevard alignment alternative was identified which would head east from the Portland CBD and cross the Hawthorne Bridge. It would then head south via McLoughlin Boulevard to Sellwood, Milwaukie Market Place and, depending on the terminus option, other points in Clackamas County.

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November 28, 1995 Page 47 **Portland CBD Segment:** In downtown Portland, a north/south LRT alignment was identified along S.W. 5th Avenue and/or S.W. 6th Avenue. In addition, a sub-surface option was identified (the tunnel would run north-south in a yet-to-be determined alignment between S.W. 4th Avenue and S.W. Broadway). A variety of sub-options were identified for the south entry into downtown, including: S.W. Jefferson, S.W. Columbia, S.W. Harrison, S.W. Madison and/or S.W. Main Streets. Several sub-options were identified for the north entry into downtown that access the Steel Bridge or a parallel LRT bridge.

Steel Bridge (Portland) to Vancouver CBD: In this segment, two crossings of the Willamette River were identified. These include the existing LRT tracks on the Steel Bridge and a new bridge, parallel to and north of the Steel Bridge, which would be exclusively dedicated to LRT.

From the Steel Bridge, the alignment would traverse around the Oregon Arena Complex and then head north along I-5. In the vicinity of Kaiser Hospital two alignment options were identified: either to continue to proceed northerly along I-5 or diverge onto Interstate Avenue and proceed north.

In the vicinity of N.E. Lombard Avenue, several sub-options were identified on how to proceed north across Jantzen Beach and the Columbia River to the Vancouver CBD. These options include using I-5 or Pacific Highway west to access the Columbia River bridge. Several options for crossing the Columbia River were identified, including a tunnel, new bridge and an addition to the existing bridge.

North of the Columbia River, several alignment options through the Vancouver CBD were identified including: Washington Street, McLoughlin Boulevard, 28th Street, Main Street.

Vancouver CBD to N.E. 179th Street Segment: The northernmost terminus option identified was N.E. 179th Street near the proposed Washington State University campus and the Clark County Fairgrounds. From the Vancouver CBD, the LRT alignment would proceed north along one of two alignment options: either it would follow Main Street and Highway 99 to N.E. 179th or it would follow the eastside of I-5 to N.E. 179th.

Vancouver CBD to Vancouver Mall Segment: Another terminus option identified in Clark County was the Vancouver Mall vicinity. From the Vancouver CBD, the LRT alignment would proceed around the perimeter of either Clark College or Fort Vancouver and then connect with SR-500. The alignment would then proceed northwesterly along SR-500 to the Vancouver Mall area.

#### 4.3 Public Workshops and Scoping Meetings

In June and July 1993, Metro, in cooperation with the participating jurisdictions, conducted a series of mode and alignment workshops. These workshops were part of a broad public involvement effort to narrow the potential alternatives identified in the *Wide Range of* 

Alternatives Report (or to identify options which were missed) for more detailed examination in the Tier I Final Report stage. These public involvement activities included:

- A special issue of the study's newsletter entitled *The South/North News* which focused on the workshop issues. This special newsletter was distributed to 5,000 households;
- Press releases and a press conference on the workshop;
- Notice in the Oregonian and in other publications serving the corridor;
- Eight Mode and Alignment Workshops open to the general public, located in various segments of the corridor and at varying times of day to ensure convenient access. Over 400 people attended the workshops;
- Additional meetings with individual neighborhood groups, business organizations, affected businesses and elected officials;
- Surveys completed by attendees at the workshops;
- Written comments and recommendations provided by public participants; and
- An issue of *The South/North News* describing the results of the workshops.

The report entitled *Mode and Alignment Workshop Report: Appendix II (October 25, 1993)* provides specific comments for each of the individual workshops. The Mode and Alignment Workshops and initial technical analyses by staff of the wide range of alternatives led to an initial PMG recommendation on the scope of the alternatives to be focused upon at the Scoping Meeting. Those recommendations were documented in the Scoping Packet, South/North News and the Preliminary Alternatives Report for Scoping Meeting.

The FTA's intent to publish an environmental impact statement for the South/North Transit Corridor was issued in the *Federal Register* on October 12, 1993. The information referenced above was presented to the public at four Scoping Meetings in October 1993. Metro received comment on those initial recommendations at the Scoping Meetings, during a 30-day public comment period (October 12, 1993 through November 12, 1993) and at the November 1993 and December 1993 meetings of the CAC.

The Scoping Meetings identified three major issues that caused the PMG to request additional technical analyses before making its final recommendation to the Steering Group. These issues included: the Eastside Connector Design Option, the PTC Alignment south of Milwaukie and the Busway Alternative.

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#### 4.4 Conclusion of Scoping: Tier I Description of Alternatives Report

Final PMG and CAC recommendations were adopted in December 1993 and forwarded to the Steering Group. In December 1993, the Steering Group approved the *Tier I Description of Alternatives Report*, which defined the alternatives to be advanced for further study.

The approval of the *Tier I Description of Alternatives Report* marked the end of the Scoping Process. Therein, three modal alternatives were eliminated from further consideration:

- (a) *River Transit*: Analyses undertaken during the Scoping Process determined that River Transit would have poor access to jobs, residences and activity centers. Moreover, it was determined that River Transit would not be consistent with regional growth and land use policies. In addition, serious operational issues were detected including River Transit's lack of reliability in bad weather and bad river conditions, its inability to carry large volumes of passengers, and its poor travel times. There were also serious issues regarding the environmental impacts of River Transit.
- (b) Commuter Rail: Analyses undertaken during the Scoping Process determined that Commuter Rail did not provide adequate access to jobs, residences or activity centers. As a result, Commuter Rail exhibited very low levels of ridership and poor costeffectiveness. In addition, it was determined that Commuter Rail would not be consistent with regional growth and land use policies.
- (c) Busway: Based on the Busway Evaluation Technical Memorandum prepared during the Scoping Process, it was determined that the Busway would attract significantly lower ridership than LRT at roughly the same capital cost and with higher operating costs. In addition, it was determined that the Busway would not achieve the land use and economic development benefits of LRT.

The *Tier I Description of Alternatives Report* also eliminated some light rail alignment alternatives from further study, most relevantly the *Central Eastside Connector*. Based on the analysis documented in the *Central Eastside Connector Technical Memorandum*, it was determined not to advance the Connector either configured as staying completely on the eastside of the Willamette River with transfers to downtown or as a split line serving both the Central Eastside and Downtown Portland. The general reasons for this determination included: the need to serve the high employment area in Downtown with the highest quality service, the loss of ridership associated with forcing transfers to Downtown, and the operational problems and high costs associated with running a split line. However, it was also determined that designs for South/North light rail would be prepared to allow for the future addition of an eastside transit connection.

Based on analyses and public input provided through Scoping, the high capacity transit alternatives were narrowed to one mode -- light rail transit. The Scoping Process (as amended by the Steering Group in May 1994) also identified:

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- Four south (Clackamas County) and five north (Clark County) *Terminus Alternatives* for the LRT.
  - Two or more Alignment Alternatives for each of the defined segments of the LRT alignment.
  - Detailed *Design Options* for several of the LRT alignment alternatives.

These alternatives were advanced for further study into the Tier I Final Report stage of the MIS.

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# **Tier I Final Report/RTP-TIP Adoption Stages:** the Completion of the MIS

#### 5.1 Background

The Scoping stage started the MIS by narrowing the range of "build" modes to one, light rail transit. The *Tier I Final Report* stage focused on the terminus and alignment alternatives. By their adoption of the *Tier I Final Report*, the Metro Council and C-TRAN Board completed the selection of the locally preferred design concept and scope. Following the adoption of the *Tier I Final Report*, both Metro and the RTC amended their RTPs and TIPs and prepared the associated air quality conformity determinations. With the adoption of those Plans, Programs and Determinations, the Major Investment Study for the South/North Corridor Project was complete. While the alignment/terminus alternatives were later refined in the Design Option Narrowing stage, that was a post-MIS analysis in which the project specifications were refined within the design concept and scope adopted in the *Tier I Final Report*.

#### 5.2 Analysis of Transportation Impacts, Environmental Impacts and Comparative Costs and Benefits

After Scoping, staff prepared technical analyses of the terminus and alignment alternatives. The criteria used in the *Tier I Final Report* was established in the *Tier I Evaluation Methodology Report* and is shown in Table 5-1. It should be noted that these measures comprehensively address the transportation impacts, environmental consequences and the comparative benefits and costs at the level of detail needed to make the "design concept and scope" determination.

The Tier I Final Report stage technical analyses are documented in the following reports which are incorporated in this *MIS Report* by reference:

- Light Rail Transit Representative Alternatives and Order of Magnitude Cost Estimates (May 1994)
- Tier I Technical Summary Report (July 1994)
- Briefing Document: Tier I Technical Summary Report (August 1994)
- Tier I Final Recommendation Report (September 1994)
- Tier I Final Report (December 1994)

Table 5-2 assesses the comparative costs and benefits of the alignment alternatives and terminus alternatives considered in the *Tier I Final Report* based on the data presented in the above referenced reports.

Table 5-1Evaluation Criteria to be Used in the Tier I Final Report

NARROW MODAL	NARROW ALIGNMENT ALTERNATIVES	NARROW DESIGN	NARROW STUDY TERMINI ALTERNATIVES
Transit Service Ease of Access Transferability Travel Times Reliability Ridership	Transit Service Ease of Access Transferability Travel Times Reliability Ridership	Transit Service Ease of Access	Transit Service Ease of Access Transferability Travel Times Reliability Ridership
Transit Operations Modal Compatibility Downtown Portland Ops	Transit Operations NA	Transit Operations NA	Transit Operations NA
Ability to Accommodate Growth Design Capacity Future Expansion Capability	Ability to Accommodate Growth Design Capacity Future Expansion Capability	Ability to Accommodate Growth NA	Ability to Accommodate Growth Design Capacity Future Expansion Capability
Minimize Traffic and Neighborhood Infiltration NA	Minimize Traffic and Neighborhood Infiltration Highway System Use Traffic/Neighborhood Infiltration Relief	Minimize Traffic and Neighborhood Infiltration NA	Minimize Traffic and Neighborhood Infiltration Highway System Use Traffic/Neighborhood Infiltration Relief
Promote Land Use Desired Patterns and Development Support Major Activity Centers Support Bi-State Policies	Promote Land Use Desired Patterns and Development Support Major Activity Centers Support Bi-State Policies	Promote Land Use Desired Patterns and Development Support Major Activity Centers Support Bi-State Policies	Promote Land Use Desired Patterns and Development Support Major Activity Centers Support Bi-State Policies
Fiscal Stability and Efficiency Cost	Fiscal Stability and Efficiency Cost Cost-Effectiveness Feasibility	Fiscal Stability and Efficiency <i>Cost</i>	Fiscal Stability and Efficiency Cost Cost-Effectiveness Feasibility
Engineering Efficiency and Environmental Sensitivity Environmental Impacts	Engineering Efficiency and Environmental Sensitivity Environmental Impacts Design Considerations	Engineering Efficiency and Environmental Sensitivity Environmental Impacts Design Considerations	Engineering Efficiency and Environmental Sensitivity NA

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#### Table 5-2

## Summary of Measurement Criteria South Study Terminus Alternatives

Criteria	Measure	Milwaukle	Clackamas TC	OC via McLoughlin	OC via I-205
Transit Service	Peak hour accessibility				
Ease of Access	Households within 45 minutes by transit to:			400 700	100 710
	Milwaukie	101,890	103,370	103,720	102,710
	Clackamas Town Center	116,820	105,920	108,520	101,930
	Oregon City	60,370	57,460	56,610	54,380
•••	Employment within 45 minutes by transit to:				
	Milwaukie	381,350	384,780	380,290	383,250
	Clackamas Town Center	260,300	321,640	199,410	310,920
	Oregon City	85,710	80,770	166,270	96,630
Transferability	Mode of Access (south of Portland CBD)				
	Walk on	30%	34%	40%	35%
	Transfer	24%	25%	21%	26%
	Park-and-ride	46%	41%	39%	39%
Travel Time	Total Travel Time. PM Peak Hour (in minutes)	•		•	
	Transit from Portland CBD to Milwaukie (auto = 27)	26	26	26	26
	Transit from Portland CBD to Clackamas TC (auto = 37)	43	36	45	36
	Transit from Portland CBD to Oregon City (auto = 47)	64	64	45	. 53
Reliability	Miles of Reserved or Separate ROW: S of Pioneer Square	6.2	11.6	13.5	17.5
ronabing	% of Corridor Passenger-miles on Reserved ROW	28.8%	32.1%	· 35.0%	35.0%
Pidomhia	Weekdey Corridor Transit Trins	129,200	129,800	131,750	131,350
пивізнір	Weekday S/N LRT Trips	56,900	59,400	61,900	62,750
Traffic	PM Peak Hour. Peak Direction V/C Ratio at:				
Highway Use	Milwaukie, S of Monroe (Hwy 224, Lake, McL.)	1.24	1.14	1.10	1.14
Tinginitay Coo	S of Sunnyside (1-205, 82nd)	0.91	0.91	0.92	0.92
	N of Roethe (McL., Oatfield, River)	0.84	0.79	0.83	0.80
	S of Arlington (I-205, McL.)	1.12	1.09	1.09	1.09
	At Boundary (Corbett, Macadam)	1.01	1.01	1.02	1.04
Traffic Issues		P&R volumes in Milwaukie	At grade crossings	At grade crossings Left turn restrictions	At grade crossings

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Criteria	Measure	Milwaukie	Clackamas TC	OC via McLoughlin	OC via 1-205
Fiscal Efficiency	Capital Cost (1994 \$): Pioneer Square south	\$424.0	\$711.5	\$800.1	\$1.062.0
Cost	Capital Cost (YOE \$): Pioneer Square south	\$674.2	\$1,131.2	\$1,272.1	\$1,688.6
(in millions of S)	Annual LRT Operating and Maintenance Cost (1994 \$)	\$12.87	\$15.60	\$16.59	\$18.20
(	Annual Bus Operating and Maintenance Savings (1994 \$)	\$0.00	\$2.66	\$3.24	\$2.62
Cost Effectiveness	Effective LRT Operating Cost per Rider	\$0.69	\$0.66	\$0.66	\$0.76
,	Cost Effectiveness Ratio	6.72	7.48	, 7.50	8.40
Promote Desired	Major Activity Centers Served	Milwaukie CBD	Milwaukie CBD,	Milwaukie CBD,	Milwaukie CBD,
Land Use			Clackamas TC	Oregon City CBD	Clackamas TC,
Support Major	•				Oregon City CBD
Activity Centers					
Support Bi-	Maintain Urban Growth Boundaries	yes	yes	yes	yes
. State Policies					
	( ,				

Notes:

All data is for year 2015, unless otherwise noted.

Data assumes LRT from Oregon City via I-205 to 179th St. in Clark County, unless otherwise noted.

Costs are in millions of \$.

Bus O&M savings represents cost reduction from highest bus cost alternative.

Additional Park-and-Ride capacity may be required to accomodate anticipated demand at a cost of up to the following amounts for the corresponding terminus alternative: Milwaukie CBD \$28.3 million; Clackamas TC \$13 million; OC via McLoughlin \$20.3 million; OC via I-205 \$6 million.

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#### Summary of Measurement Criteria North Study Terminus Alternatives

Criteria	Measure	39th St.	88th St.	134th St.	179th St.	Van Mall
Transit Service	Peak Hour Accessibility	· · · · · · · · · · · · · · · · · · ·			·····	
Ease of Access	Households within 45 minutes by transit to:					
<b>`</b>	Vancouver CBD	138,440	137,840	138,100	137,020	142,040
	134th St.	57,280	56,180	87,200	87,110	89,210
	Vancouver Mall	97,210	96,670	99,390	99,390	108,000
	Employment within 45 minutes by transit to:		,			
	Vancouver CBD	307,690	307,020	306,970	295,800	308,220
	134th St.	68,400	66,280	121,900	119,190	108.430
	Vancouver Mail	120,080	120,280	119,500	119,500	139,910
Transferability	Mode of Access (North of Coliseum TC)					
	Walk on	27%	31%	31%	33%	32%
	Transfer	49%	43%	46%	45%	45%
	Park-and-ride	24%	22%	23%	22%	23%
Travel Time	Total Travel Time, PM Peak Hour (in minutes)					
	Transit from Portland CBD to Vancouver CBD (auto = 40)	38	38	38	38	38
	Transit from Portland CBD to 88th St. (auto = 45)	53	46	46	46	55
	Transit from Portland CBD to 134th St. (auto = 48)	59	59	51	51	54
	Transit from Portland CBD to 179th St. (auto = 52)	74	75	63	55	68
	Transit from Portland CBD to Van Mall (auto = 44)	60	60	60	60	52
Reliability	Miles of Reserved or Separate ROW; N of Pioneer Square	10.2	13.1	15.4	17.5	16.4
	% of Corridor Passenger-miles on Reserved ROW	35.1%	37.7%	37.6%	38.0%	37.7%
Ridership	Weekday Corridor Transit Trips	130,000	131,150	131,300	131,350	130,700
	Weekday S/N LRT Trips	60,050	61,600	62,200	62,800	62,450
Traffic	PM Peak Hour, Peak Direction V/C Ratio at:		<u> </u>			
Highway Use	N of Mill Plain (I-5, Main, Broadway, Ft. Van.)	0.54	0.54	0.54	0.54	0.54
	N of 39th (15th, Main, I-5)	0.84	0.78	0.78	0.79	0.84
	S of 78th (Hwy 99, Hazel Dell Ave., I-205)	0.69	0.62	0.63	0.63	0.67
	W of Andreson (18th, 40th, 4th Plain, SR 500)	0.74	0.73	0.73	0.67	0.72
	I-5 Bridge	1.31	1.30	1.30	1.31	1.30
	W of I-205 (4th Plain, 63rd, Burton, SR 500)	0.89	0.89	0.88	0.88	0.87
	I-205 Bridge	0.94	0.94	0.94	0.94	0.94
Traffic Issues		P&R volumes in Vancouver	Main St.	Main St.	Main St.	At grade Xings P&R volumes

• ••

Criteria	Measure	39th St.	88th St.	134th St.	179th St.	Van Mail
Fiscal Efficiency	Capital Cost (1994 \$); Pioneer Square north	\$753.9	\$895.2	\$982.9	\$1,065.1	\$1,044.0
Cost	Capital Cost (YOE \$) Pioneer Square north	\$1,198.7	\$1,423.4	\$1,562.8	\$1,693.6	\$1,659.9
(in millions of \$)	Annual LRT Operating and Maintenance Cost (1994 \$)	\$15.27	\$16.21	\$17.33	\$18.20	\$17.96
	Annual Bus Operating and Maintenance Savings (1994 \$)	\$0.00	\$0.41	\$0.86	\$0.65	\$0.36
Cost Effectiveness	Effective LRT Operating Cost per Rider	\$0.78	\$0.78	\$0.81	\$0.85	\$0.86
	Cost Effectiveness Ratio	7.65	7.98	8.23	8.48	8.47
Promote Desired	Major Activity Centers Served	Vancouver CBD	Vancouver CBD	Vancouver CBD,	Vancouver CBD,	Vancouver CBD,
Land Use				Salmon Creek/	Salmon Creek/	Vancouver Mall
Support Major Activity Centers				WSU	WSU	
Support Bi- State Policies	Maintain Urban Growth Boundaries	yes	yes	yes	May encourage expansion	yes

Notes:

All data is for year 2015, unless otherwise noted.

Data assumes LRT from Oregon City via I-205 to 179th St. in Clark County, unless otherwise noted.

Costs are in millions of \$.

Bus O&M savings represents cost reduction from highest bus cost alternative.

Additional Park-and-Ride capacity may be required to meet anticipated demand at a cost of up to the following amounts for the corresponding terminus alternative: Vancouver CBD/39th Street \$44.9 million; 88th Street \$29.6 million; 134th Street \$23.3 million; 179th Street \$4 million; Van Mall/Orchards \$5.4 million.

## Summary of Measurement Criteria Portland CBD to Milwaukie CBD South River Crossing Alternatives

Criteria	Measure	Hawthorne	Caruthers	Ross Island	Sellwood
Transit Sancica	Posk Hour Accessibility		, - <u> </u>		
Fase of Access	Households within AE minutes by transit to				
	OMSI				
		160,400	167,950	169,300	168,200
	Joint's Landing	97,700	97,920	99,330	124,950
	Milwaukie -	102,710	106,760	102,440	82,410
	Employment within 45 minutes by transit to:				
	OMSI	538,450	534 100	495 540	407 550
	John's Landing	353 570	350 990	495,540	407,550
	Milwaukie	385 150	303 000	280,070	449,110
		565,150	393,090	389,130	348,490
Transferability	Mode of Access		·		
	· Walk on	36.4%	35.8%	35.2%	34.1%
	Transfer	28.8%	28.1%	28.7%	32.2%
	Park-and-ride	34.8%	36.2%	36.1%	33.8%
Travel Time	Total Travel Time, PM Beak Hour (in minuton)				
	Transit from Portland CBD to Milwaukio (auto - 27)	07			•
	Transit from Portland CBD to Milwaukie ( $auto = 27$ )	27	27	27	32
	Transit from Portland CBD to Claudallias TC (auto = $37$ ) Transit from Portland CBD to Orogon City (auto = $40$ )	36	36	36	41
	Transit from Portland CBD to Oregon City (auto = 46)	. 53	53	53	58
Reliability	Miles of Reserved or Separated ROW, S of Pioneer Square	35.0	35.5	35.3	35.9
	% of Corridor Passenger-miles on Reserved ROW	36.7%	35.1%	32.0%	32.1%
Ridershin	Weekday Corridor Transit Trips	101.050			1
1	Weekday S/N I BT Trice	131,350	132,200	131,400	130,750
	wookday on thin mpa	01,800	62,800	62,300	61,400
Traffic	PM Peak Hour, Peak Direction V/C Ratio at:				
Highway Use	River Crossings (Fremont - Ross Island)	1.07	1.07	1.06	1.07
	River Crossings (Sellwood Bridge)	1.23	1.23	1.23	1.07
	N of Prescott (Denver, I-5, Interstate, MLK, Vancouver)	0.76	0.76	0.76	0.76
•	At Boundary (Macadam, Corbett)	1.04	1.03	1.02	1.03
Traffic Issues		Bridge lance	Herrison Ot		•• • •
		Main/Madican Sta	marrison St.	marrison St.	Moody St.
·		mant/Mauson Sis.	Moody St.	Moody St.	At grade Xings

Criteria	Measure	Hawthorne	Caruthers	Ross Island	Sellwoor
Fiscal Efficiency	Capital Cost (1994 \$) Pioneer Square to Milwaukie	\$424	\$465	\$461	\$465
Cost	Capital Cost (YOE \$) Pioneer Square to Milwaukie	\$674	\$739	\$733	\$739
(in millions of \$)	Annual LRT Operating and Maintenance Cost (1994 \$)	\$18.70	\$18.17	\$18.19	\$19.12
	Annual Bus Operating and Maintenance Savings (1994 \$)	\$0.27	\$0.24	\$0.26	\$0.0
Cost Effectiveness	Effective LRT Operating Cost per Rider	\$0.87	\$0.87	\$0.88	\$0.95
	Cost Effectiveness Ratio	8.72	8.64	8.70	8.90
Promote Desired	Major Activity Centers Served	CEIC, OMSI	PSU, Riverplace,	PSU, Riverplace	PSU, Riverplace
Land Use	•	SE Neighborhoods,	OMSI, SE Portland	N Macadam, SE	N Macadam,
Support Major		Milwaukie CBD	Neighborhoods,	Neighborhoods,	John's Landing
Activity Centers			Milwaukie CBD	Milwaukie CBD	Milwaukie CBD
Support Bi- State Policies	Maintain Urban Growth Boundaries	yes	yes	yes	yes
Environmental Sensitivity	Possible Displacements	47, commercial and residential	41, commercial and residential	64, mostly com- mercial/industrial	27, mostly com- mercial/industrial
	Noise Impact Areas		,	· · · · · · · · · · · · · · · · · · ·	Moody St., John's Landing, Sellwood
•	Ecosystem Impacts	Willamette Xing	Willamette Xing	Willamette Xing	Willamette Xing
•	Historical and Cultural Impacts	Existing bridge, Brooklyn Nh	Brooklyn Nh.	Existing bridge, Brooklyn Nh	Existing bridge, Seilwood Nh

Bus O&M savings represents cost reduction from highest bus cost alternative.

Displacement data based on preliminary design without specific efforts to mitigate possible impacts.

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Criteria	Measure	PTC	McLoughlin
Transit Service	Peak Hour Accessibility		
Ease of Access	Households within 45 minutes by transit to:		
	OMSI	153,290	159,700
	Milwaukie	88,420	102,710
	Clackamas Town Center	92,760	101,930
	Oregon City CBD	52,020	54,380
	Employment within 45 minutes by transit to:		
	OMSI	531,860	538,450
	Milwaukie	368,720	383,250
	Clackamas Town Center	292,500	310,920
н Н	Oregon City CBD	90,810	96,630
Transferability	Mode of Access; Milwaukie to OMSI		
	Walk on	36%	42%
	Transfer	27%	26%
	Park-and-ride	38%	32%
Travel Time	Total Travel Time, PM Peak Hour (in minutes)		
	Transit from Portland CBD to Milwaukie (auto = 27)	28	27
	Transit from Portland CBD to Clackamas TC (auto = 37)	38	36
	Transit from Portland CBD to Oregon City (auto = 46)	55	53
Reliability	Miles of Reserved or Separate ROW	7.1	6.2
	% of Corridor Passenger-miles on Reserved ROW	28.9%	• 35.0%
Ridership	Weekday Corridor Transit Trips	131,050	131,350
	Weekday S/N LRT Trips	58,250	62,750
Traffic	PM Peak Hour, Peak Direction V/C Ratio at:		· · · · · · · · · · · · · · · · · · ·
Highway Use	River Crossings (Fremont - Ross Island)	. 1.07	. 1.07
	River Crossings (Sellwood Bridge)	1.24	1.23
	Milwaukie, S of Monroe (Hwy 224, Lake, McL)	1.14	1.14
	N of Roethe (McL., Oatfield, River)	0.79	0.80
Traffic Issues		New freight spur across McLoughlin	Signal coordination on McLoughlin, close some local access to McLoughlin

### Summary of Measurement Criteria Portland CBD to Milwaukie CBD Eastbank Alignment Alternatives

McLoughlin	РТС	Measure	Criteria
£404 0	<b>*</b> 407 00		
\$424.U \$674.00	\$437.20	Capital Cost (1994 \$); Pioneer Square to Milwaukie	Fiscal Efficiency
\$0/4.∠U ¢10.00	\$695.20	Capital Cost (YOE \$); Pioneer Square to Milwaukie	Cost
\$18.20	\$18.76	Annual LRT Operating and Maintenance Cost (1994 \$)	(in mittions of \$)
\$0.01	\$0.00	Annual Bus Operating and Maintenance Savings (1994 \$)	
\$0.88	\$0.98	Effective LBT Operating Cost per Rider	Cost Effectiveness
8.52	9.26	Cost Effectiveness Ratio	COST ENCONTOINCES
SE Neighborhoods, Milwaukie CBD	Milwaukie CBD	Major Activity Centers Served	Promote Desired Land Use Support Major
			Activity Centers
yes	yes	Maintain Urban Growth Boundaries	Support Bl- State Policies
50+, commercial and residential	20+ commercial/Indust. Existing freight line	Possible Displacements (Residential/Commercial)	Environmental Sensitivity
	Greater risks due to lower existing noise	Noise Impacts	
	Wetlands & wildlife habitat	Ecosystem Impacts	· · · · ·
Greater risk due to more displacements		Historical and Cultural Impacts	

Notes:

All data is for year 2015, unless otherwise noted.

Data assumes LRT from Oregon City via I-205 to 179th St. in Clark County, unless otherwise noted. Costs are in millions of \$.

Bus O&M savings represents cost reduction from highest bus cost alternative.

Displacement data based on preliminary design without specific efforts to mitigate possible impacts.

December 22, 1994

#### Summary of Measurement Criteria Portland CBD Alignment Alternatives

Criteria	Measure	Surface	Subway
Transit Service	Peak Hour Accessibility		
Face of Access	Households within 45 minutes by transit to:		
Ease of Access	Noncolnics CPD	114 750	143 710
	Patiend OPD	210,150	143,710
		219,150	234,580
	Miwaukie CBD	82,410	103,630
	Employment within 45 minutes by transit to:	•	
	Vancouver CBD	306,970	344,300
	Portland CBD	579,600	598,400
	Milwaukie CBD	348,490	382,970
Travel Time	Total Travel Time, PM Peak Hour (in minutes)		
	Transit from Portland CBD to Milwaukie (auto = 27)	32	28
	Transit from Portland CBD to Vancouver CBD (auto = 39)	38	36
Reliability	Miles of Reserved or Separate ROW	35.3	35.2
	% of Corridor Passenger-miles on Reserved ROW	25.3%	23.7%
Ridership	Weekday Corridor Transit Trips	130,750	132,850
	Weekday S/N LRT Trips	61,400	64,900
Traffic	PM Peak Hour, Peak Direction V/C Ratio at:		
Highwav Use	River Crossings (Fremont - Ross Island)	1.07	1.07
	River Crossings (Sellwood Bridge)	1.27	1.27
	N of Prescott (Denver, I-5, Interstate, MLK Blvd., Vancouver)	0.76	0.76
	At Boundary (Macadam Corbett)	1 04	1.03

Traffic Issues

At grade crossings

Portal impacts

Subway	Surface	Measure	Criteria
¢050 0 ¢057 0	¢100.9 ¢104.4	Capital Cast (1004 \$1) South Waterfront to Union Station	Finant Efficiency
\$353.2 - \$307.3	\$180.8 - \$194.4	Capital Cost (1994 \$); South Waterront to Union Station	Fiscal Eniciency
\$551.0 - \$584.0	\$287.5 - \$309.1	Capital Cost (YOE \$); South Waterfront to Union Station	Cost
\$20.93	\$19.12	Annual LHT Operating and Maintenance Cost (1994 \$)	(in millions of \$)
\$0.02	\$0.00	Annual Bus Operating and Maintenance Savings (1994 \$)	
\$0.98	\$0.95	Effective LRT Operating Cost per Rider	Cost Effectiveness
9.07	8.90	Cost Effectiveness Ratio	
Portland CBD	Portland CBD	Major Activity Centers Served	Promote Desired
			Land Use
	•		Support Major
			Activity Centers
yes	yes	Maintain Urban Growth Boundaries	Support Bi- State Policies
Potential at	Potential at	Pensible Displacements (Penidential/Commercial)	Environmental
Fotential at		Possible Displacements (Residentia/Commercial)	Environmental
μοπαιs.			Sensitivity
Potential at	Possible vibrations	Noise Impacts	
portals.	•		
No significant	No significant	Ecosystem impacts	
impacts	impacts		
Potential at portals	Potential impacts	Historical and Cultural Impacts	

Notes:

All data is for year 2015, unless otherwise noted.

Data assumes LRT from Oregon City via I-205 to 179th St. in Clark County, unless otherwise noted. Costs are in millions of \$.

Bus O&M savings represents cost reduction from highest bus cost alternative.

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Criteria	Measure	Interstate Ave	. 1-5
Transit Service	Peak Hour Accessibility		
Ease of Acces	s Households within 45 minutes by transit to:		
	Swan Island	126,840	131,810
	Kenton	178,050	184,810
	Hayden Island	163,300	170,270
	Vancouver CBD	138,650	150,000
	Employment within 45 minutes by transit to:		
	Swan Island	369,490	377,770
	Kenton	450,430	472,540
	Hayden Island	402,300	408,530
	Vancouver CBD	310,400	337,200
Transferabill	ty Mode of Access		
	Walk on	60%	61%
	Transfer	40%	39%
	Park-and-ride	0%	0%
Travel Tirr	e Total Travel Time, PM Peak Hour (in minutes)		
	Transit from Portland CBD to Swan Island (auto = 17)	29	28
	Transit from Portland CBD to Kenton (auto = 20)	26	24
	Transit from Portland CBD to Hayden Island (auto = 28)	33	31
	Transit from Portland CBD to Vancouver CBD (auto = 40)	38	36
Reliabili	y Miles of Reserved or Separated ROW	10.2	10.1
	% of Corridor Passenger-miles on Reserved ROW	38.0%	40.4%
Ridersh	p Weekday Corridor Transit Trips	131,350	132,800
	Weekday S/N LRT Trips	64,000	65,400
Traffic	PM Peak Hour, Peak Direction V/C Ratio at:	······································	
Highway Us	e Columbia River Crossing (I-5 Bridge)	1.31	1.30
	N of Columbia (I-5, Interstate, MLK Blvd.)	0.70	0.69
	N of Prescott (Denver, I-5, Interstate, MLK Blvd., Vancouver)	0.76	0.76
	River Crossings (Fremont - Ross Island)	1.07	1.07
Local Traff	ic .	At grade crossings	Ramp impacts
	· · · · · · · · · · · · · · · · · · ·	Changes street design Removes some parking	Removes some parking

#### Summary of Measurement Criteria Portland CBD to Vancouver CBD Alignment Alternatives

Criteria	Measure	interstate Ave.	1-5
		<b>A</b> 750.0	-
Fiscal Efficiency	Capital Cost (1994 \$)	\$753.9	\$682.2
Cost	Capital Cost (YOE \$)	\$1,198.7	\$1,084.7
(in millions of \$)	Annual LRT Operating and Maintenance Cost (1994 \$)	\$18.20	\$18.02
	Annual Bus Operating and Maintenance Savings (1994 \$)	\$0.06	- \$0.00
Cost Effectiveness	Effective LRT Operating Cost per Rider	\$0.86	\$0.84
	Cost Effectiveness Ratio	8.36	7.94
Promote Desired	Major Activity Centers Served	Coliseum, N/NE	Coliseum, N/NE
Land Use		Neighborhoods,	Neighborhoods,
Support Major		Vancouver CBD	Vancouver CBD
Activity Centers			
Support Bi- State Policies	Maintain Urban Growth Boundaries	yes	yes
Environmental	Possible Displacements (Residential/Commercial)	65+, mostly	65+, almost all
Sensitivity		commercial	residential
	Noise Impacts	More difficult to	Replace existing and
		mitigate	new noise wall
	Ecosystem Impacts	Columbia Slough	Columbia Slough
		and River Xing	and River Xing
,	Historical and Cultural Impacts	Slightly higher risk	
		of impacts	

Notes:

All data is for year 2015, unless otherwise noted.

Data represents build out from Oregon City via I-205 to 179th St. in Clark County, unless otherwise noted. Costs are in millions of \$.

Bus O&M savings represents cost reduction from highest bus cost alternative.

Displacement data based on preliminary design without specific efforts to mitigate possible impacts.

Note capital costs and cost effectiveness for Interstate Avenue are for the two-lane/four-lane hybrid option.

### Summary of Measurement Criteria 39th to 179th Street Alignment Alternatives

Criteria	Measure	Highway 99	1-5
Transit Candoa	Pack Hour Accessibility		
	Peak nour Accessibility		
Ease of Access	Households within 45 minutes by transit to:		
•		136,040	137,020
	134th St.	80,240	87,110
	Vancouver Mall	97,010	99,390
	Employment within 45 minutes by transit to:		
	Vancouver CBD	304,760	295,800
	134th St.	103,560	119.190
	Vancouver Mali	117,290	119,500
Transferability	Mode of Access; Vancouver CBD to 179th St.		
•	Walk on	23%	23%
•	Transfer	45%	45%
	Park-and-ride	32%	32%
Travel Time	Total Travel Time, PM Peak Hour (in minutes)		
	Transit from Portland CBD to Vancouver CBD (auto = $39$ )	38	38
	Transit from Portland CBD to 88th St (auto = 44)	48	46
	Transit from Portland CBD to 134th St. (auto = 44)	54	~ 51
	Transit from Portland CBD to 179th St. (auto - 52)	58	55
	Transit from Portland CBD to Vancouver Mall (auto = 32)	50 60	5.
Reliability	Miles of Reserved or Separate ROW	34.8	34.7
	% of Corridor Passenger-miles on Reserved ROW	37.7%	38.0%
Ridership	Weekday Corridor Transit Trips	130,100	131,350
	Weekday S/N LRT Trips	61,600	62,750
Traffic	PM Peak Hour, Peak Direction V/C Ratio at:		
Highwav Use	Between Mill & 4th Plain (I-5, Main, Broadway, Ft. Van.)	0.54	0.54
	N of 39th (15th, Main, I-5)	0.79	0.79
	S of 78th (Hwy 99, Hazel Dell Ave., I-205)	0.63	0.63
	St. Johns/Andreson (18th, 40th, 4th Plain, SR 500)	0.72	0.72
Traffic Issues		Restricted	
		left turns	

Criteria	Measure	Highway 99	l-5
	Oct (1004 f); 20th to 124th	\$334	\$229
FISCAL Efficiency	Capital Cost ( $1994 \Rightarrow$ ), 39th to 134th	\$531	\$364
Cost	Capital Cost (TOE \$); Solid to 15411	\$18.59	\$18.20
(in millions of S)	Annual LHT Operating and Maintenance Cost (1994 \$)	\$0.28	\$0.00
	Annual Bus Operating and Maintenance Savings (1994 \$)		•
Cost Effectiveness	Effective LBT Operating Cost per Bider	\$0.91	\$0.88
COSt Enectiveness	Cost Effectiveness Batio	9.05	8.52
Promote Desired	Mator Activity Centers Served	Vancouver CBD,	Vancouver CBD,
Land Use		Salmon Creek/WSU	Salmon Creek/WSU
Support Major			
Activity Centers			
· · · · · · · · · · · · · · · · · · ·		•	
Support Bi-	Maintain Urban Growth Boundaries	yes	yes
State Policies			
<u></u>			
Environmental	Possible Displacements (Residential/Commercial)	100+, mostly	ord residential
Sensitivity		commercial	and residential
	Noise Impects	More difficult to	Can mitigate with
•	Noise impacts	mitigate	noise walls
		· · · · · · · · · · · · · · · · · · ·	
	Ecosystem Impacts	Salmon Creek Xing	Salmon Creek Xing
		• •	
	· · · · · · · · · · · · · · · · · · ·	No difference	
	Historical and Cultural Impacts		
Notes:	All data is for year 2015, unless otherwise noted.	rk County unless otherwise note	<b>.</b> .
	Data assumes LH1 from Oregon City via 1-205 to 179th St. In Cia	ik County, unless otherwise notes	2.
	Cosis are in millions of \$.		
	1-5 data assumes an east of 1-5 augument.	t alternative	5
•	Bus O&M savings represents cost reduction from highest bus cos		4-
	Displacement data based on preliminary design without specific e	enorts to mitigate possible impac	15.
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December 22, 1994
# 5.3 Public Involvement

In addition to the comprehensive technical analysis, an extensive public involvement process on the alternatives and options was conducted. The combination of the technical data and public input served as the basis for the preparation of the *Tier I Final Report*.

The adoption of the *Tier I Final Report* by the Metro Council and C-TRAN Board followed a lengthy period and numerous opportunities for public review of Tier I technical information and public comments on the Tier I alternatives. The public comment period began in July 1994 with the notice of availability of drafts of the *Tier I Technical Summary Report*, the *Briefing Document* and *Tech Facts*. The public was also invited to attend four public open houses to review the Tier I technical information and alternatives with project and participating jurisdiction staff. In July and August, 1994, meetings were held with individual neighborhood and business associations throughout the Corridor.

In August 1994, the *Briefing Document* and *Tech Facts* were amended to reflect new or corrected information. Four public meetings were held to allow the Steering Group to receive public testimony. Oral and written comments were received at the meetings, and written comments were received throughout the comment period which ended on September 13, 1994. These comments were compiled and summarized in the report entitled: *Narrowing the Options: Summary of Tier I Public Meetings and Comments*. A supplement of the comments report was issued describing comments received after the closing of the comment period.

On September 14, 1994 following the conclusion of the Tier I public comment period, the PMG adopted its final Tier I recommendations. The South/North CAC adopted its recommendations on September 29, 1994. Both the PMG and CAC recommendations were forwarded to the South/North Steering Group which adopted its final recommendation on October 6, 1994. Next the participating jurisdictions and agencies reviewed the Steering Group recommendations and adopted their independent recommendations in November and December 1994. Those recommendations were forwarded to the C-TRAN Board and Metro Council for final adoption of the *Tier I Final Report*.

# 5.4 Tier I Final Report Overview

The C-TRAN Board of Directors and Metro Council adopted the *Tier I Final Report* at their regular meetings in December 1994. In doing so, they:

- Defined a two-phase study approach for pursuing the proposed project. The phases are explained in subsection 5.5.
- Identified the Terminus Alternatives to be advanced for further study. The Terminus Alternatives, including their definition and justification, are explained in subsection 5.6.

• Identified the Alignment Alternatives to be advanced for further study. The Alignment Alternatives, including their definition and justification, are explained in subsections 5.7 through 5.11.

The justifications in these subsections are based on the data summarized in Table 5-2.

#### 5.5 **Project Phasing**

The *Tier I Final Report* established a two-phase implementation program:

- (a) Phase I would consider an LRT alternative between the Clackamas Town Center area (CTC) and the 99th Street area in Clark County. (The reader should note that the northern terminus was later amended to be in the V.A. Hospital/Clark College vicinity).
- (b) Phase II would consider an extension of the Phase I LRT Project south to Oregon City and north to 134th Street.

The study phases would be implemented as follows:

- Preparation of the Draft Environmental Impact Statement (DEIS) and funding plan for the Phase I project would begin immediately. In compliance with FTA requirements, Minimum Operable Segment(s) for Phase I will be identified in the Design Option Narrowing stage.
- (b) Metro would incorporate policies in the Regional Transportation Plan (RTP) and Regional Framework Plan which designate a Phase II extension of the South/North LRT Alternative to Oregon City.
- (c) Metro and RTC would incorporate policies in their respective Regional Transportation Plans and Clark County would incorporate policies in its Growth Management Plan which designate a Phase II extension of the South/North LRT Alternative to 134th Street/WSU area.

# 5.6 Comparative Costs and Benefits of Phase I Termini Alternatives

# 5.6.1 Evaluation

The Clackamas Town Center terminus alternative exhibits lower costs, greater cost-effectiveness and greater consistency with existing regional policy than the Oregon City terminus alternatives.

The CTC terminus alternative is approximately \$140 - \$560 million (in inflated dollars) less expensive to construct than an Oregon City terminus alternative. In addition, the CTC terminus alternative is estimated to cost \$1 - \$2.6 million per year less to operate than an Oregon City

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terminus. As a result, the Tier I measure of cost-effectiveness for the CTC terminus is 1% - 12% better than that for an Oregon City terminus.

Metro's Regional Transportation Plan (RTP) has identified a light rail line to CTC as the region's next LRT priority after the Hillsboro extension. The transportation and land use benefits associated with Oregon City are not sufficient to modify this long-standing policy.

# The 99th Street north terminus alternative exhibits lower costs and greater cost-effectiveness than the 134th Street/WSU Area, 179th Street and Vancouver Mall terminus alternatives.

The 99th Street terminus is approximately \$139 million (in inflated dollars) less expensive to construct and \$1.1 million per year less expensive to operate than the 134th Street terminus. As a result, the Tier I measure of cost-effectiveness for the 99th Street terminus is 4% better than that for the 134th Street terminus.

The 99th Street terminus is approximately \$236 million (in inflated dollars) less expensive to construct than the Vancouver Mall terminus alternative (which includes the Orchards extension). In addition, the 99th Street terminus alternative is estimated to cost \$1.8 million per year less to operate than a Vancouver Mall terminus. As a result, the Tier I measure of cost-effectiveness for the 99th Street terminus is 4% better than that for a Vancouver Mall terminus.

The 99th Street terminus is approximately \$270 million (in inflated dollars) less expensive to construct and \$2.0 million per year less to expensive to operate than the 179th Street terminus. As a result, the Tier I measure of cost-effectiveness for the 99th Street terminus is 6% better than that for the 179th Street terminus.

An LRT line with termini in the vicinity of the Milwaukie CBD and 39th Street in Vancouver would barely penetrate into Clackamas or Clark Counties, providing insufficient coverage to accomplish land use or transportation objectives.

To best achieve the land use and transportation objectives established for the project, the South/North LRT alternative should serve regional and intra-county trips in both Clark and Clackamas Counties. The Milwaukie CBD and 39th Street terminus alternatives do not accommodate intra-county trips. Furthermore, there are significant opportunities for encouraging transit-oriented land uses not far beyond these termini. These transit-oriented land use opportunities are worthy of consideration within the DEIS process.

# 5.6.2 Proposed Phase I Termini

The *Clackamas Town Center* area is proposed to be the Phase I South Terminus of the South/North LRT Alternative in the Draft Environmental Impact Statement (DEIS). The specific location of the Phase I terminus within the Clackamas Town Center area and the associated alignment, station locations and park-and-ride location within the area need further analysis. These issues are to be addressed in the *Design Option Narrowing Report*.

The 99th Street area is recommended to be the Phase I North Terminus for the South/North LRT Alternative in the DEIS. The specific terminus and park-and-ride lot locations within the 78th Street to 99th Street area need further analysis to determine whether the Phase I terminus should be further north to accommodate growth management objectives. These issues are to be addressed in the Design Option Narrowing Report. The reader should note that the Design Option Narrowing refined the northern terminus by moving it to the VA Hospital/Clark College area in Vancouver.

# 5.7 Comparative Costs and Benefits of Design Options in the Clackamas Town Center to/through Milwaukie CBD Segments

While several "design options" existed in the CTC to Milwaukie segment, including Railroad Avenue and two options along Highway 224, and in central Milwaukie, including S.E. Washington St., S.E. Monroe St. and S.E. Harrison St., the differences between them did not embody a difference in "design concept and scope". The choice between these options was made in the Design Option Narrowing stage and is summarized in Section 6 of this *MIS Report*.

# 5.8 Comparative Costs and Benefits of Alternatives in the Portland CBD to Milwaukie/South Willamette River Crossing Segment

#### 5.8.1 Evaluation

The Hawthorne Bridge River Crossing Alternative was eliminated from further consideration because it exhibited substantial reliability and operations problems caused by numerous bridge openings and did not provide LRT access to PSU or the southern portion of the Portland CBD.

The frequency of openings associated with the Hawthorne Bridge is considered to be a significant disadvantage of this alternative. A bridge opening during the peak-hour would likely disrupt the train schedule for the entire peak-period. Effective travel times would increase and reliability would suffer. As a result, ridership would decline, operating costs would increase and the cost-effectiveness of the alternative would deteriorate over time. Further, an alignment using the Hawthorne Bridge provides a station for PSU, a major attractor, which is seven blocks from the campus.

The Ross Island Bridge River Crossing alternative would exhibit lower operating costs, higher ridership and higher cost-effectiveness than the Sellwood Bridge alternative. Thus, the Sellwood Bridge alternative was eliminated from further consideration.

The Ross Island Bridge alternative would be approximately \$6 million (in inflated dollars) less expensive to construct and \$930,000 per year less expensive to operate than the Sellwood Bridge alternative. In addition, the Ross Island Bridge alternative would provide a five-minute travel time advantage and serve 300,000 more annual LRT riders than the Sellwood Bridge alternative.

As a result, the Tier I measure of cost-effectiveness for the Ross Island Bridge alternative is better than that for the Sellwood Bridge alternative.

The Ross Island Bridge River Crossing Alternative generally exhibits the same costs and transportation benefits as the Caruthers Bridge alternative, and it may exhibit superior land use and development benefits.

The Ross Island Bridge alternative would be approximately \$6 million (in inflated dollars) less expensive to construct, \$200,000 more per year to operate and serve 160,000 less LRT riders per year than the Caruthers Bridge alternative. In combination, these cost and ridership factors are not considered decisive.

The choice between these two alignment alternatives hinges on determining which is the most important development area to be served by light rail: OMSI and its surrounding area or the North Macadam Area. Because of its amount of vacant developable and redevelopable land, its proximity to downtown and its unique ability to support housing, the land use benefits of LRT on the North Macadam Area may to be greater than in the OMSI vicinity. Thus, the Ross Island Bridge alignment is recommended for further consideration, while the Caruthers Bridge alternative will be examined further to determine if it should be carried into the DEIS.

# The McLoughlin Alignment Alternative exhibits less cost, greater ridership, higher cost effectiveness and less environmental impact than the Portland Traction (PTC) alternative.

Within this segment, the McLoughlin alignment alternative is approximately \$21 million (in inflated dollars) less expensive to construct and \$560,000 per year less expensive to operate than the PTC alternative. In addition, the McLoughlin alternative serves almost 1.5 million annual LRT riders more than the PTC alternative. As a result, the Tier I measure of cost-effectiveness for the McLoughlin alignment is 7% better than that for the PTC alternative. Furthermore, the PTC alignment would traverse Oaks Bottom -- a very sensitive wetlands and wildlife area.

# 5.8.2 **Proposed Alignment Alternative**

The Ross Island Bridge Crossing and McLoughlin Boulevard Alignment Alternative were recommended to be advanced into the DEIS. The Caruthers Crossing was to be evaluated further to determine whether it should also be advanced into the DEIS. The precise location of the river crossing, bridgeheads and stations in this segment will be subjected to further analysis.

# 5.9 Comparative Costs and Benefits of Alternatives in the Portland CBD

At the time of the adoption of the *Tier I Final Report*, the location of the downtown alignment had been narrowed to one couplet -- S.W. Fifth and S.W. Sixth Avenues. It had also been decided to maintain a surface option through the DEIS. However, the PMG decided it was premature to narrow to one option until additional information was completed on both the Surface and Subway alignments. A special study process was created for the downtown alignment which would dovetail with the Design Option Narrowing recommendations. The results are reported in Section 6 of this *MIS Final Report*.

# 5.10 Comparative Costs and Benefits of Alternatives in the Portland CBD to Vancouver CBD Alignment Segment

#### 5.10.1 Evaluation

While the Interstate Avenue alignment alternative costs more than the I-5 alternative, further analysis was needed to determine if the land use and development benefits of the Interstate alignment outweigh its additional cost.

The I-5 alignment alternative in this segment is approximately \$114 million (in inflated dollars) less expensive to construct, \$120,000 per year less expensive to operate and serves 460,000 more LRT riders per year than the Interstate Avenue alternative. However, the relative land use and development benefits associated with the two alignment alternatives are not yet clear. These benefits are of critical importance to the N/NE neighborhoods and the City of Portland and, therefore, merited additional consideration before a recommendation is proposed.

Further public input was needed to determine community preferences.

# 5.10.2 Proposed Alignment Alternative

At the time of the *Tier I Final Report*, additional information was needed to determine the preferred alignment between the Portland CBD and Vancouver CBD. Additionally, an analysis of modified alternatives which merge the I-5 alignment with portions of the Interstate Avenue alignment was to be undertaken. The Columbia River Crossing design option (bridge or tunnel) was to be addressed in the *Design Option Narrowing Report*.

# 5.11 Comparative Costs and Benefits of Alternatives in the Vancouver CBD to 99th Street Area Alignment Segment

#### 5.11.2 Evaluation

The I-5 Alignment East Alternative exhibits less cost, greater ridership and higher cost effectiveness than the Highway 99 alternative.

The I-5 East alignment alternative is approximately \$167 million (in inflated dollars) less expensive to construct between 39th and 134th Streets than the Highway 99 alternative. In addition, the I-5 East alignment alternative is estimated to cost \$190,000 per year less to operate than the Highway 99 alternative. Furthermore, the I-5 East alternative serves 400,000 annual LRT riders more than the Highway 99 alternative. As a result, the Tier I measure of cost-effectiveness for the I-5 alignment is 11% better than that for the Highway 99 alternative.

South/North Transit Corridor Study

#### 5.11.2 **Proposed Alignment Alternatives**

The *I-5 East Alignment Alternative* is the selected alignment alternative in the Vancouver CBD to 99th Street segment for the purpose of preparing the DEIS. The *I-5 East Alignment Alternative* is also the selected alignment between 99th Street and 134th Street/WSU area for inclusion in the RTP and Growth Management Plan policies regarding the Phase II extension of the South/North LRT. The alignment through the Vancouver CBD was to be recommended in the *Design Option Narrowing Report*.

# 5.12 Final Approvals and the Completion of the Major Investment Study

By the time the *Tier I Final Report* was recommended for adoption by the Metro Council and the C-TRAN Board of Directors, the design concept and scope: (i) had been subjected to sufficient technical analysis to meet MIS requirements; (ii) had gone through sufficient public and intergovernmental involvement to meet MIS requirements; and (iii) was sufficiently detailed to meet the EPA requirements of an air quality conformity analysis (40 CFR part 51). On December 15, 1994 the C-TRAN Board adopted Resolution No. BR-94-011 and December 22, 1994 the Metro Council adopted Resolution No. 94-1989 both of which selected the locally preferred design concept and scope for the South/North Corridor.

Concurrently, the RTC enacted Resolution No. 12-94-30 which adopted the "financially constrained" *Metropolitan Transportation Plan* for Clark County. The Plan incorporated the design concept and scope selected for the South/North Corridor with adoption of the *Tier I Report*. The Plan cited the *Tier I Technical Summary Report: Briefing Document* as the technical basis for the project's inclusion. Appendix A to the Plan exhibited the "Clean Air Conformity Determination" analysis for the Plan. On January 12, 1995, FHWA and FTA found that the Plan and its associated TIP met conformity regulations.

On January 19, 1995, Metro adopted Resolution No. 95-2058 which amended the regional *Transportation Improvement Program* to include funding for the Tier II DEIS, FEIS and Preliminary Engineering for the South/ North Corridor Project. In March 1995, the Oregon Transportation Commission approved Amendment 95-05 to the Statewide Transportation Improvement Program which incorporated the funding for DEIS/FEIS/PE activities for the South/North Corridor.

On May 25, 1995, the Metro Council adopted Resolution No. 95-2138A which approved the federally-required "financially constrained" *Regional Transportation Plan.* As required by MIS guidelines, the locally preferred design concept and scope for the South/North Corridor Project was incorporated in this plan. On September 28, 1995, the Metro Council enacted Resolution No. 95-2196 which adopted the *Portland-Area (Air Quality) Conformity Determination.* This Determination found that the "financially constrained" *Regional Transportation Plan* and regional *Transportation Improvement Program* conforms with the *State Implementation Plan* (SIP) and all applicable air quality regulations.

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# **Design Option Narrowing Stage: Refinement of Design Concept**

#### 6.1 Background

The *Design Option Narrowing* stage was a post-MIS stage of Tier I in which the design for the South/North Corridor Project was refined within the adopted design concept and scope. Specifically, this stage refined the LRT alignment options and general location of potential light rail stations or transit centers and identified Minimum Operable Segments (MOS) to be evaluated in the DEIS.

After the adoption of the *Tier I Final Report*, project staff engaged in identifying, engineering, costing, projecting ridership of and assessing the impacts of design options in various segments of the corridor. These design options all fell within the adopted design concept and scope resulting from the *Tier I Final Report*. The technical results are documented in the *South/North Design Option Narrowing Briefing Document* and the *South/North Design Option Narrowing Technical Summary Report*.

This chapter summarizes the *Design Option Narrowing Final Report* which documents the final determination of the light rail transit options to be examined in the Draft Environmental Impact Statement. Specifically, this chapter describes the:

- (a) LRT alignment options;
- (b) general location of potential light rail stations or transit centers on each of the proposed alignment options; and
- (c) "Minimum Operable Segments (MOS)";

to be evaluated in the Draft Environmental Impact Statement.

The Design Option Narrowing Final Recommendation Report also identified "Issues" regarding the selected options which These "Issues", which are not addressed in this report, represent areas for further study during the interim between the Design Option Narrowing Final Report and the commencement of the DEIS.

# 6.2 Public Involvement Process

There were a myriad of public forums and hearings, Citizen Advisory Committee meetings and Expert Review Panel meetings concerning design options. The key meetings included:

- Design Option Narrowing Segment Meetings (May 1995): Individual segment meetings in four areas were organized to discuss LRT design options being considered for that segment. Notices were mailed to citizens within the geographical areas immediately adjacent to each of the segments and ads were placed in neighborhood newspapers.
- Local Jurisdiction Working Groups: Working groups were established by the City of Portland and the City of Milwaukie to provide additional citizen input into the South/North planning process. Metro worked with those jurisdictions to provide an opportunity to review and comment on the design options being considered within the jurisdiction and working group boundary.
- Downtown Oversight Committee Public Comment Meetings (May 1995): A public meeting was held by the Downtown Portland Oversight Committee to receive public comment on design options and alignment alternatives being considered for the Portland CBD.
- Design Option Open Houses (June 1995): A series of three regional open houses provided an opportunity for citizens to review technical information and data on the design options being considered for each segment throughout the corridor. Citizens, using county based Light Rail Workbooks and Tech Fact Sheets with user friendly technical information, were able to compare and assess each of the options under review.
- Design Option Narrowing Public Comment Meetings (June 1995): Citizens submitted written and oral testimony to members of the Study Steering Group at two formal public comment meetings. For the first time, citizens had the opportunity to call in comments directly to the meeting.

Hundreds of public comments were received, catalogued and distributed to project staff and policy-makers. Those public comments are included within the *South/North Design Option Narrowing Public Comments Report*.

In October 1995, based on the results of these technical and public involvement activities, the PMG and CAC independently established recommendations which were forwarded to the Steering Group. In November 1995, the *Design Option Narrowing Final Report* was adopted and released by the Steering Group to the governing bodies of the participating jurisdictions for their concurrence. After receipt of comments from the jurisdictions, the Steering Group adopted the *Design Option Narrowing Final Report*.

# 6.3 Minimum Operable Segments/Terminus Options

In August 1995, during the Design Option Narrowing stage, the C-TRAN Board of Directors, with the concurrence of the South/North Steering Group and Metro Council, determined that the northern Phase I terminus that should be studied within the DEIS until the Clark County Transportation Futures Process is complete should be at the Veterans Administration (VA) Hospital/ Clark College.

As a result, the full-length light rail alternative to be examined in the DEIS would run between the vicinity of the Clackamas Town Center in Oregon and the vicinity of the Veterans Administration (VA) Hospital/Clark College in Vancouver, Washington. Minimum Operable Segments (MOSs) were identified for each light rail alternative to:

- (a) assess whether project objectives can be equally or more cost-effectively met by *MOSs* than the more expensive full-length alternatives;
- (b) ensure that there are alternatives which could be constructed if funding sources provide less revenues than initially expected or desired; and
- (c) ensure that there are options which could be built in sequence, over time, if cash flow requirements dictate phased-construction.
- (d) examine different permanent termini in North Portland if the Clark County transportation futures process determines that light rail is not an appropriate mode in Clark County at this time.

The Design Option Narrowing analysis identified four MOS's to be evaluated in the DEIS:

- 1. Milwaukie Park-and-Ride to V.A. Hospital/Clark College (Vancouver)
- 2. Clackamas Town Center Vicinity to Rose Quarter Vicinity
- 3. Clackamas Town Center Vicinity to Kaiser Clinic Vicinity
- 4. Clackamas Town Center Vicinity to Expo Center Vicinity
- 6.4 Design Options to be Included in the DEIS

#### 6.4.1 Clackamas Town Center Vicinity

In this segment, two design options are recommended to be examined in the DEIS (see Figures 6-1 and 6-2):

North of Clackamas Town Center Alignment to Sunnyside Area Terminus: From the S.E. Fuller Road/S.E. Harmony Road vicinity, the alignment would run along the west and north circumference of the Southgate community. It would then cross S.E. 82nd Avenue on an elevated structure and head eastward in the vicinity of S.E. Monterey Avenue to a transit center serving the CTC. From there, the alignment would continue eastward, crossing I-205 on a new structure, to a park-and-ride near the New Hope Church. From the Church, the alignment would run southward, paralleling I-205, crossing S.E. Sunnyside Road and then proceeding eastward to a park-and-ride terminus station.

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South of Clackamas Town Center Alignment to S.E. 93rd Avenue Town Center Area Terminus: From the S.E. Fuller Road/S.E. Harmony Road vicinity, the alignment would run eastward along S.E. Harmony Road, to a park-and-ride station just west of S.E. 82nd Avenue. This station would also serve walk-ons from the Southgate community, Aquatic Center and Oregon Institute of Technology. The alignment would then curve slightly northwards to a point near the northern border of S.E. Sunnyside Road, cross S.E. 82nd Avenue and head eastward a short distance to a station and transit center in the CTC parking lot south of Meier & Frank. The alignment would then extend east and cross Sunnyside Road between 93rd Avenue and I-205, extending south to a terminus station and park-and-ride lot at 93rd Avenue and Sunnybrook Road.

#### Rationale

Because, the "South of the Mall" design options are shorter, they are less expensive to build and operate and faster than the "North of the Mall" design options. However, the "North of the Mall" options may better serve land use objectives by assisting in the redevelopment of Southgate area, serving the existing multi-family residential areas to the north of the mall and the potentially rezoned lands just east of I-205.

The recommended design options in the Clackamas Town Center (CTC) segment are proposed to frame the fundamental issue in this segment: are the land use benefits of the "North of the Mall" and "east of I-205 terminus" options worth their greater costs and longer travel times? To best assess this issue in the DEIS, the best "North of the Mall" option should be compared against the best "South of the Mall" option.

The S.E. 93rd Avenue (CTC) Terminus is the recommended "South of the Mall" option because:

- (a) It would be \$34 \$124 million (\$YOE) less expensive than the other "South of the Mall" options with a terminus east of or south of the Clackamas Town Center..
- (b) It would provide an additional park-and-ride lot opportunity for the south of CTC alignment over the 84th Avenue CTC terminus option.
- (d) It would be capable of being extended to the south at a future date, if so desired.

The Sunnyside Terminus is the recommended "North of the Mall" option because:

- (a) It would serve the major growth area along S.E. Sunnyside Road east of I-205, where the other options would not.
- (b) Its number of light rail boardings in the CTC segment would be 64% 89% greater than the other "North of the Mall" options.
- (c) It would be \$106 million (\$YOE) less expensive to construct, \$180,000 per year less expensive to operate and faster to operate than the Highway 212/224 Terminus option.

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(d) It would be capable of being extended to the south at a future date, if so desired.

#### 6.4.2 CTC to Milwaukie

In this segment, one design option is recommended to be examined further in the DEIS (see Figure 6-3):

*Railroad Avenue:* From the south side of S.E. Harmony Road, the light rail alignment would cross under S.E. Harmony Road east of its intersection with S.E. Linwood and S.E. Railroad Avenues. A potential park-and-ride station would be located at S.E. Harmony Road/S.E. Linwood Avenue. The alignment would proceed westward on the south side of S.E. Railroad Avenue in the public right-of-way adjacent to the Southern Pacific main line. Railroad Avenue would be reconstructed to accommodate the light rail alignment. A station could be located near S.E. Home Avenue to serve the residential area to the north and the industrial area to the south. The alignment would continue adjacent to the SP main line until crossing over the main line in the vicinity of S.E. Oak and S.E. Myrtle Streets, just west of the Milwaukie Market Place. A station would serve the area and a potential park-and-ride lot. The structure would overpass Highway 224, landing on S.E. Monroe Street.

#### Rationale

The S.E. Railroad Avenue option is recommended option in the CTC to Milwaukie segment for inclusion in the DEIS because:

- (a) It would be \$8 to \$23 million (\$YOE) less expensive to construct than the Highway 224 options.
- (b) It would be slightly faster (8 19 seconds) to operate and would attract slightly more light rail boardings (30 60 per day) in the CTC to Milwaukie segment than the Highway 224 options.

(c) Its comparative ratio would be 13% to 32% better than the Highway 224 options.

(d) It would allow for a park-and-ride facility east of the Milwaukie CBD (in the vicinity of S.E. Railroad Avenue and S.E. Oak Street) which would serve the travel shed for the residential area north of S.E. Railroad Avenue. The station also would provide walk-on access to portions of the residential area north of S.E. Railroad Avenue.

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#### 6.4.3 Milwaukie

In this segment, two design options are recommended to be examined in the DEIS (see Figure 6-4):

S.E. Monroe Street to East of the Southern Pacific Tillamook Branch Line: From the Highway 224 over-crossing, the alignment would proceed westerly on S.E. Monroe Street. S.E. Monroe Street would be configured to operate two tracks of light rail and one westbound traffic lane between S.E. 25th and S.E. 9th Streets.

The alignment would curve northerly in the vicinity of S.E. 25th Street to a transit center just east of the S.P. branch line between S.E. Monroe and S.E. Harrison Streets. The alignment would then proceed adjacent to the east side of the S.P. Branch line, through an existing underpass of Highway 224 and on structure over to the westside of the branch line, to a potential park-and-ride station at S.E. Ochoco Street. The alignment would then continue northerly along the branch line to about S.E. Umatilla Street where it would veer towards S.E. McLoughlin Boulevard as it continues northerly.

S.E. Monroe to S.E. 21st Avenue/S.E. McLoughlin Boulevard: From the over-crossing of Highway 224, the alignment would proceed westerly on S.E. Monroe Street. S.E. Monroe Street would be configured to operate two tracks of light rail and one westbound traffic lane between S.E. 25th and S.E. 9th Avenues.

The alignment would pass under the SP branch line and proceed to a transit center at S.E. 21st Avenue. The alignment would then proceed northward to McLoughlin Boulevard, crossing underneath Highway 224 where there could be a park-and-ride station. It would then continue northerly paralleling McLoughlin Boulevard to a park-and-ride station at S.E. Ochoco Street and then continue north.

#### Rationale

One of the fundamental objectives of the South/North LRT Project is to serve the central Milwaukie business district. Two of the options examined in this segment, the SP Main Line option and the Milwaukie Expressway option, would bypass the Milwaukie central business district. As a result, these options fundamentally fail to meet a primary objective of the project and, therefore, are recommended to be eliminated from further consideration.

Each of the three remaining "east-west" alignment options (S.E. Harrison Street, S.E. Washington Street and S.E. Monroe Street) has two "north-south" sub-options (the East of the SP Branch Line option and the S.E. 21st/Main Street/McLoughlin Boulevard option). For each of the "east-west" alignment options, the following relationship holds for the north-south sub-option:





Note: Alignment, station and park and ride locations are currently under study and may change. Light Rail Transit (LRT) Design Option



- (a) The SP Branch Line option would be shorter, less expensive to build and operate and faster than the S.E. 21st Street/McLoughlin Boulevard option.
- (b) The S.E. 21st/Main Street/McLoughlin Boulevard option may better serve City of Milwaukie land use objectives by assisting in the redevelopment of the central business district.

As a result, irrespective of which "east-west" option(s) are recommended in the Milwaukie segment, a fundamental issue in this segment is: are the land use benefits of the S.E. 21st/Main Street/McLoughlin Boulevard sub-option worth its greater costs and longer travel times? To best assess this issue, it is recommended that the DEIS examine both "north-south" sub-options for whichever "east-west" sub-option(s) are proposed. Regarding the "east-west" sub-options in the Milwaukie segment, the S.E. Monroe Street option is recommended for inclusion in the DEIS because:

- (a) It would provide better access and wider coverage to the central business district than the S.E. Harrison Street option.
- (b) It would be \$22 \$28 million (\$YOE) less expensive to construct than the S.E.
  Washington Street option (depending on the north-south sub-option selected) and \$4 million (\$YOE) less expensive to construct than the S.E. Harrison Street S.E. Main Street/McLoughlin Boulevard option (the SP Main Line sub-option would be \$14 million (\$YOE) less expensive with the S.E. Harrison Street option).
- It would be \$360,000 per year less expensive to operate than the McLoughlin Boulevard/21st Avenue and S.E. Washington Street option (depending on the northsouth sub-option selected) and \$650,000 - \$710,000 per year less expensive to operate than the S.E. Harrison Street options.
- (d) It would be 70 88 seconds faster (depending on the north-south sub-option), attract 170-190 more boardings per day and exhibit a 17-20% better comparative ratio than the S.E. Washington Street option.

# 6.4.4 Milwaukie to Portland CBD

The Steering Group determined that both East side/Caruthers Crossing option(s) and Ross Island Crossing option(s) will be carried forward into the DEIS. Thus, the Design Option Narrowing analysis focused on determining the best Eastside/ Caruthers Crossing option and the best Ross Island Crossing option. Based on that analysis, the following options are recommended to be examined in the DEIS (see Figure 6-5 and 6-6):

West Brooklyn Yards to Caruthers Modified River Crossing: From the park-and-ride station at S.E. Ochoco Street, the light rail would proceed parallel to McLoughlin Boulevard (between the existing trees and the S.P. railroad) to a potential station at S.E. Bybee





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Boulevard. The alignment would continue along S.E. McLoughlin to the vicinity of S.E. Harold Street where it would turn and follow the western boundary of the Brooklyn Yards. A station may be located near S.E. Holgate Boulevard. From there the alignment would continue to follow the west side of the Yards to a potential station in the vicinity of S.E. Rhine/Lafayette Street with pedestrian access across the Brooklyn Yards to the East Brooklyn neighborhood.

The alignment would continue north, crossing S.E. Powell Boulevard on an elevated structure. The alignment would parallel the existing railroad tracks, passing over S.E. 11th/12th Avenues, where the would be a potential station. From there, it would continue parallel to the existing railroad tracks to a potential elevated station just south of OMSI.

From the OMSI station, the Caruthers Modified River Crossing would leave the East bank of the Willamette River in the vicinity of Water Avenue and continue on structure to the west side of S.W. Moody Avenue. The alignment would weave between columns supporting the Marquam Bridge towards a station at Riverplace.

North Ross Island River Crossing: From the park-and-ride station at S.E. Ochoco Street, the light rail alignment would proceed parallel to McLoughlin Boulevard (between the trees and the railroad right-of-way) to potential stations at S.E. Bybee Boulevard, the vicinity of S.E. 16th and S.E. Milwaukie Avenues and S.E. Center Street and McLoughlin Boulevard. From the Center Street station, the alignment would continue north along S.E. McLoughlin a short distance to S.E. Bush Street, cross under S.E. McLoughlin Boulevard and cross the Willamette River on structure in the vicinity of the northern tip of Ross Island. The light rail bridge would land on the west side of S.W. Moody Avenue with a potential station in the vicinity of S.W. Curry Street. The alignment would follow the west side of S.W. Moody Avenue to a S.W. Porter Street station and then proceed towards a station at Riverplace.

#### Rationale

The West Brooklyn Yards to Modified Caruthers Bridge option is recommended for inclusion in the DEIS because:

- (a) In comparison to the PTC/McLoughlin Boulevard option, the Brooklyn Yard options would provide significantly better transit access and service to the inner east side neighborhoods, offer five minute walk access to 4,100 4,600 more employees (in the year 2015), attract 1,400 1,600 more light rail boardings in this segment and exhibit 42% 57% better comparative ratios.
- (b) The West Brooklyn Yard option would be \$42 million (\$YOE) less expensive to construct, impact less commercial and residential buildings, and exhibit a 10% better comparative ratio than the East Brooklyn Yard option.

- (c) The Caruthers Modified option would cost \$18 million (\$YOE) less to construct,
  \$370,000 per year less to operate and would be over 1 minute faster than the Caruthers "S" option.
- (d) While estimated to cost \$8 \$9 million (\$YOE) more to construct than the Caruthers and Caruthers/Marquam options, the Caruthers Modified option would have the least negative impacts on the redevelopment property south of the Marquam Bridge and avoids significant adverse impacts on PDC's two remaining parcels in Riverplace and privately-owned properties south of the Marquam Bridge.

The North Ross Island option is recommended for inclusion in the DEIS because:

- (a) The North Ross Island option would provide the best combination of (re)development potential, ridership and cost of the Ross Island crossing options. This is exhibited by the North Ross Island option having the lowest (best) comparative ratio.
- (b) The South Parallel Ross Island option could have an adverse visual impact on the Ross Island Bridge which is eligible for the National Register of Historic Places. As such, there could be Section 106 (historical resources) problems with the South Parallel Ross Island option.
- (c) The South Parallel Ross Island option would not provide a station in the North Macadam District, the station would have to be north of the existing Ross Island Bridge. In addition, it would attract less 1,800 - 2,000 daily LRT segment boardings, impact 28 - 45 more residential units and exhibit a 31% poorer comparative ratio than the other Ross Island Crossing options.
- (d) The Mid Ross Island Crossing option would cost \$54 million (\$YOE) more to construct than the North Ross Island Crossing option. In addition, the construction of the Mid-Ross Island Crossing option raises a higher risk of negatively impacting the Great Blue Heron rookery buffer area on Ross Island. The North Ross Island crossing would potentially have less impact on the Willamette River ecosystem due to fewer piers in the river as compared to the South Parallel option.

#### 6.4.5 **Portland CBD**

In this segment, one design option is recommended to be examined in the DEIS (see Figure 6-7):

Mall (A-2) Surface Alignment with the Harrison (S-1) South Entry, C-1 South Mall, B-3 North Mall and Glisan (N-1) and Union Station (N-2) North Entry sub-options: From the north Macadam area, the alignment would proceed along the extension of Moody Avenue entering S.W. Harrison Street on an elevated structure over S.W. Harbor Drive. A potential station would be located on the structure over S.W. Harbor Drive with direct pedestrian access to Riverplace and S.W. Harrison Street. The alignment would cross S.W. Front and S.W. First Avenues

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at-grade on the north side of S.W. Harrison Street. S.W. Harrison Street would be reconstructed to four or five lanes realigned slightly to the south.

The alignment would proceed along S.W. Harrison Street to S.W. Fifth and Sixth Avenues where it would proceed northerly in a couplet design. S.W. Fifth and Sixth Avenues would be rebuilt between S.W. Harrison and S.W. Madison Streets to include one light rail lane on the left side of the street, two traffic lanes and one parking lane on the right side of the street. An alternative design may include one additional traffic lane instead of the parking lane. Potential light rail stations would be located between S.W. Mill and S.W. Montgomery on both S.W. Fifth and S.W. Sixth Avenues, between S.W. Madison and S.W. Jefferson on S.W. Fifth Avenue and between S.W. Jefferson and S.W. Columbia on S.W. Sixth Avenue.

Between S.W. Madison and W. Burnside, the width of S.W. Fifth and S.W. Sixth Avenues would remain as they are today. However, the lane configuration of both streets would consist of one light rail lane (which could be used by buses when not being used by light rail), one bus lane and, where they currently exist, one traffic lane. At light rail station streets, the lane configuration would consist of one light rail lane and one bus lane, only. Stations would be located on both S.W. Fifth and S.W. Sixth Avenues between S.W. Taylor and S.W. Yamhill and S.W. Washington and S.W. Alder Streets.

Between W. Burnside and N.W. Glisan or N.W. Irving Streets (depending on the option selected for approaching the Steel Bridge), the street widths of S.W. Fifth and S.W. Sixth Avenues would remains as they are today. The left lane would be used by light rail and buses, when light rail was not present. The right lane would be used by buses and auto in a mixed-traffic operation. A station would be located on the left side of the both S.W. Fifth and S.W. Sixth Avenues between W. Burnside and N.W. Couch Street.

From the northern boundary of the Mall, two options would be examined. One option would proceed to Union Station. It would then angle back towards the Steel Bridge, cutting diagonally from the Glisan Street ramp. The other option would proceed along the south side of N.W. Glisan to the bridge. Depending on the option selected, stations could be located in the vicinity of the Greyhound Building or on N.W. Glisan between N.W. Third and N.W. Fourth Avenues.

#### Rationale

The Downtown Portland Oversight Committee recommended this option because, in total, it:

- (a) Reinforces the goals of the Central City Plan,
- (b) Maintains existing traffic and access patterns on S.W. Fifth and Sixth Avenues which supports existing and future businesses,
- (c) Provides fast and convenient transit service to existing and future downtown office and commercial uses,

- (d) Maintains the current pedestrian character of the Transit Mall,
- (e) Ensures the least construction impacts,
- (f) Provides good access to all of the River District, University District and Riverplace/ South Waterfront area, and
- (g) Offers the opportunity to reconfigure the bus circulation patterns in desirable ways.

The A-2 Central Mall option was specifically recommended because it would entail the least construction impacts and least cost of the central mall options while providing for the most efficient use of all four modes serving downtown: light rail, bus, auto and pedestrians.

The S.W. Harrison Street South Entry options (S-1) was specifically recommended because it would provide the best service to the University District, South Auditorium area and Riverplace/South Waterfront area at the least cost and fastest operating times.

The B-3 North Mall options was recommended because it provides the greatest amount of multimodal access along the North Mall without creating significant operational problems.

Both the N-1 and N-2 North Entry options are recommended because further analysis is needed to chose between them.

# 6.4.6 Steel Bridge to Kaiser Medical Facility Vicinity

In this segment, two design options are recommended to be examined in the DEIS (see Figure 8 and Figure 9):

*East I-5/N. Kerby Avenue:* The alignment would proceed eastward from a slightly relocated Rose Garden transit station, run underneath the I-5 freeway and turn north along the eastern edge of I-5. It would then run along the edge of I-5 to a transit station serving the N.E. Broadway area and adjacent Eliot neighborhood. The alignment would continue along the east edge of I-5, behind the Harriet Tubman Middle School, crossing N. Russell Street on structure, to a station on N. Kerby Avenue between N. Graham and N. Stanton Streets at Emanuel Hospital. The alignment would curve westward, passing over I-5 on structure to a location just west of the freeway and then proceed northerly to the Edgar Kaiser clinic.

*N. Wheeler Avenue/N. Russell Street:* The alignment would pass along the eastern edge of the Rose Garden Arena with a potential station north of the arena near N. Weidler. It would cross N. Broadway and N. Weidler at street level and proceed north along the east side of N. Flint Avenue. The alignment would turn westerly at N. Russell Street with a potential station on Russell Street at the south end of the Emanuel Hospital campus. It would elevate on a structure and pass over N. Kerby Avenue, Stanton Yard and N. Mississippi Avenue. The alignment would then curve westward, passing over I-5 on structure to a location just west of the freeway and then proceed north to the Kaiser clinic.

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# Light Rail Design Options: Steel Bridge to Kaiser

East I-5 / Kerby

September 1995

Note: Alignment, station and park and ride locations are currently under study and may change.









Figure 6-9

#### Rationale

The East I-5/N. Kerby Avenue and N. Wheeler Avenue/N. Russell Street options are recommended for inclusion in the DEIS because:

- (a) The East I-5/N. Kerby Avenue provides the best combination of cost, ridership, travel time and light rail access as evidenced by having the lowest (best) comparative ratio. It would provide stations which would serve both the Eliot neighborhood and the Emanuel Hospital campus. In addition, it would attract the highest light rail boardings in this segment amongst all of the alignment options.
- (b) The N. Wheeler/N. Russell Street option may provide the best access to the Eliot neighborhood and the best redevelopment opportunities amongst all options in this segment. It also provides more flexibility in the station placement within the Eliot neighborhood than would the N. Wheeler/N. Flint option.
- (c) The West I-5 option, while would serve the industrial sanctuary between I-5 and the Willamette River, is not recommended for further study because it would not adequately serve the Eliot neighborhood or Emanuel Hospital which are the priority areas to be served. Light rail users wishing to access Emanuel Hospital or the Eliot neighborhood from the N. Graham Street station would have to walk-up an eighty foot elevation change. Moreover, by servicing the industrial sanctuary, the West I-5 option may create non-industrial redevelopment pressures which contradict City objectives for this area.

# 6.4.7 Kaiser Medical Facility to Expo Center

The South/North Steering Group determined that an Interstate Avenue and an I-5 alignment alternative would be advanced into the DEIS. One design option for each alignment alternative is recommended (see Figure 10 and Figure 11):

All I-5 Alignment: From Emanuel Hospital, the light rail alignment would pass beneath the I-405 ramps and climb-up along the eastern edge of I-5. From the potential station at the Kaiser clinic, the light rail alignment would proceed north along the top of the western bank of the I-5 freeway to a station south of N. Skidmore Street.

It would then continue north, passing beneath N. Going Street in a box structure, then running above the freeway along N. Minnesota Avenue (west of the freeway ramps) from N. Going Street to a potential station at N. Killingsworth Street. It would then proceed along the top of the freeway bank and then curve west along the freeway ramps to a potential station on the south side of N. Portland Boulevard. The alignment would cross N. Portland Boulevard at street level and continue north along the west bank of the freeway to a potential station on the south side of N. Lombard Street. It would then pass over N. Lombard and the adjacent freeway ramps on a structure and proceed northerly to a potential Kenton station at N. Kilpatrick Street.



(South

#### Light Rail Design Options: Kaiser to Expo Center

Interstate Ave. Alignment -West of Denver

October 1995

Note: Alignment, station and park and ride locations are currently under study and may change.









Figure 6-10



North

Light Rail Design Options: Kaiser to Expo Center

I-5 Alignment

October 1995

Note: Alignment, station and park and ride locations are currently under study and may change.







Figure 6-11

From the Kenton station, the alignment would proceed northerly along the west side of the I-5 freeway. It would cross over N. Columbia Boulevard and the Columbia Slough on a bridge, and then lower to ground level. It would then pass Delta Park and begin to elevate for about 1/2 mile and crossover Highway 99 adjacent to Expo Road. An elevated potential station would be located near the Expo Center parking lot.

All Interstate Avenue and West of Denver Avenue Alignment: From Emanuel Hospital, the light rail alignment would pass beneath the I-405 ramps and climb-up along the eastern edge of I-5. It would crossover I-5 on a structure near N. Fremont Street and then proceed across the Kaiser campus with a street level station near the existing Town Hall building.

The alignment would then turn onto N. Interstate Avenue near N. Overlook Boulevard. From there, the alignment would proceed northerly in the center of N. Interstate Avenue. One lane of auto traffic in each direction would be provided except at the approaches to N. Going Street and N. Lombard Street where two lanes of traffic in each direction would be provided. All intersections would be crossed at street level. Potential stations would be located at N. Skidmore Street, N. Killingsworth Street, N. Portland Boulevard, N. Lombard Street and the Kenton commercial district.

From the Kenton station, the alignment would follow the west side of N. Denver Avenue viaduct (the "West of Denver" option). It would proceed northerly across N. Columbia Boulevard and the Columbia Slough on a bridge, pass West Delta Park and follow Expo Road to an elevated potential station near the Expo Center parking lot.

#### Rationale

The Interstate Avenue option would provide a light rail alignment that is more centrally located in North Portland neighborhoods than the I-5 option and may enhance certain land use opportunities. Conversely, the I-5 option would cost less to construct, would provide faster travel speeds to more users, provide better access to neighborhoods east of I-5 and may not be subject to the operational and traffic problems inherent in the Interstate Avenue option. These are key trade-offs for which information is not yet available to forge a consensus decision. Thus, it is essential that both options be further examined in the DEIS.

The desirability and preferred location for a crossover between the I-5 alignment and the Interstate Avenue alignment has not been determined as part of the Tier I process. At this time, it is recommended that no crossover option be proposed for inclusion in the DEIS. In making this recommendation, the PMG proposes that the DEIS focus on the key issue in this segment -- the relative merits and impacts of the Interstate Avenue and I-5 alignment options. The project will evaluate crossover issues and opportunities if results from the DEIS analysis and station area and economic development studies indicate that development of a crossover option is warranted.

#### 6.4.8 Expo Center to V.A. Hospital/Clark College Vicinity

In this segment, one design option is recommended to be examined in the DEIS (see Figures 12, 13 and 14):

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West of I-5/Lift Span Bridge/Washington Street (2-way)/E. McLoughlin Boulevard: From the Expo Center, the alignment would proceed north over N. Marine Drive, North Portland Harbor and N. Jantzen Avenue on a bridge structure. The alignment would pass under the I-5 ramps (Sub-option B: Under the I-5 Ramps), then continue northerly along the westside of the freeway to a new lift span bridge crossing the Columbia River. The light rail bridge would parallel the westside of the existing I-5 bridge and would be approximately the same height above the river. The bridge would pass over Columbia Way in Vancouver and then would cross under the railroad berm before connecting with Washington Street.

Washington Street would operate in a two-way light rail configuration (2-Way on Washington Option). The light rail alignment would proceed northerly on Washington Street to stations at W. 7th Street, between W. 11th and W. 12th Streets and between W. 16th and W. 17th Streets. At McLoughlin Boulevard, the alignment would curve easterly, proceeding along E. McLoughlin Boulevard to the east side of I-5. A station would be potentially located on E. McLoughlin Boulevard between "D" and "E" Streets.

The alignment would cross under I-5 and then turn northerly and proceed along the east side of I-5 to a park-and-ride station in the vicinity of the Veterans Hospital. The alignment would then turn easterly, proceeding to the terminus station west of Fort Vancouver Way.

# Rationale

The West of I-5/Lift Span Bridge/Washington Street (2-way)/E. McLoughlin Boulevard alignment is recommended to be included in the DEIS because:

- (a) Between Expo Center and Hayden Island, the West of I-5 Under the Ramps option is recommended for inclusion in the DEIS because it would be the least expensive of the West of I-5 options, it would not create a barrier which divides Hayden Island as do the Center Street and Adjacent to Jantzen Beach Center options and would have the minimum traffic impacts.
- (b) The Lift Span bridge is recommended for inclusion in the DEIS over the Bored Tunnel option because it would be \$101 million (\$YOE) less expensive, would have considerably less adverse impacts on Hayden Island and downtown Vancouver and would provide centrally located access through downtown Vancouver and which would be in proximity to major redevelopment sites. The LRT bridge can be built using techniques that would minimize effects on the Columbia River ecosystem.
- (c) The Two-Way on Washington Street Option is recommended for inclusion in the DEIS because, compared to the other Vancouver CBD alignment options, it would be the least expensive to construct, would exhibit the fastest travel times, would attract the highest ridership, has the highest level of public support and would be the most consistent with the development and redevelopment objectives in downtown Vancouver.






#### 6.5 Transportation and Environmental Impacts and Cost-Effectiveness

#### 6.5.1 Overview

This section provides a preliminary assessment of the light rail project proposed for the DEIS. A detailed analysis of vacant and redevelopable land, households and employment within walking area, land use policies, walk market area, transferability, reliability, traffic impacts, capital and operating costs, potential displacements, noise impacts, ecosystems, visual impacts, historic impacts, parks and hazardous materials impacts is provided in *Design Option Narrowing Technical Summary Report* (Metro June 1995). This report is incorporated herein by reference. The summary below outlines the results for several key factors emphasized by ISTEA.

The reader should note that these estimates are preliminary and will change during the more refined DEIS/PE analyses.

#### 6.5.2 Ridership

Metro estimates that the full-length LRT line would carry about 68,000 daily riders or 22.2 million annual riders in the year 2015. This is approximately 30,000 more daily transit riders or 9.8 million annual transit riders than are projected for the Corridor with the "financially constrained" transit network.

#### 6.5.3 Mobility Improvements

The South/North LRT would serve the congested I-5 and McLoughlin Boulevard travel markets, improving traffic service levels and providing mobility benefits to major concentrations of transportation disadvantaged persons.

Travel times would be approximately 33% quicker between the Portland CBD and the major activity centers located within the Corridor as compared to an all-bus system. For example, the transit travel time between the Milwaukie CBD and the Portland CBD would be 28 minutes with an all-bus network and 18 minutes with South/North LRT.

The full-length South/North LRT would produce over \$2 million in annual travel time savings to existing transit riders compared to an all-bus network in the Corridor.

#### 6.5.4 Land Use

Transit supportive land use controls, including growth boundaries to constrain sprawl, are in place in both Oregon and Washington portions of the Corridor. These were detailed earlier in Section 2 of this *MIS Report*.

There are transit-supportive comprehensive plans in all jurisdictions along the Corridor. Parking controls are in effect in downtown Portland. Station area planning activities are currently underway for all station areas in the Corridor.

South/North Transit Corridor Study

Major Investment Study Final Report

November 28, 1995 Page 105

#### 6.5.5 **Operating Efficiencies**

South/North LRT would cost \$0.92 per rider to operate. Comparatively, system-wide operating costs per transit passenger would be \$1.51 with an all-bus network in the South/North Corridor and \$1.48 with South/North LRT.

#### 6.5.6 Cost Effectiveness

The full-length South/North project would exhibit a \$4.73 federal Cost Effectiveness Index (CEI) assuming the discount rates and value of travel time recently provided by FTA.

#### 6.5.7 Environmental

The Portland/Vancouver Metropolitan region is currently in non-attainment for both ozone and carbon monoxide. 40% of the emissions reduction required to maintain air quality standards must come from transportation sources. 20% of that reduction is estimated to come from the South/North LRT and related land use densities. The project is estimated to account for a reduction of 720 tons of air contaminants per year.

Major Investment Study Final Report

#### ~7~ Cost and Financial Analysis

#### 7.1 Introduction

During the Tier I Final Report stage, capital cost estimates were made and were documented in *Light Rail Transit Representative Alternatives Conceptual Design and Order of Magnitude* (BRW, 1994). Prototypical construction schedules were developed and used to estimate capital costs in year of expenditure dollars. These estimates were then used to prepare a capital cost financing plan for the design concept and scope adopted with the *Tier I Final Report*. This capital cost financing plan was used as the basis for Tri-Met's General Obligation Bond initiative and was adopted by Metro as the basis for the funding request to the state legislature. The plan was assumed in the preparation of the Regional Transportation Plan. The capital financing plan may change as the project is refined through future analyses.

Also during the Tier I Final Report stage, operating costs were developed for each alternative and were documented in the *Tier I Technical Summary Report* and the *Tier I Technical Summary Report Briefing Document* (Metro, 1994). These projections were compared against projected system wide operating revenues. This system wide operating plan may change as the project is refined through future analyses.

#### 7.2 Capital Costs

The capital cost for the design concept and scope documented in the *Tier I Final Report* is estimated to be \$1.9 billion in \$1994 or \$2.85 billion in year-of-expenditure dollars. Year-of-expenditure dollars were calculated from a 1994-dollar capital cost estimate using a construction scheduling computer model developed for the Westside LRT project. The preliminary schedule assumes a full funding contract with the Federal Transit Administration would be executed in early 1998, a least-time construction schedule would be followed and construction would be completed in 2007.

It must be noted that the capital cost estimates are based on a pre-Preliminary Engineering levelof-detail. The capital cost estimate will be adjusted to reflect refinements to the design, construction schedule and financing plan resulting from the on-going study process.

#### 7.3 Capital Financing Plan

#### 7.3.1 Overview

The current funding plan for the South/North Project is based on the phased construction of the design concept and scope defined in the *Tier I Final Report*. Subsections 7.3.2 through 7.3.5,

below, describe the proposed revenue sources. Subsection 7.3.6 describes the construction segmentation and related cost and revenue cash-flow requirements for the project.

#### 7.3.2 Federal Funding Participation

Tri-Met will seek a 50% federal share for the South/North LRT project. Based on current estimates, this will amount to \$1.425 billion. This amount will be too large to achieve in one federal authorization bill. The plan is to obtain this commitment over two federal authorization bills. As a result, the project will have to be constructed in two "Segments". To secure the commitment for such funds, Tri-Met would seek a \$750 million authorization of Section 3 funds for Segment-1 and a \$675 million "contingent commitment" for Segment-2 in the upcoming authorization bill.

#### 7.3.3 C-TRAN/State of Washington Funding Participation

During the Tier I Final Report stage, it was concluded that the relative funding contributions of Oregon and Washington would be based on the relative benefits of the South/North Project between the two states. For the design concept and scope documented in the *Tier I Final Report*, the funding plan proposes that the State of Washington cover one-sixth of the capital cost and that the state and C-TRAN would evenly split this funding requirement. These assumptions will be refined during PE/DEIS activities based on more detailed analyses of alignments, capital costs and relative benefits.

#### 7.3.4 Tri-Met Funding Participation

It is proposed that Tri-Met would contribute one-sixth of the total project capital cost. Tri-Met's share would be paid from the \$475 million bond measure recently approved by 65% of the region's voters. This analysis assumes that these bonds would be issued in their entirety at the beginning of the construction period.

#### 7.3.5 State of Oregon Funding Participation

It was proposed that the State of Oregon would contribute one-sixth of the total project cost or, based on current estimates for a bi-state project, \$475 million. The 1995 Legislative Assembly approved an initial contribution of \$375 million for a Segment-1 project. It is understood that the Portland region would return to the Legislature to request an additional \$100 million for the project at such time as funds are committed for a Clark County extension.

The existing \$375 million authorization required the legislature to establish a total lottery commitment to Tri-Met's light rail transit system of \$32 million per year beginning in FY 2000. Until FY 2000, the State would continue its current \$10 million per year commitment to the Westside LRT. Beginning in FY 2000, the \$32 million per year stream of funds would be used to pay the State's share of both the Westside LRT and the South/North LRT. The State's commitment to the Westside LRT Project would continue to be \$10 million per year until FY 2009 when the Westside LRT bonds are repaid. The remaining funds would be made available to

Major Investment Study Final Report

the South/North LRT and would be used to support a cash contribution to the project and to repay a bond.

#### 7.3.6 Capital Financing Plan: Implementation Framework

After the Final Environmental Impact Statement is completed and the Record of Decision (ROD) is issued, Tri-Met will seek a Full Funding Grant Agreement with FTA. The Full Funding Grant Agreement would define the scope of the project, its construction segments and funding commitments.

The financing plan is premised on executing a Full Funding Grant Agreement (FFGA) which allows for the staged implementation of the South/North LRT. If C-TRAN/Washington funds are committed to the project by the start of these negotiations the Full Funding Grant Agreement requested would encompass a Segment-1 project between downtown Vancouver and downtown Milwaukie. The estimated cost for this segment is \$2.1 billion -- which equals the total of state and local funds proposed to be committed to the project and the federal funds to be requested in the upcoming authorization bill.

Table 1 illustrates the financing plan which assumes the state and local shares described above and:

- (a) Construction of Segment-1 between Milwaukie CBD and Vancouver CBD starts in 1998 and ends in 2005 and the construction of the Segment-2 extensions would start in the year 2004 and be completed in the year 2007.
- (b) Section 3 funds would be appropriated to the project at a 50% rate of \$100 million per year until the year 2008 when the federal appropriation begins to rise to a maximum of \$115 million per year.
- (c) State and local funds are advanced to the project to allow it to maintain its schedule. After they are fully expended, interim borrowing is used to meet cash-flow needs.
- (d) The Full Funding Grant Agreement requested would provide for Segment-2 extensions funded with the federal funds "contingently committed" in the Full Funding Grant Agreement. No additional local or state funds would be needed because the local funds advanced in Segment-1 would serve as the local match for Segment-2.

If C-TRAN/Washington funds are not committed to the project by the start of these negotiations:

(a) The FFGA requested would encompass an Oregon-only project for Segment-1.

#### Table 7-2a: South/North LRT Construction Costs: Bi-State Project is First Construction Segment Millions of Dollars (Year-of-Expenditure Dollars)

Federal FY:	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	Total
Milwaukie- Vancouver	\$ 20	\$ 88	\$260	\$515	\$496	\$315	\$226	\$123			_					\$2,042
Segment-2 Extensions							\$ 77	\$288	\$272	\$ 89						\$ 675
Interim Financing				-	\$ 1	\$ 1	\$ 2	\$ 8	\$ 19	\$ 27	\$ 25	\$ 21	\$ 16	\$ 10	\$ 2	\$ 133
Total Cost	\$ 20	\$ 88_	\$260	\$515	\$497	\$316	\$305	\$369	\$291	\$116	\$ 25	\$ 21	\$ 16	\$ 10	\$2	\$2,850

Table 7-2b : South/North LRT Financing Plan: Bi-State Project is First Construction Segment Millions of Dollars (Year-of-Expenditure Dollars)

		ISTEA I	I		]	ISTEA II	Į		I	STEA IV	7		•			
Federal FY:	98	99	00	01	02	03	04	05	_06	07	08	09	10	11	12	Total
Section 3	\$ 10	\$ 45	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$110	\$115	\$115	\$115	\$115	\$1,425
C-TRAN	\$238								2							\$ 238
Washington	\$ 24	\$ 24	\$ 24	\$ 24	\$ 24	\$ 24	\$ 24	\$ 23	\$ 23	\$ 23						\$ 237
Tri-Met	\$475															\$ 475
State: Lottery					\$475 <sup>1</sup>											\$ 475
Total Revenues	\$747	\$ 69	\$156	\$156	\$535	\$124	\$124	\$123	\$123	\$123	\$110	\$115	\$115	\$115	\$115	\$2,850

- (b) Tri-Met would seek a provision in the Full Funding Grant Agreement which would allow for a future amendment to include an extension north and would seek a "contingent commitment" of federal funds for such an extension.
- (c] The maximum commitment of state funds obligated to the Segment-1 project in the Full Funding Grant Agreement would be \$375 million. At such time as it would be needed for the Segment-2 extension, Tri-Met would seek a commitment of up to \$100 million more of State of Oregon funds to the South/North Project.

#### 7.4 Operating Plan

Operating costs for the light rail project were documented in the *Tier I Technical Summary Report* (Metro, July 1994). The operating cost for the adopted design concept and scope (project) was about \$16 million per year. When viewed in the context of an overall system fiscal feasibility study, operating revenues were found to be potentially slightly lower than needed. However, the difference was so small that it was concluded to not be a problem at this stage of the analysis. A more detailed study will be prepared during the DEIS stage, at which time an operating revenue plan will be prepared if it is determined to be necessary.

#### South/North Transit Corridor Study

Testimony of Dan L. McFarling 20585 SW Cheshire Ct <u>Aloha, Oregon 97007</u> (503) 642-4077

Tri-Met and METRO should be proud of our downtown transportation mall. A pedestrian-friendly environment that invites our citizens to use transit, it is the envy of cities throughout the US.

During my 48 years I traveled on systems in countless cities throughout North American and the Far East, often for the specific purpose of seeing and using the transit system. I am anFor a several years I have served as a transit provider, both on the board of directors and as a driver, providing workday service with two buses and one van between Portland and Salem.

You are in the final stage of selecting the downtown alignment. The rail line is essential if we are to meet future needs. Additional lines will be needed. We need to plan for that future.

The mall is very efficient. Buses are able to leapfrog past each other. Persons transferring between buses need walk no more than a block and a half. It is nearly always easy to find the route you need.

The mall is successful in part because it concentrates bus routes in a single corridor. This is advantageous for nearly all riders, but it is particularly advantageous for the occasional rider. If you want transit's role to grow, and we do, we must capture the occasional rider. We must design the system to make it easy to use. Occasional riders become regular riders.

One of the advantages rail has over buses is rail makes it easy for patrons to see where the transit is, where to access the system. *Bus* routes are not so easily identified. Frequent buses, bus shelters concentrated in a single corridor, provide a clear sign to the consumer: *this* is where you catch the bus.

It is irresponsible to move the S-N LR project forward with no alternatives to the 5th-6th alignment. If Tri-Met thinks it has a public relations problem today, just wait until you spend \$300M tearing up the mall, destroying something that works well, replacing it with the system of *dispersed* bus routes we had before the mall was constructed.

You must keep our options open. We should use our resources to develop another corridor through the central business district. We should plan for the future, a future in which we will be able to add to the LR system *without* tearing up the downtown, *without* disrupting businesses, *without* spending millions, or billions, to correct the mistakes of the 1990's.

Willamette Week was right on target when they stated public records clearly show that no serious consideration has been given to any alternatives to the Transit Mall. It is clear the process and the committees have been manipulated to reach a pre-ordained route. We need a S/N light rail. But the process has been flawed, and that flaw is fatal. If you don't realize it today, I believe in the near future you will come to realize the fastest route to S/N light rail is to reopen the process, to meaningfully comply with state and federal requirements, and to consider alternative alignments.



#### **CITIZENS for BETTER TRANSIT**

6110 S.E.Ankeny Street, Portland, OR Te1.503 232-3467 97215-1245

Testimony for the City Council of Portland hearing on the South/North light rail project narrowing of alternatives to be carried forth in the Draft Environmental Impact Statement held on December 7, 1995 in the Council Chambers.

Light Rail on the 5th/6th Avenues Transit Mall constitutes a fatal flaw for both light rail AND the bus system. Many un-biased, expert witnesses have testified offering facts and figures to support the reasons; we will not repeat them.

Political considerations and perceptions have been driving this light rail project off track: from an effective, economic tool for managing growth, light rail has been turned into an in-effective, fatally compromised, over-expensive, politicized boondoggle!! Sound transit principles guided the first light rail line but have now left the scene and sensible people are being confused and browbeaten by so-called planning experts concerned only about justifying their perceptions of political reality.

Still, common sense is more useful than all so-called planning experts' responses to rational, fact-based criticism and common sense should tell you that Noell Webb, the lone dissenting Planning Commissioner, and Al Jasper, the owner of Marco Polo Garden Restaurant, are both right on track, expert planners' responses notwithstanding. Webb is quoted as worrying that if the region did not build the line for the correct potential capacity, the problem could not be fixed later; "If we can barely afford to build this system" she said in response to planners' comments about funding concerns, "we cannot afford to make a mistake Jasper is quoted for the Historic Old Town Business at a11." Association, which favors either a surface line on 10th and 11th Avenues or a 4th Avenue subway, as discounting estimates of the subway costs saying: "You can build a Volkswagen subway or you can build a Rolls Royce subway."

The short Fourth Avenue subway, from First, under the Burnside Bridge, to I-405, is the only sound transit system solution which is capable to accomodate future growth with sufficient capacity which is what this project should be, must be, all about, as pointed out by Planning Commissioner Noell Webb. Its alleged costs are purely speculative, totally unreliable, if not appropriately studied in an open process!!

However a few very important facts are crystal clear just by using common sense:

'Only one, not two avenues would be torn up during construction,

<sup>•</sup>There will be no permanent sacrifice of automobiles and service vehicles access to Fourth Avenue,

No disruption to Broadway businesses and Hotels AND

Best proximity to the Transit Mall which will face no disruption of either the existing transit system or of the businesses which were impacted when the Mall was built.

If a subsurface, short, low-cost Fourth Avenue Light Rail route is not carried forward in the Draft Environmental Impact Statement, we will reluctantly no longer actively support this project; too much is at stake for the future of our City and Region for us to pretend that the taxpayers money will not be wasted on this fatally flawed project. As Ms.Webb truthfully and rationally stated: "If we can barely afford to build this system, we cannot afford to make a mistake!!!"

We stand for erring in favor of capacity because correcting lack of it may very well be impossible!!!

Thank you for the opportunity to help you in reaching a common sense decision.

R.U.Polani, Chair



#### RECEIVED

DEC 1 9 1995 EXECUTIVE OFFICER

Mr. Mike Burton Executive Metro Council 600 NE Grand Avenue Portland OR, 972032

December 18, 1995

RE: South/North Alignment

Dear Mike:

#### Officers

J. Clayton Hering Chairman

W. Charles Armstrong Chairman-Elect

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We do so specifically because:

- This alignment supports the vision articulated as early as the Downtown Plan of a high-density employment corridor supported by mass transit along Fifth and Sixth Avenues;
- It is the least-cost option because infrastructure improvements made to Fifth/Sixth Avenues during the Bus Mall construction make them "rail ready;" and
- This alignment allows Fourth Avenue and Broadway to continue to act as our main auto arteries through downtown, maintaining adequate auto access and circulation to the area.

Finally, hundreds of millions of dollars have been invested in downtown Portland by public and private entities because of the vision set forth in the Downtown and Central City Plans. We want to **and must** capture even more investment if we are to maintain Portland's role as the centerpiece of the region and avert unacceptable sprawl.

Nor can we afford to abandon the public expenditures already invested in this alignment.

Mr. Mike Burton Page 2 December 18, 1995

We need to keep faith with those in the private sector who have invested in downtown in the past in order that more companies will continue to invest in our future.

Sincerely,

Clay J. Clayton Hering Chairman

JCH/bja

cc: Metro Councilors

## Bank of America



December 21, 1995

W. Charles Armstrong Chairman Chief Executive Officer

Ms. Ruth McFarland Presiding Officer Metro Council 600 N.E. Grand Portland, Oregon 97232-2736

Dear Madam Presiding Officer:

As Chairman of the Downtown Portland Oversight Committee, I wanted to summarize the findings and recommendations of that committee.

The Downtown Portland Oversight Committee was formed to 1) assist in the development of light rail alignment options utilizing the 5th and 6th Avenue Transit Mall; 2) establish criteria to evaluate those options; and 3) forward a recommendation to the South/North Steering Group on whether the options adequately address those criteria or whether alignment alternatives in addition to the 5th/6th Avenue Transit Mall should be advanced into the draft environmental impact statement for further study.

The Oversight Committee went into the process with an open and somewhat skeptical mind and rigorously studied the issues before making a recommendation. The recommendation represents an immense amount of work by technical staff and an exhaustive commitment of time by the participants on the Oversight Committee.

The Committee performed the charge given to it by the project and found that the options being recommended adequately address the criteria adopted by the Metro Council and the Oversight Committee. Of paramount interest to the committee were the questions "Does this alignment work for downtown? Is it good for the economic health of the Central Business District as well as working for transit, autos and pedestrians?" We found the answers to the questions an emphatic "Yes."

Members of the Committee actually went out to the transit mall during the evening commute to visualize first hand the impacts of light rail on the mall. The consensus was that it could work.

The recommended option is favored by the overwhelming majority of the downtown community. It would retain important automobile access on the Mall, enhance the pedestrian environment on the Mall, and would ensure efficient transit operations for both buses and light rail on the Mall with the least construction impacts of any options studied.

Page Two

December 21, 1995 Ms. Ruth McFarland

Specifically, in the north Mall, the committee concluded the construction impacts can largely be contained within the existing street right of way and stays out of the sidewalks.

Connections to the Mall were also important to the Committee. Harrison Street in the South was recommended, but it should be designed to fit within the median, and there should be a study to determine whether a station is warranted on Harrison near 2nd and 3rd Avenues. In the north, the Committee prefers an alignment that would extend closer to Union Station (via Irving Street) but recognizes another alignment on Glisan Street should be studied until issues of cost, traffic impacts, displacement and ridership can be resolved.

The Oversight Committee also went beyond the original charge of the Committee because of the intense pressure to ensure that 5th and 6th Avenues not only worked but were the best streets for light rail. The Committee concluded that only the 5th/6th alignment be studied further. The Committee believed we could not turn our backs on 20 years of planning and investment, which has created the existing high densities along 5th and 6th Avenues. Also contributing to the Committee's conclusion is that 5th and 6th Avenues have been built to accept light rail. Other streets adjacent to the high density spine, such as 4th and Broadway, have been built for high auto use. Both types of streets are needed for a healthy downtown.

In the end, the Committee voted <u>unanimously</u> for the 5th/6th Avenue alignment. The technical data support that conclusion, the historical data support that conclusion, and, make no mistake, no other option has wider support in the downtown business community.

I also wanted to briefly share with you the committee's concern regarding construction mitigation. The proposed 5th/6th Avenue alignment and the recommended option would minimize the scale and duration of construction of all the alignments and options considered. However, if the construction of South/North is to be completed successfully, it must be completed as quickly as possible with a strong construction management plan. Downtown Portland should be identified as a special construction zone with oversight provided by both Tri-Met and the business community, with appropriate assistance from the City. Moreover, selection of the construction contractor must be designed to maximize adherence to the construction management plan.

I am confident that with the active participation and good intentions of the business community, Metro, Tri-Met and its users and the City of Portland, we can make this alignment another showcase for Portland and the greater metropolitan area.

Sincerely.

Whicharles Armstrong Chairman and Chief Executive Officer

cc: Metro Council

#### MEMO

DATE Dec. 20, 1995

TO Gina Whitehill-Baziuk

FROM Marilyn Matteson

RE Comments received after Steering Group meeting in November

Monday, Nov. 20, 1995

#### Eli Spivak

4737 SE 28th AvenuePortland, OR 97202Regarding light rail on the transit mall, get rid of the traffic lane altogether.I am concerned about one lane for bus, one lane bus and light rail and one traffic lane.

Tuesday, Nov. 21

#### Joshua Webber

7820 SW 17th, #4 Portland, OR 97219 I am very, very opposed to light rail transit on 5th and 6th streets. Use 4th and Broadway; or the tunnel is better, if funds could be found. Use of the bus mall reduces bus carrying capacity.

Wednesday, Nov. 22

#### Rhonda Marlny (no spelling provided)

I take the No. 35 and 36 bus to Lake Oswego daily. I am strongly against replacing bus lanes on the Transit Mall. It's a big mistake. It is the best transit Mall in the U.S. People like it just the way it is.

#### Marcella Vintecort (no spelling provided)

242-0082

Doesn't want to see the bus mall disrupted. She is a bus rider often, hate to see disruption and inconvenience. Will take S/N light rail. Don't disrupt the Transit mall, find other viable options.

#### Syl Bikehouse (no spelling provided)

255-2589

She rides MAX and bus. Received flyer on light rail taking out a bus lane through the Transit Mall. It would mess up the mall; very inconvenient. Disrupt the flexible schedule of buses. Hope you find another route.

Wednesday, Dec. 20, 1995

#### **From Clarice White**

On S/N mailing list as Ted White

My husband and I strongly feel that an all I-5 freeway is the way to go in segment number 7 (Kaiser to Expo), partly because of the neighbor's resistance to Interstate Avenue and because its better for the whole project.

I'd also like to suggest that if the all Interstate route is \$120 million more expensive to build, take \$20 million to use as a trust fund to help Interstate Avenue area improve and enhance business connections in conjunction with the I-5 freeway route. Thank you very much.

# The Broadway Coalition

A Partnership of Downtown Portland's Premier Hotel and Meeting Facilities



## The Broadway Coalition

## At a glance.

#### The Hotels

*The Portland Hilton* 921 SW Sixth Avenue (503) 226-1611 FAX:(503) 220-2293 Guestrooms: 455

*The Benson Hotel* 309 SW Broadway (503) 228-2000 FAX:(503) 226-4603 Guestrooms: 287

*The Heathman Hotel* 1001 SW Broadway at Salmon (503) 241-4100 FAX:(503) 790-7111 Guestrooms: 151

*Hotel Vintage Plaza* 422 SW Broadway (503) 228-1212 FAX:(503) 228-3598 Guestrooms: 107

*The Governor Hotel* SW Tenth at Alder (503) 224-3400 FAX:(503) 241-2122 Guestrooms: 100

> Total Number of Guestrooms/Suites: 1,100

Total Square Feet of Meeting Space: 74,000

Total Number of Hotel Restaurants: 9

For further information please contact the Director of Sales at any one of the five Broadway Coalition Hotels, or contact the Portland Oregon Visitors Association.

POVA: (503) 275-9770



The Broadway Coalition n Peggy Gitts Director of Sales 309 Southwest Broadway, Portland, Oregon 97205 503-228-2000 Fax 503-226-2709





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The Benson's location, in the heart of the city's vibrant downtown, is convenient to everything Portland has to offer. Sightseeing, shopping, galleries, performing arts theatres and museums are just moments away. In addition, Portland's beautiful and unique Convention Center is within easy reach via the city's sophisticated Light Rail System.

Each of our 290 guest rooms and suites possess a special timeless quality. The Benson provides modern luxury in a classic setting.



Whether you select a Grand Suite with baby grand piano, fireplace and jacuzzi, one of our panoramic-view penthouses, a specially appointed Benson room or an elegant guest room, you will appreciate the comfort and restful ambiance of your environment.

Dining in the landmark London Grill and Trader Vic's restaurants has always been an important part of a visit to The Benson. For decades, our culinary staff has set the standard in Portland for quality and service. Now, with new decor and new menus, the tradition continues.



If you are planning a meeting or event, The Benson offers an experienced, professional Convention Services and Catering staff who will exceed your highest expectations. Groups from as few as ten to as many as six hundred, will find an event at the Benson unique and enjoyable.

When you're in Portland, there's one place to stay: The Benson.

"No true success comes by chance?" —Simon Benson, 1912







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Please indicate your firm/organiza	tion's primary business:
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WholesaleHi	-TechEducation
RetailFin Other	nanceGovernment
Association/Organization: Trade/BusinessPri MedicalTri Meeting PlannerInd Other	ofessionalFraternal avel AgentTour Operator centive Travel Packager
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Final Decision Maker	Planner
None of the above	Other
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Immediate Interest within 1 y Future Meeting within 2 Year Future Convention withn 4 Y General Interest	ear _/# of People/Largest Meeting sNumber of Attendees ears _/# of/Size of Exhibits # of Peaknight Rooms
Please indicate the number of mee	tings you plan each year: 12-20Over 20
Please indicate if you would like to (Check all that apply) Meeting Facilities Local Recreation Rates Banquet Menus	o receive information on the following: The Portland Hilton The Benson Hotel The Governor Hotel The Heathman Hotel Hotel Vintage Plaza

## **BUSINESS REPLY MAIL**

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FIRST CLASS MAIL PERMIT NO.A-933 PORTLAND, OREGON

The Broadway Coalition c/o Portland Oregon Visitors Association 26 SW Salmon Portland, OR 97204-3299

# The Broadway Coalition

A Partnership of Downtown Portland's Premier Hotel and Meeting Facilities



Hotel and Meeting Facilities Guide

### A Closer Look. The five hotels of The Broadway Coalition

#### The Portland Hilton 921 SW Sixth Avenue Portland, Oregon 97204 (503) 226-1611 FAX:(503) 220-2293 • 455 Guest rooms

With 455 guests rooms and luxurious suites, the Hilton is the largest of the Coalition hotels. Views from throughout the Hilton are legendary and reach their pinnacle atop the hotel in the renowned Alexander's Restaurant and Piano Bar. Additionally, the Bistro 921 Restaurant and Bar offers a sumptuous variety of food and entertainment to meet everyone's taste. With the hotel located at the center of the downtown shopping and entertainment district, activities abound for pre and post meeting agendas.

**Meeting Facilities:** The over 35,000 square feet of flexible meeting space will accommodate groups of 10 to 1,500 people. Incorporated into these state-of-the-art facilities, is a permanant registration area, a convention office, a full-service business center, and an in-house audio-visual department. When the meetings are over, enjoy the full service Athletic Club including indoor pool, spa, sauna, massage, steam baths and weight/exercise equipment.

The Benson Hotel 309 SW Broadway Portland, Oregon 97205 (503) 228-2000 FAX: (503) 226-4603 • 287 Guest rooms

The Grand Dame of Portland has been a downtown landmark since 1912. Listed on the National Register of Historic Places, the Benson has been thoughtfully restored to offer guests every modern convenience in an atmosphere of distinctive elegance. Each of the 287 guest rooms and suites at the Benson has its own unique style and possesses a special timeless quality. Both restaurants at the Benson, The London Grill and Trader Vic's, have long been internationally recognized for excellence and innovation. And the Lobby Court's tradition of Live Jazz offers entertainment nightly.

Meeting Facilities: The Benson offers more than 15,000 square feet of accommodating meeting space for as few as ten people and as many as six hundred. State of the art audio/visual equipment, flexible display space and stage are at the Benson to stylishly and effectively meet the requirements of your group.

1001 SW Broadway at Salmon Portland, Oregon 97205 The Heathman Hotel (503) 241-4100 FAX: (503) 790-7111 • 151 Guest rooms

Located next to Portland's Performing Arts Center, the 151 room historic Heathman is as central to the city as a hotel can be. Beautifully restored, every room and suite is designed with its own elegant, residential character. The famed Heathman Restaurant offers a seasonally varied menu of classic cuisine, distinguished by its selection of Pacific Northwest seafood, game and wines. Lighter meals and favored beverages are enjoyed in the Marble Bar or with soft piano music in the Lobby Lounge. Afternoon tea is served daily in the Tea Court. Valet parking, 24 hour room service and fitness suite.

**Meeting Facilities:** Seven distinctive reception rooms are available for business meetings and special entertaining for groups of 10 to 140. Member of Preferred Hotels and Resorts Worldwide and Historic Hotels of America.

The Governor Hotel 611 SW Tenth at Alder Portland, Oregon 97205 (503)224-3400 FAX: (503) 241-2122 • 100 Guest rooms

Listed on the National Register of Historic Places, the 1906 Governor has been painstakingly restored to its original grandeur. Each of 100 rooms, including 28 suites, is classically appointed, computer/fax ready and equipped with voice messaging. A full-service athletic club awaits guests who wish a full-body workout or hours of relaxation with sauna, Jacuzzi or massage. The exciting Jake's Grill restaurant offers guests rich architectural surroundings complemented by fresh, distinctive cuisine. The Governor's Business Center includes computer, fax and cellular phones for guest use in addition to complete on-site meeting support services.

**Meeting facilities:** Ten elegantly and individually designed rooms serve from 10 up to 600 for a reception in the Grand Ballroom. Jake's Catering provides all service, food and beverage for this unique, Italian Renaissance styled facility.



THE

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ERN

Hotel Vintage Plaza 422 SW Broadway Portland, OR 97205 (503) 228-1212 FAX: (503) 228-3598 • 107 Guest rooms

HOTEL VINTAGE PLAZA

This charming European-style hotel abounds like no other with urban luxury and elegance. Each of the 107 guest rooms and suites is richly appointed and named and dedicated to one of Oregon's excellent wineries. The now famous Starlight rooms on the top floor boast 45 degree angle windows which capture spectacular views of the sky and Portland's magnificent vistas. Innovative Italian cuisine is served in the popular Pazzo Ristorante. Complimentary local vintage wines are served evenings by the fireplace in the lobby. Complimentary morning coffee served along with juice and muffins. Valet parking, 24 hour room service, business center, voice mail and executive gym. Listed on the National Register of Historic Places.

Meeting Facilities: Eight conference rooms with a total of 4,000 square feet accommodate from 10 to 150 people in unequalled Vintage Plaza style.





AKE'S CATERING



## THE PORTLAND HILTON

921 SW Sixth Avenue Portland, Oregon 97204 (503) 226-1611 FAX: (503) 220-2293

Total Meeting Space: 35,000 square feet Number of Rooms/Suites: 455 Restaurants: Alexander's Restaurant & Lounge, Bistro 921 Restaurant & Bar





Plaza Level - Second Floor



Ballroom Level

Name of Room	Size (ft)	Square Feet	Ceiling Height	Theatre	Classroom	U-Shape	Banquet	Reception	Conference	Hollow Square	Exhibits 8' x10' Booths
Grand Ballroom	147'x87'	12640	18'	1500	650		1150	1450			82
Parlors A-B-C	22'x81'	1765	9'8"	180	112	60	140	135	60	78	11
Ballroom Foyer	123'x26'	3198	9'					300			18
Galleria	98'x38'	3724	9'7"	300	140	94	300	320	86	102	20
The Pavilion	81'x81'	6525	16'9"	625	280	80	490	650		120	30
Pavilion East	44'x84'	3365	16'9"	300	125	45	250	300	75	80	15
Pavilion West	42'x84'	3106	16'9"	300	125	45	250	300	75	80	15
Broadway	104'x26'	2706	10'	260	130	60	230	300	60	90	16
Brdwy 1-2-3-4	26'x26'	676	10'	65	35	24	50	66	24	30	
Forum Suite	48'x15'	720	8'6"	80	48	34	50	75	36	37	
Council Suite	49'x15'	735	8'6"	80	48	34	50	75	36	37	
Directors Suite	36'x15'	540	8'6"	48	36	22	40	50	24	25	
Studio Suite	36'x15'	540	8'6"	48	36	22	40 .	50	24	25	
Executive Suite	23'x15'	345	8'6"	32	18	18	30	30	18	21	
Senate Suite	23'x15'	345	8'6"	32	18	18	30	30	18	21	
Cabinet Suite	19'x11'	375	8'6"	32	18	18	30	30	18	21	
Board Rm East	19'x11'	209	8'6"	15			10		10		
Board Rm West	22'x15'	242	8'6"	15			10		10		
Exhibit Hall		20,000	7'6"-9'								100

## THE BENSON HOTEL

309 SW Broadway Portland, Oregon 97205 (503) 228-2000 FAX: (503) 226-4603

Total Meeting Space: 17,000 square feet **Number of Rooms/Suites: 287** Restaurants: The London Grill, Trader Vic's Restaurant & Lounge, and Lobby Court



#### Lobby Level

Crystal Ballroom

Lower	I evel	I
LOWCL	Level	•

Stage

	Parl	iament I	Rooms
1	2	3	4

Name of Room	Size (ft)	Square Feet	Ceiling Height	Theatre	Classroom	Dinner Dance	Banquet	Reception	Conference	Hollow Square	Exhibits 8'x10' Booths
Mayfair Ballrm	75'x78'		11'8"	500	300	300	300	450			
Mayfair Room	78'x54'		11'8"	250	200	200	150	250			
Kent Room	44'x26'		11'8"	125	75	50	70	125			
Crystal Ballrm	76'x28'		18'10"	200	100	120	170	200		T I	
Regency Brdrm			10'1"	Fixed	Boardroom	Fable		<ul> <li>Decomposition to describe and the second as an other second as a second as a second as a second as</li> </ul>	16-24		
Cambridge Rm	58'x18'		10'1"	100	60	60	80	100	40		
Windsor Room	40"x15'		10'1"	40	20		60	40	20		
Brighton Room	35'x17'		10'1"	30	20		40	40	20		
Parliament 1-4	69'x24'		8'	100	60	60	100	100	40		
Parliament 1,2	12'x25"		8'	30	15		20	40	10		
Parliament 3	15'x25'		8'	20	10		18	25	10		ion sources are not been also a
Parliament 4	30'x24'		8'	60	24		40	60	16		

### THE HEATHMAN HOTEL

1001 SW Broadway at Salmon Street Portland, Oregon 97205 (503) 241-4100 FAX: (503) 790-7111

Total Meeting Space: 3,400 square feet **Number of Rooms/Suites: 151** Restaurants: The Heathman Restaurant, The Marble Bar, The Tea Court, The Mezzanine Bar



Name of Room Size (ft) Square Ceiling Feet Height Theatre Classroom U-Shape Banquet Reception Conference Hollow Exhibits Square 8'x10' Booths

St.Johns	13'x25'	325	9'						14		
Fremont	16'x24'	384	9'	30	18	18	24	30	18	20	
Morrison	16'x24'	384	9'	30	18	18	24	30	18	20	
Hawthorne	16'x12'	192	9'			1.1.1.1.	10	10			
Sellwood	16'x36'	576	9'	50	24	24	32	40	24	26	
Fremont &	16'x48'	768	9'	80	50	40	48	60	40	42	
Morrison											
Broadway	29'x40'	1160	11'	100	60	30	80	100	30	32	
Symphony	16'x26'	448	11'	25	18		24	26	15		
Broadway &		1608	11'	125	75	36	104	140	36	36	
Symphony											
8 Suites									6		7

## HOTEL **INTAGE PLAZA**

422 SW Broadway Portland, Oregon 97205 (503) 228-1212 FAX: (503) 228-3598

Total Meeting Space: 4,000 square feet Number of Rooms/Suites: 107 Restaurants: Pazzo Ristorante



Name of Room Size (ft) Square Ceiling

Theatre Classroom U-Shape Banquet Reception Conference Hollow Exhibits

		reel	Treight							Square	Booths
Champagne A/B	54'x20'	1080	8'	100	54	35	80	100	40	40	10
Champagne A	26'x20'	520	8'	50	30	20	32	50	22	22	
Champage B	28'x20	560	8'	50	30	15	32	30	20	20	
Burgandy A/B	47'x27'	1107	8'	80	40	30	70	80	40	35	9
Burgandy A	24'x27'	567	8'	40	24	15	32	40	20	17	
Burgandy B	23'x27'	540	8'	40	24	15	24	35	20	17	
Tuscany	25'x17'	425	8'	30	24	20	24	30	20	22	
Rhine	16'x21'	336	8'	20	18		16		22		
Bordeaux Brdrm	24'x19'	456	8'				12		12		
Moselle	14'x16'	224	8'	20			10	15	12		

### THE GOVERNOR HOTEL

611 SW Tenth at Alder Portland, Oregon 97205 (503) 224-3400 FAX: (503) 241-2122

Total Meeting Space: 14,000 square feet Number of Rooms/Suites: 100/28 Restaurants: Jake's Grill





First Floor - East Wing







Third Floor - West Wing

Name of Room	Size (ft)	Square Feet	Ceiling Height	Theatre	Classroom	U-Shape	Banquet	Reception	Conference	Hollow Square	Exhibits 8'x10' Booths
Grand Ballroom	66'x79'	5214	18'6"	500	300		440	600		150	36
Renaissance Rm	24'x76'	1824	22'	175	70	30	120	200	60	60	
Chamber Room	20'x27'	540	9'	50	30	15	30	60	20	18	
The Library	41'x41'	1681	20'	150	80	80	100	150	30	45	
Fireside Room	19'x18'	342	20'	30	15	12	30	60	14	14	
Board Room	18'x14'	252	14'				16	15	12		
Billiard Room	33'x68'	2244	20'	230	120	148	168	220	40	52	a nos ar su anno an ann
Card Room	22'x41'	902	20'	100	51		72	94	20	20	
Lodge Room	17'x22'	374	20'	38	20		24 .	35	14		
McLoughlin Rm	20'x31'	620	12'6"	60	36		60	60	14		

## The Broadway Coalition



For more information please contact any one of the five Broadway Coalition Hotels or contact the Portland Oregon Visitors Association (503) 275-9770

#### November-December 1995

#### TRANSPORTATION

## Design option recommendations advance South/North light rail

During the past 12 months, the Project Management Group and Citizens Advisory Committee worked with staff and the public to study and evaluate proposed alignment design options for the South/ North light-rail line.

The two committees recently adopted recommendations on which design options should advance into the Draft Environmental Impact Statement for 12.



to 18 months of further study. These recommendations will go to the Steering Group on Nov. 20 for adoption of a final report, to be reviewed by the involved jurisdictions in November and December.

For most corridor segments, the Citizens Advisory Committee unanimously endorsed the South/ North Project Management Group recommendations.

For detailed reports of the recommendations, call (503) 797-1745. For more information about the South/North study, call Gina Whitehill-Baziuk at (503) 797-1746.

To learn about upcoming meetings or to put your name on the South/North mailing list call the transportation hotline:

(503) 797-1900

#### Meeting schedule

Nov. 20 – Steering Group to adopt narrowing report

Nov. 22 – Tri-Met Board review

Nov. 28 – Portland Planning Commission review

Dec. 6 or 13 – Portland City Council review

Dec. 12 – Milwaukie City Council review

December – Metro Council meeting, to be determined

#### and a signal success

2040 growth concept decision

**INSIDE:** 

Public involvement ethics

OHSU fined for dumping illegal waste

> Earth happy holidays

#### Greener-Grocers program takes aim at food waste

WASTE REDUCTION

food bank resource guide and a how-to booklet designed to help grocers set up programs to reduce the amount of food waste going to the landfill are being developed as part of Metro's waste reduction effort. The grocery industry is one of the three largest contributors to an estimated 260,000 tons of food waste and non-recyclable paper generated in the region. For further information on Metro's Greener Grocers program, call Jennifer Ness, 797-1647.



#### PUBLIC INVOLVEMENT

## Conference addresses public involvement ethics

To what degree can the public expect to influence public decision-making? How can public participation specialists facilitate a fair process in a political climate where some decision-makers may hold unstated, predetermined desired outcomes? Is there a set of core values for public participation practitioners and if so, what are they?

Public involvement staff from Metro tackled these and other questions at the annual International Association for Public Participation Practitioners conference in Whistler, B.C., last September.

In one conference workshop, "Values, Ethics and Definition of Practice," participants with a variety of concerns developed a set of core values for the public participation practice. Some participants wished to define the role of the public participation professional as a way to 4 validate specific methods, practices and outcomes. Others expressed the need to articulate core values to insure that the practice maintains professionalism and create a system of accountability. Still others wanted to address what is perceived as growing dissatisfaction with public decisionmaking processes and the feeling that public input does not influence the outcome of decisions.

Concerns were raised about cross-cultural ramifications of articulating values that, ostensibly, public participation professionals around the globe would adopt. One participant noted, "What is considered good public participation practice in one. place may get you killed in another." While participants differed on what constituted "good practice," the following list of core values was generated by consensus for review by members of the association:

- People should have a say in decisions about actions affecting their lives.
- Public participation includes the promise that the public's contribution will influence the decision.

The public participation process:

- communicates the interests and meets the process needs of all participants
- seeks out and facilitates the involvement of those potentially affected
- involves participants in defining how they participate
- communicates to participants how their input was, or was not, used provides participants
   with the information they need to participate in a meaningful way.

#### Buy Recycled Guides

The 1995-96 Guides to Recycled Products are out. The set includes: Paper and Office Supplies, Building and Construction and Commercial and Industrial guides. The Shopper's Guide to Buying Recycled provides listings of recycled products available from retail stores. For more information on Metro's Buy Recycled program, call Pat Varley, 797-1672.

#### METRO AUDITOR

## Auditor targets work plan topics

S ince taking office in January, Metro Auditor Alexis Dow, CPA, has worked with her staff to develop a work plan for the coming year. One of the first steps was to survey the executive officer, council members and department heads to ensure that the plan would be relevant, significant and add value to Metro.

Dow's goals were to identify projects that would emphasize improving programs or processes, offer potential for increasing revenues and/or reducing costs, improve services to citizens and encourage innovation.

After completing this survey, Dow developed a work plan identifying eight audit areas. The plan will be flexible to accommodate emerging issues during the year. Targeted audit areas include: • solid waste enforcement program

A Guide to Recycled Pr

- administration of Oregon Waste Management contract
- solid waste franchising and licensing contract manage ment
- operating strategies for Regional Environmental Management
- an aspect of zoo management
- Metropolitan Exposition-Recreation Commission contracting and purchasing policies and procedures
- parking operations at Metro Regional Center
- administration of open spaces bond proceeds.

Questions or observations, as well as suggestions for future audits, can be directed to the Office of the Auditor, 797-1891.

#### COUNCIL

## Decision due Dec. 7 on growth concept

As the Metro Council nears adoption of the 2040 growth concept by ordinance, dozens of citizens from around the region are testifying about how they would like to see growth managed in their community.

The council is scheduled to adopt the growth concept at its 2 p.m. Dec. 7 meeting, a change from the previously scheduled Nov. 16 date to allow additional opportunities for comments. The council will decide whether to approve the growth concept map and amendments to the Regional Urban Growth Goals and Objectives at the meeting. The council Growth Management Committee, chaired by Councilor Susan McLain, has been evaluating staff recommendations and listening to public testimony during the pastseveral weeks.

The committee will forward a recommendation to the council. "The amount of public input on issues such as the urban growth boundary and urban reserves has been tremendous," said McLain. "All of the councilors have received letters and phone calls from constituents in our districts, in addition to hearing many hours of citizen testimony in our public hearings. This input is extremely valuable in helping us make these important regional growth management policy decisions.'

Citizens wanting to talk to McLain or other council members can call 797-1540. They also can call the growth management hotline at 797-1888 to leave a recorded comment that will be transcribed and forwarded to the Metro Council.



#### 2040 update and video

2040 Framework Update, a 16-page newsletter, provides an in-depth discussion of the 2040 program. Building 2040, is a new video that looks at growth management issues in the region.

To get a copy of the newsletter or to borrow the video, call Metro's growth management hotline, (503) 797-1888, and leave your name and address. The video will be shown on cable and may be borrowed from libraries or, in some areas, your localvideo store.

## OHSU pays fines for illegal waste

Despite the passing of another Halloween, ghoulish tales of blood and guts continue to haunt workers at Metro Central Station. Solid waste handler's regularly don tyvek "costumes" so they can safely inspect every truckload of waste arriving at the facility from area hospitals.

In late August, Metro workers repeatedly found infectious waste mixed in with routine solid waste from Oregon Health Sciences University.

The Oregon Infectious Waste Act prohibits hospitals from disposing of infectious waste at a disposal site like Metro Central Station because of the potential danger to solid waste handlers and the environment. A 1991 Metro policy reaffirms the intent of the statute and establishes a load-checking and ongoing spotting program to ensure compliance.

"All hospital waste is now subject to intense scrutiny," said Terry Petersen, manager of the Environmental Services Division of Metro's Regional Environmental Management Department. "We've changed our procedures because one repeat offender has put our workers at potential risk, not to mention breaking the law."

All in all, OHSU paid \$15,788.07 in clean up and disposal costs and \$2,500 in civil penalties (for three incidents). The assessment of civil penalties marks the first time Metro exercised its authority to assess fines to a hospital for improperly disposing of infectious waste. Metro assessed OHSU the maximum amount allowable.

"The amount of money we can fine a violator of Metro Code was established in 1977," said Petersen. "Obviously, in today's terms, this amount doesn't represent much of a deterrent."

Because small amounts of infectious waste continue to be found in loads brought to Metro Central Station by OHSU, the hospital is now also paying a \$4 per-ton special waste surcharge.

Infectious waste includes body parts, tissues, organs, biopsy materials, blood, blood products, cultures, vaccines and any material saturated with blood.

#### METRO EVENTS CALENDAR



#### Open space acquisition citizen workshops

Acquiring 6,000 acres of natural areas in 14 regional target areas and establishing six regional trail corridors is the goal of the open spaces bond measure. Just which lands and where those trails should go is still to be determined.

In addition to consulting with local governments, friends and neighborhood groups, natural resource experts and others, Metro will host a series of workshops in the communities around each of the target areas and trails.

To put your name on the citizen workshop notification list, contact Ron Klein, Metro Regional Parks and Greenspaces, at 797-1774.

## "Metro Matters" looks at livability

Livability, growth management and Metro's 2040 Framework program are the focus of the November edition of the regional government's cable television show, "Metro Matters." Metro Executive Officer Mike Burton, Gresham Mayor Gussie McRobert and Beaverton Mayor Rob Drake are guests on the program.

"Metro Matters" is produced through Portland Cable Access. To find out if the program is broadcast in your area, call Cathy Thomas at 797-1508.



#### ZooLights Festival begins at Metro Washington Park Zoo

Trees, buildings, shrubs, walkways, the zoo train and life-sized animal silhouettes will shine with more than 350,000 lights when the zoo is transformed into a sparkling holiday display. A revolving globe, 16 diving penguins and a entrance display with a dozen animáls are just some of the new displays this year. The Tualatin Valley Model Railroad Club returns with its giant train display, the U.S. Snow-Sculpture Team works magic on tons of ice and snow, nightly puppet shows delight children of all ages and more than 100 community music groups will ring out with sounds of the season.

ZooLights is sponsored by Nationwide Insurance, 1190 KEX and KPTV-12. 5-8 p.m. Sunday through Thursday, 5-8:30 p.m. Fridays and Saturdays Dec. 1-31 (closed Dec. 24-25), Metro is the directly elected regional government that serves more than 1.2 million residents in Clackamas, Multnomah and Washington counties and the 24 cities in the Portland metropolitan area.

Metro is responsible for growth management, transportation and landuse planning; solid waste management; operation of the Metro Washington Park Zoo; regional parks and greenspaces programs; and technical services to local governments. Through the Metropolitan Exposition-Recreation Commission, Metro manages the Oregon Convention Center, Civic Stadium, the Portland Center for the Performing Arts and the Expo Center.

Metro is governed by an executive officer and a seven-member council. The executive officer is elected regionwide; councilors are elected by district.

For more information about Metro or to schedule a speaker for a community group, call 797-1510.

#### Primate Gallery and Artist Market part of the zoo's attractions

Top Northwest artists specializing in wildlife, botanical and Audubon painting and sculptures are featured in the zoo art gallery located in the primate house at the Metro Washington Park Zoo. Shows change every three months.

Portland artist Cheryl DeVore is featured through Jan. 3. During December, an Artist Market will share the gallery in the evenings with the ZooLight Festival. Each evening, three to five artists will show and sell their works from 5 to 9 p.m. Thirty percent of all gallery sales go toward the care and feeding of the animals. Executive Officer Mike Burton 797-1502

Auditor Alexis Dow, CPA 797-1891

District 1 Ruth McFarland 797-1547

District 2 Don Morissette 797-1887

District 3 Jon Kvistad 797-1549

District 4 Susan McLain 797-1553

District 5 Ed Washington 797-1546

District 6 Rod Monroe 797-1552

District 7 Patricia McCaig 797-1889

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METROLINK – NOVEMBER-DECEMBER 1995

Portland, OR 97232-2736 600 NE Grand Ave.
# Earth Happy Holidays

Metro offers the following waste-wise holiday ideas. By making thoughtful buying decisions, you can make the holidays less disposable and more memorable.

### Low-impact gifts

Give homemade gifts. Fill festive food baskets with baked goods, preserves, herbed oils, fruit



vinegars or fresh pasta and sauces. Sew a set of cloth napkins or potholders. Grow potted house plants from cuttings. Record a custom cassette of you favorite music.

Gifts of your time are not only waste-free, but are often the most memorable. Make certificates for a back rub, a special meal, spring planting or anything that reflects your talents. Or give an invitation to attend a concert, play or dance performance with you.

Choose presents that benefit the environment, including recycled stationery or cards, a membership to an environmental organization, a book on ecology, a compost bin, a bird feeder, a fabric shopping bag, or a living tree or shrub. Several area stores specialize in these types of products. Call Metro Recycling Information, 234-3000, for a free shopper's guide to buying recycled products.

Buy handmade items from local artists at craft fairs and bazaars. These products are rarely wrapped in disposable packaging. Give children **durable gifts** that can be passed on from generation to generation. Good examples are Lego, wooden blocks, Tinker Toys, classic books and sturdy bicycles.

Stuff a stocking with a **1996 Reduce Reuse Recycle calendar** and make it an earth-wise year. Call Metro Recycling information, 234-3000, for a free calendar.

### **Boughs and berries**

Recycle your cut trees, wreaths and swags. Trees can be recycled at many area tree drop sites and in most areas, through curbside yard debris recycling programs. Call Metro Recycling Information, 234-3000, for information.

String popcorn and cranberries to decorate the tree instead of using tinsel. After the holidays, hang them on a tree outside for birds to enjoy.

#### Buy a living Christmas tree

and plant it after the holidays. Be sure to follow nursery planting instructions.

## Paper, boxes and bows

Wrap gifts in reusable containers such as baskets, fabric bags and keepsake boxes.

Make your own wrapping paper from brown paper bags, inexpensive brown kraft mailing paper or newspaper. Paint, draw, stamp or print designs on them. Bags, kraft paper and newspaper can be recycled at the curb.

If you buy wrapping and cards, look for brands printed on recycled paper. Choose those without foil or plastic designs or coating; they are not recyclable.

Save used wrapping paper and bows to reuse next year, and transform this year's Christmas cards into gift tags for next year.

Recycle paper, cards and boxes that you can't reuse, as well as holiday catalogs and magazines. To find out who accepts these items, call Metro Recycling Information, 234-3000.



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### Shopping for a feast

Shop for holiday food with these guidelines in mind:

- Buy in bulk whenever possible.
- Buy fruits and vegetables loose and unbagged.
- Choose products packaged in glass, tin or aluminum. These are easiest to recycle.
- Avoid products with excessive and non-recyclable or reusable packaging.
- Reuse grocery bags and plastic produce bags.

Metro is the directly elected regional government that serves more than 1.2 million residents in Clackamas, Multnomah and Washington counties and the 24 cities in the Portland metropolitan area.

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Metro is governed by an executive officer, elected regionwide, and a seven-member council elected by districts. Metro also has an auditor who is elected regionwide.

For more information about Metro or to schedule a speaker for a community group, call 797-1510.



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METRO

DATE: December 20, 1995

TO: Mike Burton, Executive Officer Presiding Officer Ruth McFarland and Metro Council

FROM: Bern Shanks, Director, Regional Environmental Management

RE: Regional storm clean-up calls

The December 12 wind storm clean-up resulted in an increase of calls to Metro Recycling Information regarding yard debris recycling options. During the week following the storm, staff answered 2,294 calls, with 807 of them being yard debris calls (35%). Yard debris calls in December of 1994 were 3.79% of total calls.

The center stayed open Sunday in anticipation of additional calls. Call volumes were fairly typical of regular weekends; however calls relating to yard debris were up. Calls peaked on Monday, following extensive weekend television coverage which included our phone number. Staff fielded 664 calls on Monday, with 369 regarding storm-generated yard debris (56%).

Most callers were asking what to do with their yard debris; what was Metro going to provide; what were local jurisdictions providing. Many were seeking free disposal options and/or remembered free drop off locations provided in earlier storms. Several senior citizens were seeking assistance with the clean-up or hauling of material. Staff estimates that half of callers expressed their expectation (or hope) that Metro or local governments would be providing some type of additional assistance.

#### Unrelated to storm clean-up

Metro Recycling Information is having another record year in numbers of incoming calls to the center. In calendar year 1994, 82,014 calls were answered. As of 12/19/95 staff had answered 92,446 calls, with total 1995 calls anticipated to approach 95,000 (a 16% increase over last year).

#### BS\VK:clk

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Joseph L. and Camille Kabdebo 725 SW Viewmont Portland, OR 97225

Metro Council 600 N.E. Grand Ave. Portland, OR 97232

#### Re: <u>Expansion of Urban Growth Boundary</u>

Dear Sirs:

I am the owner of 55-acres of real property zoned as forest land, CFCU, located in the Bonny Slope area of Multnomah County, south of Springville Road and north of the Bonny Slope subdivision. I own this property with my wife, Camille Kabdebo, and with Charles B. and Marie E. Balogh, who join with me in this request.

We urge Metro to consider our property for the possible inclusion within the urban growth boundary because of its immediate proximity to the Bonny Slope subdivision and to higher density developments to both the east and to the west of our property. In view of the lack of developable land to meet the substantial growth projections for the tri-county area, we believe our property is uniquely situated for consideration.

Thank you for your consideration.

Very truly yours,

Jones VAlpler

Joseph Kabdebo for the Kabdebos and Charles B. and Marie E. Balogh

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HON. RANDY NICOLAY Mayor JAMES ROBNETT BARBARA SMITH

VERNE SCHOLZ JAMES OLSEN

City Administrator WILLIAM H. BRANDON

City Recorder CAROL K. PETERS



TELEPHONE (503) 760-3325 12915 S.E. KING ROAD PORTLAND, OR 97236-6298 FAX (503) 760-9397

### MEMORANDUM

TO:	Metro Councilors
FROM:	City of Happy Valley
RE:	Proposed Urban Reserve Study Area adjacent to SE 147th Ave
DATE:	12/21/95

This memorandum is a follow up to a memorandum submitted to you on 12/7/95.

The concerns that were expressed in the earlier memo are still of concern to the City. We are extremely concerned as to the type of development that is proposed on steep slopes. We are also concerned with the type of development standards that are allowed on these steeper slopes.

Furthemore, 147th Ave. has the potential of becoming a primary access for our residents to both Sunnyside Road and to proposed commercial development proposed for this area. How this occurs is of chief concern to the City. The first detailed information that we had on the proposal for inclusion of this area into the Urban Reserve Study area was an article in the South Metro section of the Oregonian. With very limited time to respond to an issue of such importance to the City we wrote our 12/7/95 memorandum.

However, the City has had subsequent opportunity to meet with members of the Clackamas County Board of Commissioners on 12/20/95 and have received assurances from them that Clackamas County will include Happy Valley in the development of planning standards for this area if the area is included within the Urban Reserve area and ultimately within the Urban Growth Boundary. Finally, Happy Valley concurs with Clackamas County that the Metro Council should include this area, Proposal #77 as submitted with Gramor Development as sponsor, in your recommendations for Urban Reserve Study areas.

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The City of Happy Valley appreciates the opportunity to work with Metro on concerns of importance to our citizens and our City's viability. 11908 Southern Lites Drive Clackamas, Oregon 97015 December 20, 1995

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Ruth McFarland Metro Council 600 NE Grand Avenue Portland, Oregon 97232

Dear Honorable Ms. McFarland,

We would like the council to consider the addition of our 10 acre property, approximately 1/4 of a mile North of Sunnyside Village as marked on the attached map, to-the to the proposed Urban Study Area. Because of our concern with the present and future traffic on 147th. and Sunnyside Road, we met with John Fregonese, Director of Growth Management Services, on December 18 and presented the following observations:

1. 147th. has been closed because of the steepness of the terrain. There is concern as expressed by Mr. Bill Brandon of Happy Valley in the December 14th. Clackamas Review, that "...steep slopes are not appropriate for high-density development." By extending the urban reserve study area to the North, you will include flatter land at the top of the hill, which would be more suitable for high density single and multifamily dwellings.

2. According to current proposals, only a portion of 147th would be realigned and 147th. contains a very steep dip at the intersection with Aldridge. This terrain will continue to limit the ability of 147th to handle the density of traffic coming from Happy Valley. There will also be substantial traffic from areas adjacent to Happy Valley attracted to the NeoTraditional Village. Our property would provide access to Monner Road, and the opportunity to extend the existing driveway on the Gilbert property, already in place up essentially to the border of our property and extending over to Monner Road. This would create at least one parallel road to 147th, and help to decrease some of the anticipated congestion when the road reopens.

3. We currently access Sunnyside Road from 117th, and during peak traffic periods must wait several minutes to get onto Sunnyside Road stop and go traffic. We understand that the intersection between Sunnyside and 205 has a current traffic density of 33,000 veichles per day and will increase substantially. The opportunity to provide an East-West road parallel to Sunnyside would also be created by extending a road through the Hoffman property to 162nd, and would help to download some of the anticipated traffic on Sunnyside in the vicinity of the Neo Traditional Village. This would be particularly true if additional East-West extensions of this road could be identified.

As property owners adjacent to the 157 acres proposed to be studied for future urbanization, we have closely followed discussions of Clackamas County, Happy Valley and Metro. We were unaware and were not notified of the November 30, 1995 cutoff date for inclusion in the study area, and request that our property be included at this time in the proposed addition to the urban reserve study area. It is important that a more unified approach to growth and development of this entire area be considered. Thank you for your time and consideration.

Yours truly,

Stene Erape

Steve and Sarah Eraker phone: 503-698-8217

cc: John Fregonese

Council members:

2. Don Morissette

3. John Jonkvistad

4. Susan McLain

5. Ed Washington

6. Rod Monroe 🖌

7. Patricia McCaig



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800 NORTHEAST GRAND AVENUE Tel 503 787 1700

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#### Metro

To: Presiding Officer McFarland and Metro Council Members

From:

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John Fregonese, Director, Growth Management Services

Date: December 20, 1995

Subject: Geographic Order for Considering Sites

As you know, there are many sites which the Council will consider for possible designation as an Urban Reserve Study Area.

We would like to suggest that the quadrange ("quad") map geography be used. (See attached map) We suggest that the Council consider moving around the boundary, from east to west starting with the Sandy quad and ending at the Linnton quad. If this method were used, it would mean the following order:

Sandy Damascus Gladstone Oregon City Canby Lake Oswego Sherwood Beaverton Scholls Forest Grove Hillsboro Linnton

I hope that this is a useful approach and I would be happy to discuss the information with you.

Thank you.

c: Mike Burton, Executive Officer



**Regional Land** Information System

### Urban Reserve Study Areas



Adopted Urban Reserve Study Area Citizen Proposed Additions ///// Citizen Proposed Subtractions Councilor Kvistad's Proposal

> 600 NE Grand Ave Portland, OR 97232-2736 (503) 797-1742

> > METRO