

Commander Thirteenth Coast Guard District **174829** 915 Second Avenue Seattle, WA 98174-1067 Staff Symbol: can Phone: (206) 220-7270 FAX: (206) 220-7285

16591 October 12, 1999

Mr. David Unsworth Principal Planner Metro 600 Northeast Grand Ave. Portland, OR 97232-2736

Dear Mr. Unsworth:

We have reviewed the draft sections for the Final Environmental Impact Statement, which you provided by letter dated October 1, 1999. As cooperating federal agency for the North Corridor Interstate MAX Light Rail Project, we do not request any modification of the sections as drafted. The sections appear to be adequate for Coast Guard concerns on the Willamette River and Columbia Slough at Portland. If you have any questions, please call me at the above number.

Sincerely,

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JOHN E. MIKESELL Chief, Plans and Programs Section By direction of the District Commander

#### Memorandum of Understanding Pursuant to 36 CFR Part 800 (Protection of Historic Properties) For The North Corridor Interstate Max Light Rail Project

WHEREAS, the Federal Transit Administration (FTA) has determined that the North Corridor Interstate MAX Light Rail Project will have an effect upon properties included in, or eligible for inclusion in the National Register of Historic Places, and has consulted with the Oregon State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800 regulations implementing Section 106 of the National Historic Preservation Act of 1966, as amended [16 U.S.C. 407(f)]; and,

WHEREAS, FTA in consultation with the Oregon SHPO has determined that the North Corridor MAX Light Rail Project will have *No Effect* on the following Historic Resources that are included in, or considered eligible for inclusion in the National Register of Historic Places:

- a. Nicolai Company Office Ensemble (#133), 1935 N. Argyle Street, Portland, Oregon
- b. Nicolai Industrial Site (#134), 1812-1930 N. Columbia Street, Portland, Oregon
- c. Kenton Stockyark School (#137), 7528 N. Fenwick Avenue, Portland, Oregon
- d. Firestation (#148), 5340 N. Interstate Avenue, Portland, Oregon
- e. Polish American Citizens Club (#139), 3832 N. Interstate Avenue, Portland, Oregon
- f. St. Stanislaus Church (#140), 3916 N. Interstate Avenue, Portland, Oregon
- g. Warehouse (#195), 2262 N. Albina Avenue, Portland, Oregon
- h. Warehouse (#196), 2289 N. Interstate Avenue, Portland, Oregon
- i. Smithson and McKay Brothers Building (#197), 955 N. Russell Street, Portland, Oregon
- j. Retail/Commerical (#198), 2648 N. Interstate Avenue, Portland, Oregon

WHEREAS, FTA in consultation with the Oregon SHPO has determined that the North Corridor MAX Light Rail Project will have *No Adverse Effect* on the following Historic Resource that is considered eligible for inclusion in the National Register of Historic Places:

a. Russell Street Conservation District (#199), Portland, Oregon

WHEREAS, the Tri-County Metropolitan Transportation District of Oregon (Tri-Met), the local lead agency responsible for development of the North Corridor MAX Light Rail Project, has been invited into consultation and to concur in this Memorandum of Understanding; and

WHEREAS, the City of Portland is a jurisdiction certified for expanded participation in the programs administered by the State Historic Preservation Office, pursuant to the 1980 Amendments to the National Historic Preservation Act of 1966 and possesses a professionally qualified historic landmark commission and staff;

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NOW, THEREFORE, FTA and the Oregon SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the North Corridor MAX Light Rail Project on Historic and Cultural Properties.

#### **STIPULATIONS**

FTA will ensure that the following measures are carried out:

 Many of the resources in the "no adverse effect" category are potentially eligible for listing in the National Register of Historic Places and require a high level of sensitivity in the design of the new facilities. In the vicinity of those resources, particularly where they are adjacent to the new stations, Tri-Met and the FTA will ensure that the design is responsive to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (US Department of the Interior, National Park Service), and any other related supporting documents such as the *Guidelines* to the Standards and appropriate *Preservation Briefs*, and developed in consultation with the SHPO and Portland Historic Landmarks Commission (PHLC).

The SHPO and PHLC will be consulted on the development of the design and shall review and comment on each design in the area adjacent to these resources. While it is understood that standardization of some design elements is necessary, individual station design changes to ensure compatibility with affected resources shall be made where Tri-Met agrees that the proposed changes meet Tri-Met requirements and are not otherwise unreasonable. If Tri-Met disagrees with the SHPO proposal, the parties shall meet to attempt to resolve their differences. If agreement cannot be reached between SHPO and Tri-Met, either may invoke Stipulation 6 of this understanding.

2. The Design of the light rail facilities adjacent to the Russell Street Conservation District including the station platform, the shelters, paving, landscaping and materials are of significant concern to the SHPO and Tri-Met.

The design for these resources requires a potentially higher level of consideration that is required in other locations. Therefore, the SHPO and the City of Portland, through the Portland Historic Landmarks Commission, shall review and approve the design for the station at Russell Street Conservation District.

The Design review process will be timely, take into account Tri-Met requirements and constraints, and approval will not be unreasonably withheld. If Tri-Met disagrees with the approval, the issues will be resolved in accordance with Stipulation 6 of this agreement.

3. Discoveries. Tri-Met will take all reasonable measures to avoid or minimize harm to the property and, if feasible, will stop work in the vicinity of the discovery, until it concludes consultation with the SHPO. If the newly discovered property has not previously been

included in or determined eligible for the National Register, Tri-Met may assume that the property is eligible for purposes of this MOU. Tri-Met will consult with the SHPO as well as other parties to this MOU or interested parties recommended by the SHPO to develop actions that will take the effects of the undertaking into account. If the newly discovered property contains Native American cultural items or human remains, Tri-Met and the SHPO shall consult to determine how the discovery should be treated. Tri-Met and the SHPO will develop data recovery measures that take into account the requests of the Most Likely Descendants and any interested Indian tribe in consultation with the Commission on Indian Services, the requirements of the project, considerations of safety and environmental protection, and other applicable permits and considerations. Tri-Met will notify the SHPO of any time constraints, and Tri-Met and the SHPO will mutually agree upon time frames for this consultation. Tri-Met will prepare a written plan in response to the consultation with the SHPO and other interested parties. This plan will be provided by Tri-Met to the SHPO and all interested parties that participated in the consultation, who will notify Tri-Met within the mutually agreed upon time frames if the plan does not conform to the measures developed in consultation. Tri-Met will be responsible for implementation of the plan.

- 4. Dispute Resolution. Should the SHPO object within thirty (30) days to any reports, plans, specifications, or other documentation provided for review pursuant to this Understanding, Tri-Met shall consult further with the SHPO and FTA to resolve the dispute. If FTA determines that the objection cannot be resolved, FTA shall notify the Advisory Council for Historic Preservation (Council). FTA shall forward all documentation relevant to the dispute to the Council. Within 30 days after receipt of all pertinent documentation, the Council will either: 1) provide FTA with recommendations, which FTA will take into account in reaching a final decision regarding the dispute; or 2) notify FTA that it will comment pursuant to 36 CFR 800.6(b) and proceed to comment. Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute, and FTA's responsibility to ensure the completion of all actions required under this Understanding that are not the subject of the dispute will remain unchanged.
- 5. At any time during the implementation of the measures stipulated in this Understanding, should an objection to any such measure or its manner of implementation be raised by a member of the public or a signator to this agreement, FTA shall take the objection into account and consult as needed with the objecting party, Tri-Met and the SHPO to resolve the objection.
- 6. Failure to carry out the terms of this Understanding requires that FTA again request the SHPO's comments in accordance with 36 CFR part 800. If FTA cannot carry out the terms of the Understanding, they will not take or sanction any action or make an irreversible commitment that would result in an adverse effect with respect to National Register or eligible properties covered by the Understanding or would foreclose the SHPO's consideration of modifications or alternatives that could avoid or mitigate the adverse effect on the properties until the commenting process has been completed.

- 7. If any signatory to this Understanding determines that the terms of the Understanding cannot be met or believes a change is necessary, that signatory will immediately request the consulting parties to consider an amendment or addendum, pursuant to Section 800.5(e)(5), which will be executed in the same manner as the original Understanding.
- 8. Any signatory to this Understanding may suspend it by written notice to the other consulting parties. If this occurs, the parties will consult further to determine whether the issues can be resolved and the Understanding re-implemented in an amended form.
- 9. The SHPO may monitor activities carried out pursuant to this Understanding, and will review such activities if so requested by any person. FTA and Tri-Met will cooperate with the SHPO in carrying out the SHPO's monitoring and review responsibilities.
- 10. Within ninety (90) days after carrying out the terms of this Understanding, Tri-Met shall provide a written report to all signatories to the Understanding on the actions taken to fulfill the terms of the Understanding.
- 11. This Understanding is intended as the complete integration of all understandings among the parties, their successors and assigns with respect to the subject matter set out herein. No prior or contemporaneous addition, deletion, or other amendment hereto shall have any force or effect whatsoever, unless embodied herein writing. No subsequent innovation, renewal, addition, deletion, or other amendment hereto shall have any force or effect unless embodied in a written amendatory or other Understandings executed by the parties and signed by the signatories of the original Understanding. This Understanding and any amendments shall be binding upon the parties, their successors and assigns.

Execution of this Memorandum of Understanding by FTA, Tri-Met and the Oregon SHPO, and implementation of its terms, evidence that FTA has afforded the Council an opportunity to comment on the North Corridor MAX Light Rail Project and effects on historic properties and that FTA has taken into account the effects of the undertaking on historic properties.

FEDERAL TRANSIT ADMINISTRATION	
By: <u>Jelen M. Knoll</u>	Date Oct. 18, 1999

OREGON STATE HISTORIC PRESERVATION OFFICER emen\_\_\_\_ Date 10/7/99\_\_\_\_ By:

Concur:

TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON By\_\_\_\_\_\_\_Date\_\_\_\_\_\_Date\_\_\_\_\_D



Department of Transportation

Region 1 123 NW Flanders Portland, OR 97209-4037 (503) 731-8200 FAX (503) 731-8259

DA		E	: September	15,	1999
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TO: John Gray, Senior Transportation Planner Metro Regional Government

FILE CODE: C0261422

FROM: Robert W. Hadlow, Ph.D. Senior Environmental Coordinator, Region 1

SUBJECT: North Denver Ave. Viaduct

Statement of Ineligibility for the National Register of Historic Places

Recently, Metro asked the Oregon Department of Transportation to assist in evaluating the North Denver Avenue Viaduct (a.k.a. Oxing N. Columbia Blvd. and OWR&N), Bridge No. 04518, for eligibility for listing in the National Register of Historic Places. This structure is located on the North Denver Avenue section of Pacific Highway No. 1W (ORE 99W), at milepost X-4.84. The viaduct was constructed in 1916 and widened in 1929. Current plans for the Interstate MAX Project call for widening the North Denver Avenue Viaduct so that it will accommodate both motor vehicle and light rail traffic or replacing it with a new structure.

I asked James B. Norman, Cultural Resources Team Leader with ODOT Environmental Services, to review documentation on the North Denver Avenue Viaduct. Based on the context of reinforced-concrete deck girder structures in Oregon, he believes that this bridge does not appear to meet the eligibility criteria for the National Register of Historic Places. The Viaduct has no strong association with significant persons or events; and has no particular aesthetic or architectural treatment, such as pylons, ornate bracketing, historic lamps/standards, arched fascia walls, or bush-hammered inset panels. The North Denver Avenue Viaduct and its counterpart to the north, a combination reinforced-concrete and steel deck girder structure over the Columbia Slough known as the North Denver Avenue Overcrossing (North Schmeer Road Connection), Bridge No. 4518, at MP X-5.11, are relatively basic utilitarian structures from the period. In contrast, Oregon has several very nicely detailed reinforced-concrete deck girder structure from the Denver from the 1920s, including the Mill Creek Bridge in Salem and the Seufert Viaduct near The Dalles.

It is my understanding that Henry Kunowski, of the Oregon State Historic Preservation Office, recently visited the North Denver Avenue Viaduct and drew conclusions similar to those of Mr. Norman. Based on their assessments of the structure, I believe that a Section 106 Finding of Effect of impacts to the North Denver Avenue Viaduct is not required as part of the environmental documentation prepared for the Interstate MAX Project.

In general, for Section 4(f) purposes, a historic site is "significant" only if it is listed or eligible for listing in the National Register of Historic Places. Because the North Denver Avenue Viaduct is not considered eligible for the National Register of Historic Places, I believe that a Section 4(f) Evaluation is not required as part of the environmental documentation prepared for the Interstate MAX Project.

Please contact me if you have any questions concerning this resource. My telephone number is (503) 731-8239.

cc: James B. Norman, ODOT Henry Kunowski, Oregon SHPO

Form 734-1850 (1/98)

174829

Portland Parks and Recreation 1120 SW Fifth Ave., Ste. 1302 Portland, Oregon 97204 Phone (503) 823-PLAY



Dedicated to enriching the lives of citizens and caring for Portland's natural beauty

September 16, 1999

Mr. Richard Brandman Transportation Planning Director METRO 600 NE Grand Avenue Portland, OR 97232-2736

Dear Mr. Brandman:

This is in response to your request for a review by the City of Portland of the proposed location of a park and ride lot at the Portland International Raceway (PIR) as part of the Interstate Max Project. Specifically, you need a determination about whether the proposed area is a significant "public park and recreation" resource for the purposes of section 4(f) of the Transportation Act.

The City of Portland owns the subject site, and Portland Parks & Recreation is the City bureau responsible for managing it. PIR is part of West Delta Park (the other part is a golf course), and the proposed park and ride lot is in the northeastern part of PIR, on either side of the entry road to the racetrack.

The PIR area as a whole has two uses. One is to serve as a habitat park, with areas designated for environmental resource protection; the other is to serve as a motor sports racetrack. A motor sports racetrack is not essentially a "public parks and recreation" use but a commercial use. Within the City Zoning Code, motor sports racetracks are prohibited in Open Space (i.e. park) zones; they are defined as a "major event entertainment" use, which is allowed by right only within Commercial zones. The reason a motor sports racetrack is allowed on the PIR land is because the land is regulated by a site-specific "plan district" that recognizes a use—motor sports racetrack—in addition to the activities allowed in a City park. The first two pages of the plan district document are attached to this letter.

The plan district for this area recognizes the mixed nature of the uses at PIR and harmonizes them by defining "subdistricts": an environmental resource area where the park use is primary, a "racetrack core" area where the commercial use is primary, and "grassy, open areas" that are supportive to both purposes. In PIR's draft Master Plan (soon to be submitted to the City's Hearings Officer in compliance with the Plan District), the proposed location of the park and ride lot is shown as part of the "racetrack core" subdistrict, as shown in the attached map from the draft Master Plan. That area therefore does not constitute a significant resource to PIR's "public parks and recreation" function but rather is valuable for PIR's commercial function.

The land proposed for the park and ride lot is currently used for occasional parking for major racing events. Since the racetrack's large events are held on weekends, a Monday-Friday park and ride lot does not conflict with PIR's commercial activities. It is not anticipated that the commercial use at PIR will be discontinued in the future, but even it were, the proposed park-and-ride would not negatively impact the park, because of the lot's location on the outer periphery of the 269-acre PIR site. The lot would simply provide weekend parking space for whatever park uses may occur in the future. For instance, it could be used as a weekend trailhead for walkers and bicyclists enjoying the park.

The park's environmental resource areas are also designated as part of the City's "conservation zone" designation. The PIR Plan District and the Natural Resources Management Plan adopted for this overall area require that adjacent development in the park go through a City "environmental review" if there are any impacts to conservation zone areas. In the case of the land to be used by the park and ride lot, the environmental review will not be needed. The lighting standards, the required water quality treatment, and the direction of pedestrian traffic (away from the habitat area) are all designed so that the park and ride lot will not impact the park's environmental resource areas, even indirectly.

To summarize, Portland Parks & Recreation's position is that the land being considered for a park and ride lot is not a significant "public parks and recreation" resource for the purposes of section 4(f) of the Transportation Act.

Sincerely. Charles Jordan Director of Parks and Recreation

## Appendix C Environmental Justice

#### C. ENVIRONMENTAL JUSTICE COMPLIANCE

This appendix describes the North Corridor Interstate MAX Light Rail Project's compliance with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994). Executive Order 12898 and its accompanying memorandum has the purpose of ensuring that each federal agency makes achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations. In June 1997, the U.S. Department of Transportation issued guidelines (USDOT 5610.2) establishing procedures to achieve environmental justice as part of its mission. The guidelines state that:

"It is the policy of DOT to promote the principles of environmental justice (as embodied in EO 12898) through the incorporation of those principles in all DOT programs, policies, and activities. This shall be done by fully considering environmental justice principles throughout planning and decision-making processes in the development of programs, policies, and activities, using the principles of the National Environmental Policy Act of 1969 (NEPA), Title VI of the Civil Rights Act of 1964 (Title VI), the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, (URA), the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and other DOT statutes, regulations, and guidance that address or affect infrastructure planning and decision-making; social, economic, or environmental matters; public health; and public involvement."

In April 1998, the U.S. Environmental Protection Agency (EPA) issued the *Guidance for Incorporating Environmental Justice Concerns* in EPA's NEPA Compliance Analysis in order to "assist EPA personnel in identifying and evaluating disproportionately high and adverse human health or environmental impacts in minority communities and low-income communities within the context of NEPA documents prepared by EPA for actions which EPA complies with the procedural requirements of NEPA...including instances where EPA satisfies its NEPA compliance and obligation as a cooperating agency."

Compliance with Executive Order 12898 includes:(1) ensuring that the public outreach and decisionmaking processes are open and encourage the participation of low-income and minority citizens and organizations; (2) an analysis of the distribution of project impacts on and benefits to low-income and minority populations; (3) mitigation measures incorporated into the project to address impacts to low-income and/or minority populations.

This appendix first includes a summary of both the Interstate MAX and the South/North Projects' public involvement and outreach programs and decision-making processes. Second, in compliance with Executive Order 12898, this appendix provides an analysis of the potential impacts relating to human health and the environment of minority populations and low-income populations associated with the Interstate MAX Project. Where those impacts would occur, committed mitigation measures that will address those impacts are identified.

#### C.1 Public Involvement and Decision-Making Processes

This section summarizes the public involvement and decision-making processes in relationship to Executive Order 12898 on environmental justice for both the South/North Corridor and Interstate MAX Light Rail projects.

#### C.1.1 Public Involvement and Outreach Programs

The environmental justice goal of including low-income and minority citizens and organizations within public involvement and outreach programs and decision-making processes has been achieved by incorporating specific objectives recommended in EPA's *Guidance* into the South/North Corridor and Interstate MAX Light Rail projects. Following is a summary of those objectives and a list of specific public involvement activities and outreach efforts that have been implemented for both the South/North and Interstate MAX projects to ensure that the environmental justice goal of providing effective two-way communication between the project and minority and low-income citizens and organizations is achieved.

The general public involvement and outreach programs that have been implemented by both the South/North Corridor and the Interstate MAX Light Rail projects and the citizen committees that have participated in the projects are described in this FEIS in the Preface (Section P.6), Chapter 2, Alternatives Considered (Section 2.2) and Appendix A, Community Participation. Those programs have spanned more than 6 years and have been integral elements of the planning and project development phases for both the South/North Corridor and Interstate MAX Light Rail projects. The following techniques and programs have been and will continue to be integrated within that larger public involvement program, rather than implemented as a specific and separate program targeted at achieving the environmental justice goal.

#### Objective: To provide convenient access to information and decision-makers.

- In 1996, Metro implemented an Outreach Expansion Initiative to expand Metro's effectiveness in reaching populations traditionally under-served by standard outreach methods. Metro also established a regional database of organizations serving minority, low-income, non-English speaking, youth, elderly and disabled populations. Metro distributed a survey to these groups requesting information about communication techniques, barriers and networks for reaching these populations. The survey was followed by a roundtable meeting between Metro and local interest groups and community group leaders to recommend new or expanded methods that Metro's transportation department could implement. A summary report of this effort called the *Outreach Expansion Report* was published by Metro in October 1996 and many of the recommendations made in the report have been implemented in the South/North Corridor and Interstate MAX Light Rail Projects' public involvement and outreach efforts. This initiative is applicable to all of the objectives discussed below.
- More than a thousand public meetings have been held by the project and participating jurisdictions throughout the South/North Corridor. A wide variety of informational meetings are held throughout the corridor as information is prepared and made public.

- Information is made available and comments are taken on Metro's Transportation Hotline. Comments made on the Hotline are summarized and distributed to decision-making groups prior to any actions being taken. The Hotline provides timely notification of project meetings and citizens can sign up to be on the project mailing list through the Hotline.
- The South/North Project subscribed to *The Oregonian's* Inside Line, a free automated telephone information system that is regularly advertised in *The Oregonian*. During narrowing phases of the project, the Inside Line included information on the alternatives being considered, suggestions on ways to become involved in the project and a description of the project's decision-making process. This practice has continued with the Interstate Max Light Rail Project.
- Metro implemented MILT (Metro Information on Long-Range Transportation), a retrofitted transit bus displaying interpretive exhibits and a multi-media program with information on regional transportation planning and on the South/North Project. In 1997 and in 1998, the bus and support personnel, often including Metro Councilors, visited a wide range of community functions throughout the North Corridor and Portland metropolitan region, including shopping centers, county fairs and neighborhood events and activities. The bus was available at these sites during weekdays, evenings and on weekends. MILT's availability was published in community newspapers and weekly shopping advertisement inserts by Fred Meyer, a regional grocery and variety department store. More than 8,500 citizens visited MILT in 1997, and more than 12,500 citizens visited MILT in 1998.
- The South/North Steering Committee accepted telephone call-ins at several public comment meetings for the Tier I Narrowing of Alternatives step in 1994.
- Project information is provided as part of Metro's and Tri-Met's Internet web sites, including an electronic-mail address for comments or requests.
- Public comment meetings and public hearings were held by the South/North Steering Committee (elected and appointed officials providing the project's oversight) in several locations throughout the corridor prior to any narrowing or decision-making.
- All project meetings are held in wheelchair accessible locations.

## Objective: To provide familiar surroundings for local participants and to avoid formal, unfamiliar surroundings (e.g., government buildings, etc.).

• For the Interstate MAX Project, there is a field office on N Interstate. The office provides the public with a walk-in location to obtain information and/or to talk with project staff, and is used for small, local informational meetings. The office is staffed by both public involvement and technical staff from the project and from participating jurisdictions. A project field office was also set up in downtown Milwaukie for the South/North Project.

- Meetings have been held in local churches, community centers, senior centers and schools throughout the corridor.
- Small meetings (coffees) have been held in private homes in many segments of the corridor. Invitations to these coffees were usually extended to participants by the hosts.
- Informational booths have been provided at local neighborhood and county fairs, at special event fairs and at major employment sites.
- Several meetings within the City of Portland were conducted by an independent facilitator who was familiar with and known by local residents, business owners and neighborhood leaders.
- A speakers' bureau was established that included citizen volunteers who made presentations to various groups in their own neighborhoods and throughout the South/North Corridor.

## Objective: Provide notification and information through media beyond those typically used in a NEPA process (e.g., the Federal Register, regional newspapers).

- Notification of public information and comment meetings and other significant project milestones was provided in minority-oriented local newspapers, including *The Skanner*, *The Portland Observer*, *The Asian Reporter* and *El Hispanic News*. Notification was also provided through small community newspapers, such as *Between The Rivers* (a community paper in North Portland), and in local neighborhood publications.
- Project staff and elected officials have submitted articles or have assisted neighborhood editors in preparing articles about the project that were published in neighborhood newspapers and newsletters.
- Notice of public meetings was made through the distribution of flyers left on residential doorknobs by volunteer groups (i.e., Americorps and Coalition for a Livable Future).
- Open houses (described below) and major public comment meetings were described within press releases that were issued prior to the event, in order to achieve notification through news reports. Those press releases were distributed to the television and radio media, as well as to regional print media. Press previews and briefings were held prior to those events and included graphic material and elected officials to help ensure that news stories on the events were aired.
- Notification of major public meetings, public comment meetings and decision-making meetings has was through the South/North Project mailing list of approximately 15,000 and the Interstate MAX list of about 4,500.
- Notification of public comment periods and hearings included a mailing to all property owners within approximately 200 feet of the proposed light rail alignment.
- Notification of many meetings was made through neighborhood organizations and business newsletters or phone trees.

- A cable television program summarizing key topics of the FEIS that allowed citizens to call in with questions was produced prior to the publication of the FEIS.
- Tri-Met's and Metro's Internet web sites listed up-to-date information on the South/North and Interstate MAX projects, including meeting dates and public comment periods.

#### Objective: To conduct meetings in a comfortable, informal format.

- At the beginning of public comment periods when project findings were published, the project conducted a series of open houses (i.e., after publication of the SDEIS in April 1999). The open houses used an informal format with large-scale presentation graphics and handouts. Tours of the open houses were self-guided, and technical and public involvement staff and elected officials were available to answer questions and to receive comments and suggestions.
- Work sessions were held with the South/North Citizen Advisory Committee (CAC) to review technical findings. The CAC has also participated in training sessions on technical methods and information (e.g., travel demand forecasting, capital cost estimating).
- The Interstate MAX Advisory Committee meetings were chaired and managed by citizen members of the committees. This practice originated with the South/North Corridor Project.
- As noted previously, project staff conducted informal coffees in many segments of the South/North Corridor. These meetings with interested citizens were held in private homes with unstructured agendas.
- As previously noted, several community meetings were conducted by citizen volunteers and independent facilitators.
- Informational meetings were often held as an element of a neighborhood group meeting, facilitated by an official from the host neighborhood organization.
- Informational meetings on the project were conducted as part of larger, regional transportation conferences. Formats for these meetings have tended to be less formal. For example, as a part of the City of Portland's regional rail conference, project staff conducted several sessions with a game-type format and other sessions were conducted using a brain-storming or group problem-solving format.
- Project staff have participated in design charrettes (focusing on specific elements of the project's design or a specific proposed facility) sponsored by the project, neighborhood organizations or interest groups.
- Both the City of Portland and the City of Milwaukie established citizen-based light rail working groups for the South/North Project. These small informal committees developed local goals and objectives, reviewed and commented on project alternatives and findings and prepared independent recommendations for selecting preferred alternatives.

• During the South/North Project, tours of the existing Eastside and Westside MAX light rail line were provided to interested citizens, neighborhood groups and organizations. Tours were provided at times that best met the schedule needs of the participants. In 1994 and again in 1997, walking tours were conducted of proposed station areas in north and south Portland segments of the corridor. The tours were led by South/North engineering and public involvement staff and were designed to familiarize the public with station characteristics. Local architects also volunteered their time to assist with these community station area walks.

## Objective: Avoid schedule conflicts with the public (i.e., working families, elderly) by providing activities within a wide range of time frames.

- Community forums for the Interstate MAX Light Rail Project were held on two evenings in August and repeated on an evening and morning in September.
- Public comment meetings for both the South/North Corridor and Interstate MAX Light Rail Projects were held on successive days, during weekday hours, weekends and during the evenings.
- The Interstate MAX Light Rail Project's field office is open four evenings per week to ensure access after typical working hours.
- Coffees, described earlier, were held at various times of the day and night and during weekdays or weekends.
- Project meetings and display booths were scheduled and staffed in downtown Portland over the early morning and lunch hours. Downtown Portland Oversight Committee meetings were typically held within downtown Portland and often included tours of the segment.
- The Transportation Hotline and Internet web site allow citizens to make comments 24 hours a day, seven days a week. *The Oregonian's* Inside Line was also available for South/North Corridor and Interstate MAX Project information at all hours and all days.
- Citizen Advisory Committee meetings are typically held monthly during the early evening (i.e., 6:00 to 8:30 p.m.). Each meeting provides public comment opportunity at the start and at the conclusion of the meeting.

#### Objective: To provide technically complex information in easy to understand and accessible formats.

• For the Interstate MAX Project, the City of Portland, Metro and Tri-Met all have public involvement staff dedicated to outreach efforts and to the preparation of written public material. During the South/North Corridor Project, Metro employed several full-time public involvement staff. Several key participating jurisdictions (e.g., Tri-Met, the City of Portland, the City of Milwaukie, Clackamas County and C-TRAN) also employed part-time or full-time public involvement staff and/or contracted for public involvement services.

- Interpretation service for any language upon request was publicized on notices for workshops and community forums and provided for a Spanish-speaking participant at an Interstate MAX community forum.
- Public meetings were typically preceded by preparatory meetings with project staff to define the purpose and agenda of the meeting, to evaluate and improve presentations and presentation materials, to identify the need for and format of written material, to refine that material as needed, and to coordinate and finalize meeting logistics.
- For both the Interstate MAX and South/North Light Rail projects, written material for dissemination to the general public was prepared and/or edited by public involvement staff. All significant technical findings were summarized and described in plain language.
- Single-page summaries on specific South/North topic areas were prepared to allow citizens to obtain and read about areas that interest them without having to wade through all issues within the larger documents.
- Findings on South/North alternatives were typically described in terms of advantages and disadvantages and straight-forward comparisons of the alternatives were drawn. In summary documents, pertinent technical information was referenced in the narrative, but was generally included in an appendix.
- Maps for presentations and for figures within South/North public documents were prepared by project staff to provide simple but informative illustrations of the project alternatives and their proposed orientation within local communities. Maps available to the public range from corridor maps, segment maps and neighborhood maps, to very detailed conceptual engineering drawings of a small segment of an alignment.
- Information for the South/North Project was made available to the public both on a topical basis (e.g., ecosystem impacts, ridership benefits) and on an alignment alternative basis (e.g., comparing the Ross Island and the Caruthers Crossing Alternatives) depending upon the interest of the individual or organization.
- South/North staff contracted with an interpretation service for a meeting with two Russianspeaking families along the I-5 and N Interstate routes in North Portland. Staff provided information about the decision-making process for the South/North LPS, and offered additional meetings or translation for written comments if desired.

#### C.1.2 Decision-Making Process

The adoption of an LPS for the Interstate MAX alignment followed an expanded process of public involvement and decision-making (see Section P. 6 of the Preface and Appendix A, Community Participation). The public involvement and outreach efforts that were undertaken as a part of the LPS selection incorporated many of the techniques outlined in Section C.1.1. Through this proactive public involvement strategy, which included efforts to involve all segments of the local residents, business owners and community leaders, the project ensured that low-income and minority populations had adequate and appropriate information and had access to, and an effect upon, the decision-making process for both the South/North Corridor and Interstate MAX Light Rail Projects.

Prior to the Interstate MAX Light Rail Project, the South/North Project implemented an extensive narrowing process to determine the most promising alternatives to be studied including those in the North Corridor. These were selected as the Locally Preferred Strategy (LPS) in July 1998. The narrowing process spanned several years and was outlined in the Scoping Notice issued in October 1993 and at the Scoping Meetings held in late 1993. Each step in the narrowing process included: the development and documentation of the definition of alternatives, which responded to public input from previous phases; the adoption of criteria and measures and the preparation and documentation of findings on the alternatives based on the criteria and measures; a pro-active public involvement process that incorporated a 30- to 60-day public comment period and many of the techniques identified in Section C.1.1; and a selection process that included involvement and participating jurisdictions (each participating jurisdiction that adopted a recommendation typically held its own public hearing or comment meeting). The narrowing process is described in more detail in Appendix H, Project History.

#### C.2 Analysis of Project Impacts on Low-Income and Minority Populations

This section summarizes the analysis of the impacts on low-income and minority populations that would occur with the Interstate MAX Light Rail Project. First, terms used within this analysis are defined and second, the distribution of project benefits, impacts and committed mitigation are discussed.

#### C.2.1 Definitions

Executive Order 12898 and the USDOT guidelines provide some definition of the key indicators used in evaluating environmental justice; however, they require each project to interpret these definitions within the context of the project needs and surrounding communities. These include definitions of "minority populations," "low-income populations" and "disproportionately high and adverse human health effects."

For the Interstate MAX Project, neighborhoods adjacent to the LPS alignment are used to represent "communities" or "populations" analyzed for environmental justice compliance (see Section 4.2 for a description of the neighborhoods located within the vicinity of the project). Based on community input following the publication of the South/North DEIS, more current and expanded demographic data have been used in the preparation of this FEIS.

First, most of the demographic data presented in this FEIS are from the 1996 American Community Survey applied to City of Portland neighborhood boundaries. See Tables 4.2-1, 4.2-2 and C.2-1 for more detail.

Second, a breakdown of minority residents by U.S. Census ethnic and minority category has been provided in Table 4.2-2 of this FEIS. Tables 4.2-1, 4.2-2 and C.2-1 provide both the percentage and the number of low-income households and minority residents within each neighborhood.

respectively. Maps depicting the percentage of low-income households and minority residents have also been modified to include the number and percentage for each neighborhood (see Figures 4.2-2 and 4.2-3).

Third, to more accurately reflect the distribution of low-income and minority populations in the corridor, Table C.2-1 and Figures C.2-1 through C.2-3 include additional neighborhoods within and adjacent to the study area.

Segment/Neighborhood	1996	5	1996	5	Access 3 to	
	Persons in Poverty		Minority Residents		LRT	
	#	%	#	%		
Downtown Portland Segment						
Downtown	2,234	29.8%	1,276	17%	Station	
Old Town/Chinatown	308	34.2%	117	13%	Station	
Pearl District	147	32.7%	59	13%	Walk/Bus	
Albina Segment		·				
Lloyd	71	14.2%	15	3%	Station	
Eliot	768	27.7%	1,414	51%	Station	
Kerns	999	22.1%	678	15%	Bus	
Irvington	737	11%	1,875	28%	Bus	
Upper Interstate/Expo Center Segments			<u> </u>			
Boise	1,329	38.8%	1,851	54%	Walk/Bus	
Humboldt	1,772	36.1%	3,096	63%	Walk/Bus	
Overlook	1,072	17%	1,512	24%	Station	
Kenton	1,110	17.4%	1,851	29%	Station	
Piedmont	1,235	19.1%	2,454	38%	Walk/Bus	
Arbor Lodge	821	14.4%	1,023	18%	Station	
Sabin	560	17.2%	2,055	63%	Bus	
King	1,784	30.9%	3,921	68%	Bus	
Vernon	922	31%	1,843	62%	Bus	
Concordia	1,734	16.1%	5,184	48%	Bus	
Woodlawn	1,133	21.6%	3,462	66%	Bus	
Sunderland	6	8.6%	13	19%	Bus	
Portsmouth	2,422	30.5%	2,783	35%	Bus	
St. Johns	1,828	18.4%	2,280	23%	Bus	
University Park	342	9.1%	150	4%	Bus	
Multnomah County	86,453	14.1%	110,366	18%		

1	a	b	е	C.2-	1	
		-				

Source: Portland Neighborhood Profile Project based on American Community Survey; Multnomah County (US Census; 1996).

Note: N/A = not applicable, because the percentage of low-income households or minority population is below the regional average. For this analysis: a "minority population" is defined to be any neighborhood in which the percentage of minority residents was greater than the percentage of minorities within the population in Multhomah County based on the 1996 American Community Survey; and a "low-income population" is defined to be any neighborhood in which the percentage of poverty-level households was greater than the Multhomah County average, based on the 1996 American Community Survey.

2 Includes neighborhoods in addition to those adjacent to the LPS alignment to show larger distribution of low-income and minority populations.

3 Station = a light rail station would be within the neighborhood boundary; Walk = a light rail station would be outside of the neighborhood boundary but would be within walking access of ½ mile; Bus = a light rail station would be outside of the neighborhood boundary and neighborhood residents would access the LPS light rail line primarily through urban bus routes. Finally, maps have been prepared that depict the density of low-income households or residents and minority residents within each Census tract. Density is defined as the number of households or residents per square mile within a given Census tract. Approximately four gradients of density are displayed on the maps, which also include an overlay of neighborhood boundaries. Density maps for low-income and minority residents, based on the *1996 American Community Survey* data, are included within this FEIS (see Figures C.2-2 and C.2-3).

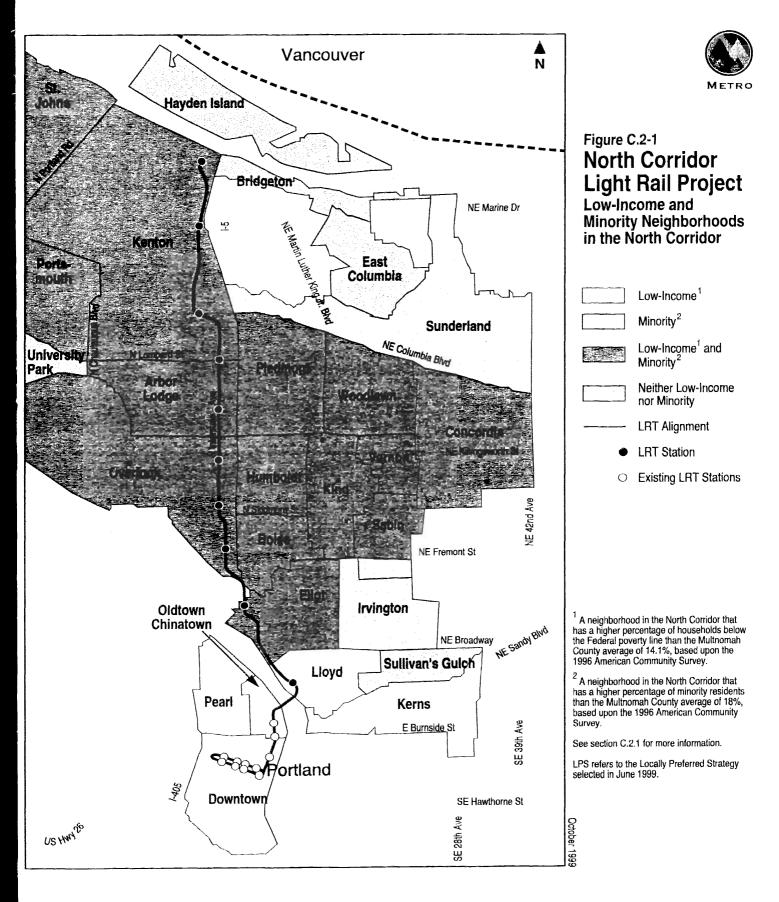
The analysis within this FEIS is based on a conservative definition of low-income and minority populations. A "minority population" is defined to be any neighborhood in which the percentage of minority residents was greater than the percentage of minorities within the population of Multnomah County based on the *1996 American Community Survey*. A "low-income population" is defined to be any neighborhood in which the percentage of poverty-level households was greater than average in Multnomah County based on the *1996 American Community Survey*. Within Multnomah County, 18 percent of the total population was minority, and 14.1 percent of all persons were at or below the poverty level in 1996. Figure C.2-1 illustrates the neighborhoods within the corridor that are low-income and minority communities under this definition. Table C.2-1 summarizes the demographic characteristics of those neighborhoods compared to Multnomah County averages.

Chapter 4, Section 4.2 of this FEIS provides a profile of each neighborhood adjacent to the LPS alignment, including socio-economic information. With the exception of two (Bridgeton and Hayden Island), all neighborhoods adjacent to the LPS described in Chapter 4 fall within the definition provided below for low-income and minority neighborhoods.

In the context of project planning, a key task is to address disproportionately high impacts from the project on minority and low-income populations. Disproportionately high and adverse effects are based on the USDOT definition, to include adverse effects that:

- are predominantly borne by a minority population and/or low-income population; or
- will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

As previously noted, Executive Order 12898 specifies "human health effects" as a measure of adverse effects. Human health could potentially be affected by decreased air quality, increases in noise and vibration, or increases in exposure to hazardous materials. The LPS would decrease air pollutant emissions compared to existing conditions and the No-Build Alternative, and would not cause significant health risks associated with hazardous materials (see Sections 4.4 and 4.10, respectively). Therefore, the potential adverse human health effects from the project would be related to noise and vibration impacts (see Section 4.5 for a project-wide discussion of noise and vibration impacts). In addition, this evaluation identifies potential disproportionate impacts that could result from project-related neighborhood quality impacts (typically related to traffic, noise, vibration, displacement and visual impacts) affecting minority and low-income populations (see Section 4.2 for a project-wide discussion of displacements and neighborhood impacts).

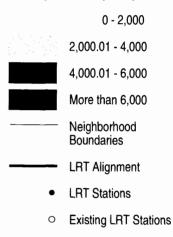


ORIGINAL



Figure C.2-2 Density of Minority Residents by Census Tract -Multnomah County 1996

Minority Residents per Square Mile

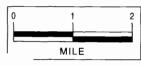


Note: Density for each census tract was calculated by dividing the total number of minority residents in the census tract by the total area (in square miles) of the census tract.

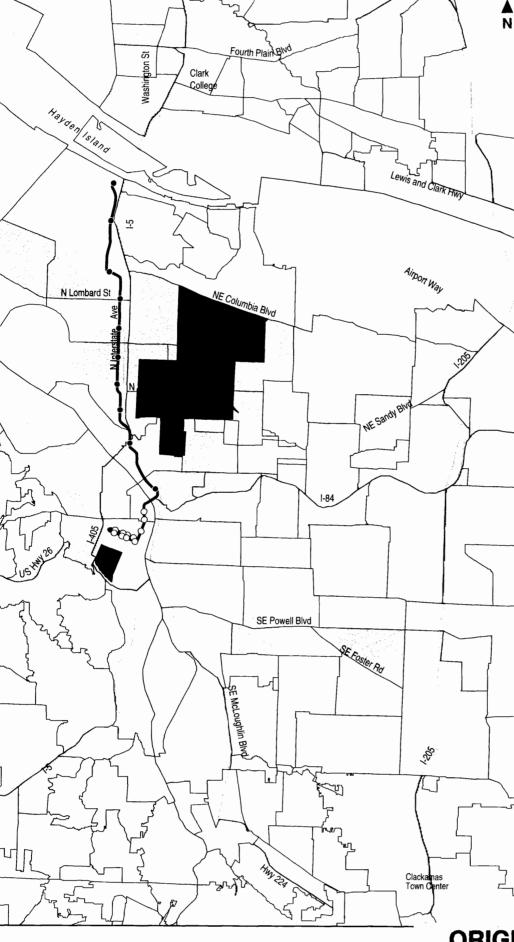
This map was created using data from the 1996 American Community Survey, published by the U.S. Census Bureau. In Oregon, the survey was limited to Multnomah County.

Minority residents are defines as those who, in responding to the 1996 American Community Survey, indicated their race to be something other than "White" or reported entries that the Bureau of the Census categorized as something other than "White" or indicated they were "White" and of "Hispanic Origin." See Table C.2-3 for a breakdown of minority residents by race and neighborhood.

LPS refers to the Locally Preferred Strategy selected in July 1999.



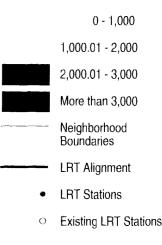
## ORIGINAL IN COLOR





#### Figure C.2-3 Density of Individuals in Poverty by Census Tract -Multnomah County 1996

Individuals in Poverty per Square Mile

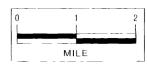


**Note:** Density for each census tract was calculated by dividing the total number of individuals in poverty in the census tract by the total area (in square miles) of the census tract.

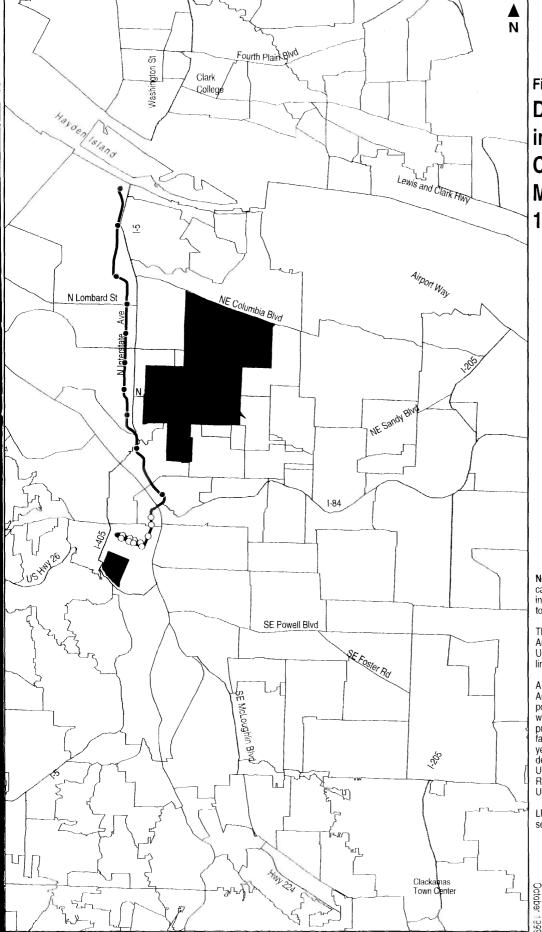
This map was created using data from the 1996 American Community Survey, published by the U.S. Census Bureau. In Oregon, the survey was limited to Multhomah County.

A poverty-level resident, as used for 1996 American Community Survey data, is the average poverty threshold for a family of four persons which was \$15,967 in 1996. The defined family poverty level threshold varied by total number of family members, number of children under 18 years and number of persons over age 65. For a detailed discussion of the poverty definition, see U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 171, Poverty in the United States: 1988 and 1989.

LPS refers to the Locally Preferred Strategy selected in July 1999.



ORIGINAL IN COLOR



For this evaluation, the primary benefit would be transit access, as measured by the number of light rail stations and the location of those stations within low-income and minority communities. For example, a station located at the center of a community is considered to provide better access than one located at the edge of the community. A disproportionate adverse impact would be identified where little or no access to the light rail project is provided to the neighborhood while the neighborhood would be significantly and adversely impacted by the light rail project.

A potential for rapid increase in property values brought on by the implementation of light rail has been identified as a concern for low-income and minority populations in North and Northeast Portland. Housing prices have escalated rapidly for the past 10 years throughout the Portland metro area in neighborhoods with and without light rail, from a median price of \$79,700 in 1990 to approximately \$163,000 in 1999 (*Real Estate Report* and *Market Action, Realtors Multiple Listing Service*). This increase has occurred during concurrent expansion of the local economy and rapid population growth in the region.. Metro's 2040 Growth Concept forecasts that by the year 2017, 470,000 more people are expected to live in this region. As a tool to manage this growth, Metro's Regional Framework Plan calls for increasing the population density within the urban growth boundary. Within the City of Portland, increased housing is proposed throughout the city, including 3,000 new housing units in the Albina Community Plan Study Area in the next 20 years. Also consistent with the Albina Community Plan is the provision for rezoning to allow higher density housing adjacent to light rail as well as goals to preserve and enhance affordable housing. The community involvement process for the North Corridor Interstate MAX Light Rail Project will include working with the community to achieve the goals of the Albina Community Plan.

#### C.2.2 Findings

The selection of the North Corridor LPS means that the low-income and minority neighborhoods in north/northeast Portland will be the next priority in the Portland region for light rail. In the South/North Project, the South Corridor had been identified as the first construction segment. The North Corridor alignment has many fewer neighborhood impacts than those previously studied in the South/North DEIS, notably the absence of any displacements.

As noted in Section C.1.1 of this appendix and Appendix A, Community Participation, the selection of this LPS included an extensive public involvement and outreach process to reach residents, business owners, community leaders, community organizations and low-income and minority residents in north/northeast Portland. Through this process, low-income and minority populations had access to information concerning and input to the decision-making process.

This LPS could have some adverse noise, vibration, and traffic impacts to neighborhoods along the LPS alignment as described in Section 4.2 of this FEIS; however, mitigation would eliminate all noise and vibration impacts and would minimize traffic impacts. These neighborhoods all contain a higher percentage of low-income or minority populations (or both, in most cases) than the average in Multnomah County (see Table C.2-1 and Figures C.2-1 through C.2-3). To determine whether adverse effects would be disproportionate, the following analysis compares the potential adverse effects that would result from the light rail alignment relative to the potential benefits for low-income and minority neighborhoods.

The light rail LPS would provide improved transit access (i.e., quicker, more reliable and more comfortable) for virtually the entire North Corridor, compared to the No-Build Alternative. Table 4.2-3 of the FEIS summarizes the increased number of households that would have 30-minute in-vehicle travel time access to community and activity centers in the North Corridor with the LPS. Those travel time and mobility benefits would be experienced by the low-income and minority residents and neighborhoods within the North Corridor.

#### C.2.2.1 Distribution of Benefits and Impacts in the North Corridor Study Area

This section identifies minority and low-income populations within the segments of the North Corridor study area, and compares the adverse effects (traffic, noise and vibration) and the benefits (the number and location of light rail stations) for the LPS. The mitigation described in Section C.2.2.3 and elsewhere in the FEIS will either eliminate or minimize these impacts. These impacts and benefits are summarized on Table C.2-2.

**Downtown Portland Segment.** Within the Downtown Portland Segment, three neighborhoods (Downtown, Old Town-Chinatown and the Pearl District) have higher than the Multnomah County average percentage of low-income residents (see Table C.2-1). There would be two light rail stations in the Old Town-Chinatown Neighborhood and there would be five light rail stations located within the Downtown Neighborhood on the existing MAX line. There would be no light rail stations within the Pearl District Neighborhood, but the LPS would provide walk access to a light rail station for the southern area of the neighborhood.

Minor traffic impacts would occur within the Downtown and the Old Town/Chinatown Neighborhoods with the LPS as a result of the additional frequency of light rail service. However, the additional frequency of service in Downtown and Old Town/Chinatown provides these low-income neighborhoods with better service and no disproportionate impacts.

Albina Segment. Both neighborhoods in this segment, the Lloyd Neighborhood and Eliot Neighborhood have percentages of low-income populations that are higher than the county average, and the Eliot Neighborhood also has a higher percentage of minority residents than the county average (see Table C.2-1). There would be one station located in the Lloyd Neighborhood at the Rose Quarter Transit Center, located in the western half of the neighborhood, near the Oregon Convention Center and the Rose Garden Arena. A station in Eliot would be located at N Russell Street.

Some traffic impacts could occur at the Rose Garden arena from special events, but this would not affect the quality or cohesion for the Lloyd Neighborhood. There would be no disproportionate impact to any low-income or minority neighborhood in the segment and an improvement in transit service for residents in these neighborhoods.

**Upper Interstate Segment.** Six neighborhoods in the Upper Interstate Segment (Boise, Humboldt, Overlook, Kenton, Piedmont and Arbor Lodge) have percentages of low-income and minority residents that are higher than the Multnomah County average of 14.1 percent and 18 percent, respectively (see Table C.2-1). Three stations would be located in the Overlook Neighborhood, two in the Arbor Lodge Neighborhood, and three in the Kenton Neighborhood with the LPS alignment.

#### Table C.2-2

Segment	Neighborhood	Vibra	<b>e and</b> ation <sup>3</sup> t. w/mit.	Neighbor- hood Quality	Number of Stations <sup>4</sup>
Downtown Segment	Downtown	0	0	traffic 5	5
	Old Town/Chinatown	0	0	traffic	2
	Pearl	0	0		0
Albina Segment	Lloyd	0	0	traffic	1
	Eliot	0	0		1
Upper Interstate Segment	Boise	0	0		0 <sup>6</sup>
	Humboldt	0	0		0
	Overlook	5	0	traffic	3
	Kenton	9	0	traffic	3
	Piedmont	0	0		0
	Arbor Lodge	3	0	traffic	2
Expo Center Segment	Kenton	0	0	traffic	2

#### Summary of North Corridor Impacts by Segment to Low-Income <sup>1</sup> and Minority <sup>2</sup> Neighborhoods for the North Corridor Study Area

Source: Metro: October 1999.

<sup>1</sup> A neighborhood in the North Corridor study area that has a higher percentage of persons below the federal poverty line than the Multhomah County average of 14.1%, based on the 1996 American Community Survey.

<sup>2</sup> A neighborhood in the North Corridor study area that has a higher percentage of minority residents than the Multnomah County average of 14.1%, based on the *1996 American Community Survey*.

<sup>3</sup> The number of properties or units that would be impacted without and with mitigation by light rail and/or highway noise and/or vibration. A structure or property with two different kinds of impacts (e.g., light rail vibration and traffic noise) is counted as one impact.

<sup>4</sup> Light rail stations that would be located within the neighborhood.

<sup>5</sup> Traffic impacts (lengthening of queues on arterials and diversion of traffic onto other streets).

<sup>6</sup> Station access from the Boise Neighborhood would be via an existing pedestrian bridge at the Overlook station.

There would be a total of five vibration and one noise impact in the Overlook Neighborhood and those impacts would be mitigated. In the Arbor Lodge Neighborhood, light rail would result in three vibration impacts within the neighborhood that would all be mitigated. Within the Kenton Neighborhood, noise and vibration impacts would affect nine units and all would be mitigated. Because light rail would not pass directly through the Boise, Humboldt and Piedmont neighborhoods, these neighborhoods would have less impact than those directly along North Interstate Avenue. Some traffic would be diverted to streets in these neighborhoods (N Denver Avenue and N Albina Avenue would be most affected), and the capacity on N Interstate Avenue would be reduced.

While there would be some adverse impacts to low-income and minority neighborhoods in the Upper Interstate Segment, there are improved transit benefits provided by light rail stations in the neighborhoods with greater impacts. There would not be any disproportionate impacts to these neighborhoods.

**Expo Center Segment.** In this segment, light rail passes through the northern end of the Kenton Neighborhood which was previously identified as having both minority and low-income populations. This segment is also characterized by large open spaces (including West Delta Park), industrial businesses and regional facilities (Expo Center). Some traffic impacts would occur from the PIR

park-and-ride and special event conditions. Traffic impacts in this segment would not affect the residential area of the Kenton Neighborhood.

In the Expo Center Segment, the improvement to transit access would be significant for residents in all low-income and minority neighborhoods along the alignment, and the few impacts that would occur would not be disproportionate.

#### C.2.2.3 Mitigation in the North Corridor Study Area

Mitigation for the impacts described above will vary, depending on the type of impact created. Specific commitments to mitigation measures are identified throughout Chapter 4 for the North Corridor study area. This section summarizes those mitigation measures that will address the impacts to low-income and minority neighborhoods in the North Corridor study area.

Avoiding displacements has been achieved through design of the project to keep within the existing right-of-way. In the event that displacements are unavoidable, the project will provide compensation to property owners based on fair market value and a comprehensive relocation program. Requirements for relocation assistance issued by USDOT (1989) specify the eligibility requirements, relocation procedures and other aspects of implementing a relocation program for residents as well as businesses.

Light rail ground-borne vibration impacts will occur at approximately 14 residential buildings located in proximity to the alignment.

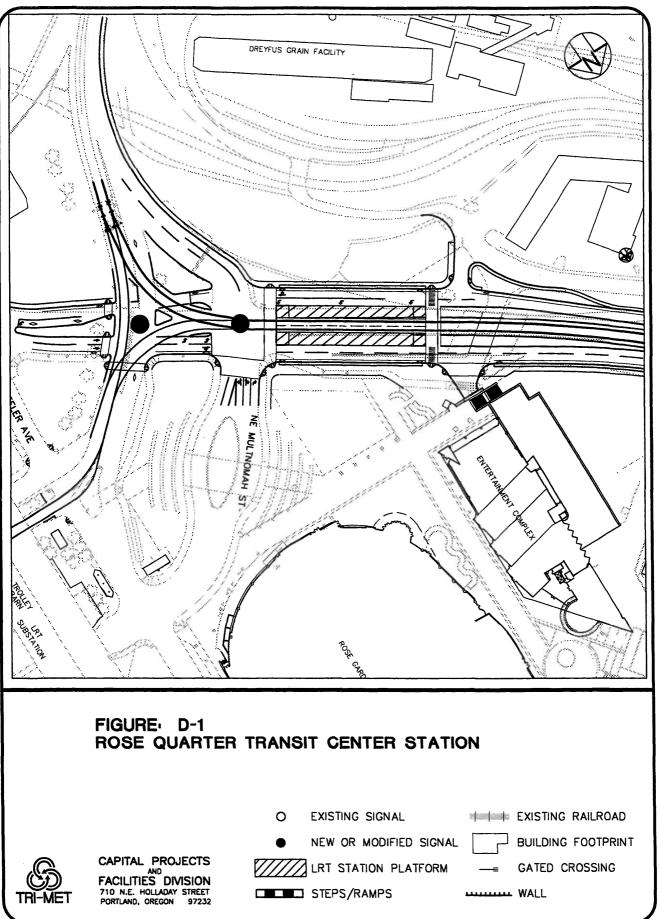
No vibration impacts will remain after mitigation is applied. The proposed vibration mitigation includes using spring-loaded switches, potentially in combination with ballast mats, to reduce impacts associated with track crossovers and switches. In areas where vibration is not associated with track switches, proposed mitigation included the use of ballast mats and vibration dampening devices such as those currently being tested on the Westside MAX line. In addition, Tri-Met has adopted a state of the art wheel truing and rail grinding program to reduce and eliminate wheel flat and rail track corrugation, which, along with track switches, is the major source of vibration. Tri-Met would complete additional propagation tests during the Final Design to more accurately understand the vibration coupling loss, if any, and the actual vibration within identified structures.

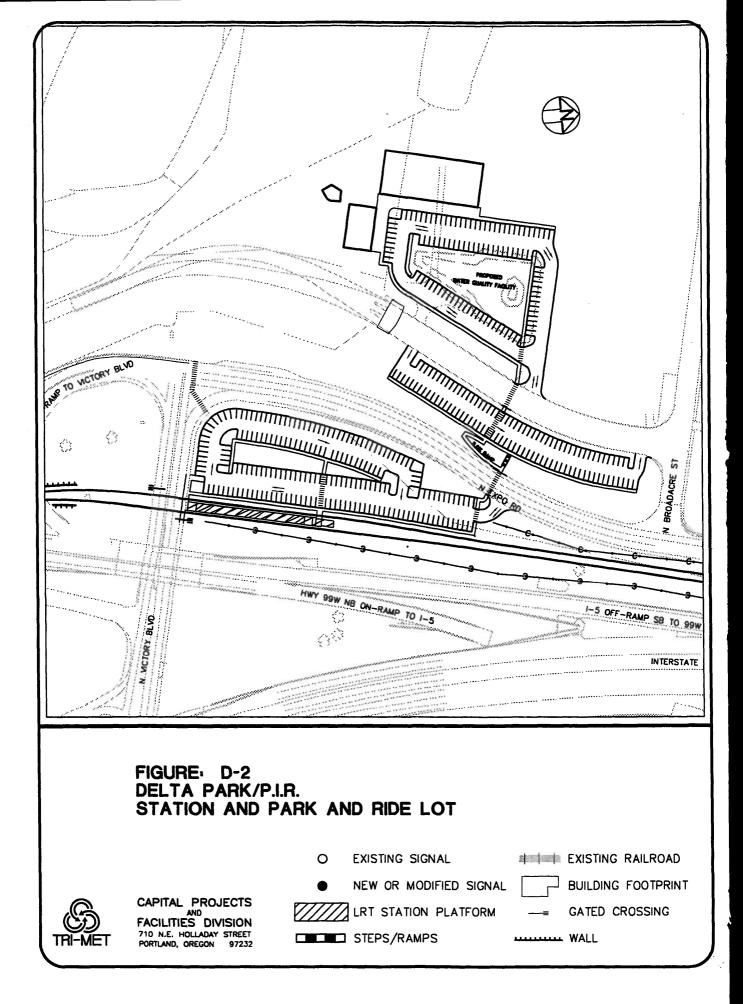
Six light rail noise impacts are expected along N Interstate Avenue near track crossovers and switches. The use of spring-loaded switches would eliminate these noise impacts. In addition, Tri-Met has developed a rail grinding and wheel truing program that will lower the noise occurring along the light rail line. This program will reduce the wheel flats and rail corrugation, which are the major causes of light rail noise.

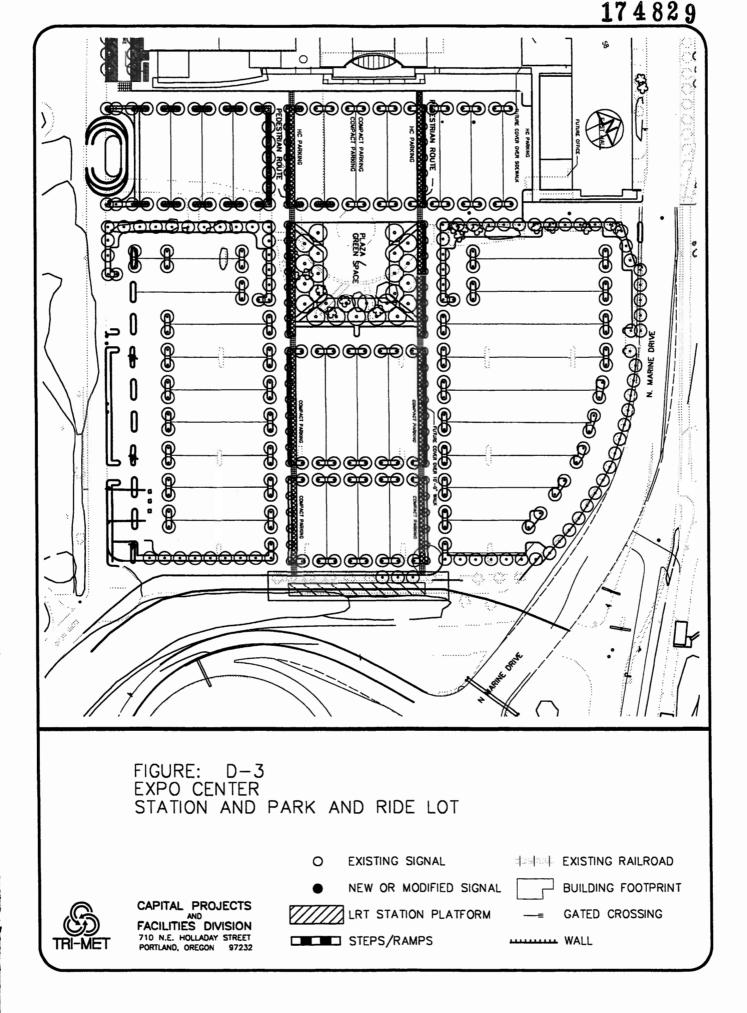
The visual and aesthetic mitigation options that would be applied to reduce adverse visual impacts and/or improve the visual environment or neighborhood quality would include the replacement of all street trees that are removed as well as adding street trees along every block in the Upper Interstate Segment that does not have trees. Traffic mitigation includes adding or removing turn lanes; increasing or decreasing intersection vehicle capacity; and adding or modifying traffic signals. In some instances Tri-Met and the City of Portland will monitor traffic changes and work with the communities, and implement traffic management measures as needed.

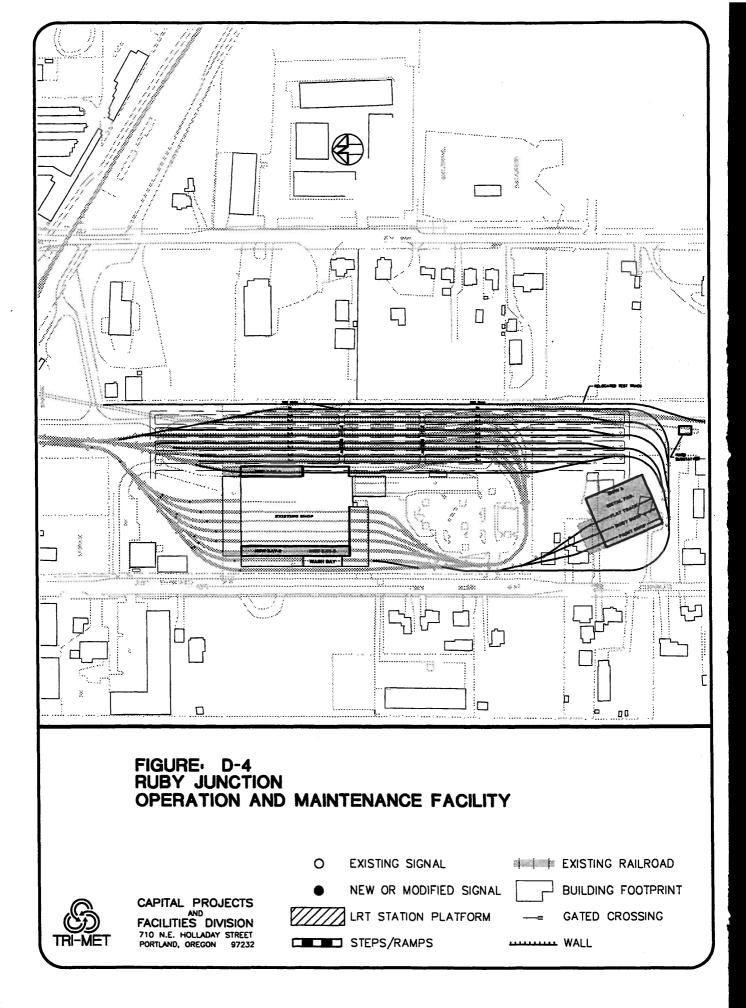
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# Appendix D Conceptual Designs









Appendix E Supporting Documents

#### E. Supporting Documents – 1992 to Present

Project Phase	Title	Date	No. of Pages <sup>1</sup>	Published
FEIS	North Corridor Transit Study Preliminary Engineering Plans for Light Rail Interstate MAX Alignment Rose Quarter to Expo	September 24, 1999	227	Tri-Met
	North Corridor Transit Study Conceptual Alignment Plans for Light Rail Interstate MAX Alignment Rose Quarter to Expo		26	Tri-Met
	North Corridor Interstate MAX Light Rail Project Ecosystem Mitigation Plan	October, 1999	60	Metro
	North Corridor Interstate MAX Light Rail Project Noise and Vibration Mitigation Plan	October, 1999	65	Metro
	North Corridor Interstate MAX Light Rail Project Traffic Mitigation Plan	October, 1999	200	Metro
	North Corridor Interstate MAX Light Rail Project Wetland Determination and Delineation Mitigation Plan	October, 1999	30	Metro
SDEIS	Supplemental DEIS Public Comment Report	June 1999	370	Metro
• •	Supplemental Draft Environmental Impact Statement	April 1999	69	Metro
	North Light Rail Analysis of Alternatives for Extending Light Rail Transit from Downtown Portland to the Expo Center	March 16, 1999		Shiels Obletz Johnsen, LLC
Listening Posts	Public Comments: November 1998 through early February 1999	February 1, 1999	378	Metro
FEIS/PE	Technical Memorandum: Traffic Analysis of a SW Lincoln Street Connector	November 1988	15	Metro
	Caruthers Bridge Design Recommendation Report	November 1998	60	Metro
	Historic Determination of Effect Forms	November 1998	500	Metro
	Draft 4(f) Documentation	November 1998	100	Metro
	Final Environmental Impact Statement Executive Summary	November 1998	50	Metro
	Reference Document: Public Comment on the South/North DEIS	November 1998	1,200	Metro
	Final Definition of Alternatives Compendium	November 1998	500	Metro
· · ·	Appendix: FEIS and Draft Preliminary Engineering Plans for Light Rail (Clackamas Regional Center to Rose Quarter Transit Center	September 1998 ')	60	Tri-Met
	South/North Construction Mitigation Plan	November 1998	40	Metro
	South/North Hazardous Materials Mitigation Plan	November 1998	50	Metro
	South/North Water Quality and Hydrology Mitigation Plan	November 1998	50	Metro
	South/North Displacement and Relocation Mitigation Plan	November 1998	30	Metro
	South/North Scott Park Mitigation Plan	November 1998	50	Metro
	South/North Ecosystems Mitigation Plan	November 1998	150	Metro

North Corridor Interstate DEIS FEIS – Appendix E

Project Phase	Title	Date	No. of Pages <sup>1</sup>	Publishe
	South/North Noise and Vibration Mitigation Plan	November 1998	150	Metro
	South/North Local Traffic, Transit and Parking Mitigation Plan	November 1998	50	Metro
	South/North Biological Assessment for Threatened, Endangered and Candidate Fish	, September 28, 1998	50	Metro
	Conceptual Alignment Plans for Light Rail (Clackamas Regional Center to Rose Quarter Transit Center)	September 4, 1998	60	Tri-Mei
ier II DEIS	South/North Locally Preferred Strategy Final Repor	rtJuly 23, 1998	120	Metro
	Adopted Land Use Final Order, Volume 1	July 23, 1998	100	Metro
	Adopted Land Use Final Order, Volume 2, Findings	sJuly 23, 1998	300	Metro
	LUFO Steering Committee Recommendation	June 5, 1998	20	
	South/North DEIS Public Comment Report, Vol. 1	May 1998	850	Metro
	South/North DEIS Public Comment Report, Vol. 2	May 1998	350	Metro
	South/North DEIS Briefing Document	March 20, 1998	100	Metro
	Scott Park Proposed Impacts and Mitigation Alternatives	March 1998	75	Metro
	South/North DEIS Executive Summary	February 1998	50	Metro
ier II DEIS cont.	South/North Draft Environmental Impact Statement	t February 1998	650	Metro
	RR-1: Land Use and Economic Impacts Results Report	February 1998	200	Metro
	RR-2: Social and Neighborhood Impacts Results Report	February 1998	150	Metro
	RR-3: Historic, Archaeological and Cultural Resources Impacts (Section 106) Results Report	February 1998	175	Metro
	Appendix A: Historic Context Statement	February 1998	100	Metro
	Appendix B: Determinations of Eligibility	June 1998	250	Metro
	Appendix C: Archaeological Reconnaissance Report	February 1998	100	Metro
	RR-4: Parklands, Recreation Areas Wildlife and Waterfowl Refuges (Section 4(f)) Impacts Results Report	February 1998	150	Metro
	RR-5: Ecosystems Impacts Results Report	February 1998	120	Metro
	Appendix A: Biological Assessment for Bald Eagl and Peregrine Falcon	eNovember 1997	60	Metro
	Appendix B: Biological Assessment for Threatened, Endangered and Candidate Fish	November 1997	60	Metro
	Appendix C: Wetland Delineation Report	February 1998	200	Metro
	RR-6: Hydrology and Water Quality Impacts Results Report	February 1998	150	Metro
	RR-7: Visual Quality and Aesthetics Impacts Results Report	February 1998	150	Metro
	Appendix A: Visual Simulations	February 1998	50	Metro
	RR-8: Displacement and Relocation Impacts Results Report	February 1998	100	Metro

Project Phase	Title	Date	No. of Pages <sup>1</sup>	Published
	RR-9: Local and Systemwide Traffic Impacts Results Report	February 1998	500	Metro
	RR-10: Air Quality Impacts Results Report	February 1998	150	Metro
	RR-11: Noise and Vibration Impacts Results Report	tFebruary 1998	200	Metro
	RR-12: Energy Impacts Results Report	February 1998	100	Metro
	RR-13: Geology and Soils Impacts Results Report	February 1998	100	Metro
	RR-14: Hazardous Materials Impacts Results Report	February 1998	125	Metro
	RR-15: Transit Impacts and Travel Demand Forecasting Results Report	February 1998	125	Metro
	RR-16: Operations and Maintenance Facility/North Milwaukie Park-and-Ride Results Report	February 1998	100	Metro
	RR-17: Financial Analysis Results Report	February 1998	125	Metro
	RR-18: Capital Costs Results Report	February 1998	150	Metro
	RR-19: Operations and Maintenance Costs Result Report	sFebruary 1998	250	Metro
lier II DEIS cont.	Definition of Alternatives Compendium	February 1998	300	Metro
	North Portland Economic Development Analysis	September 10, 1997	25	PDC
•	Appendix: Conceptual Alignment Plans for Light Rail: Clackamas to Vancouver	May 22, 1997	224	Tri-Met
	North Corridor Economic Development Analysis Summary Report	June 1997	43	Barney Worth
	DEIS Financial Analysis Methods Report	June 1997	35	Metro
	DEIS Capital Cost Methods Report	June 1997	42	Metro
	DEIS Evaluation Methods Report	June 1997	51	Metro
	DEIS Operation and Maintenance Cost Methods Report	June 1997	11	Metro
	DEIS Social, Economic and Environmental Methods Report	June 1997	188	Metro
	Trackway Treatments: Track Design Study	April 18, 1997	123	Tri-Me
	Public Involvement Plan Jan. 1996 – Spring 1997	June 13, 1996	12	Metro
	Rose Quarter Transit Center – Revised Findings Report	June 1996	53	Tri-Me
	DEIS Travel Demand Forecasting Methods Report	t May 20, 1996	62	Metro
	A2 Alternative Off-Mall Bus Operations – Capital Improvement Plan	February 21, 1996	13	Tri-Me
Cost-Cutting Process	Cost-Cutting Measures Final Report – Metro Council	May 22, 1997	45	Metro
	Commuter Rail Final Report – Metro Council	May 22, 1997	27	Metro
	Commuter Rail Overview and Recommendation – Steering Committee	April 25, 1997	27	Metro
	Briefing Document: Recommended Cost-Cutting Measures Steering Committee	April 23, 1997	35	Metro
	CAC Recommendations for Cost-Cutting Measure	s April 18, 1997	7	Metro

Project Phase	Title	Date	No. of Pages <sup>1</sup>	Published
<u> </u>	Commuter Rail Overview and Recommendation – PMG	April 18, 1997	27	Metro
	Briefing Document: Recommended Cost-Cutting Measures – PMG	April 15, 1997	25	Metro
	Public Comments on South/North Cost-Cutting Proposals	April 15, 1997	262	Metro
	Briefing Document: Recommended Cost-Cutting Measures	March 14, 1997	35	Metro
	Commuter Rail in the South/North Corridor	March 14, 1997	23	Metro
	MAX Connector Technical Memorandum: Draft No 2	).February 11, 1997	22	Tri-Met
	Next Steps	January 29, 1997	30	Metro
Major Investment Study	Major Investment Study Final Report	November 28, 1995	110	Metro
Design Option Narrowing	Design Option Narrowing Final Report – Steering Group	January 3, 1996	35	Metro
Design Option Narrowing cont.	Design Option Narrowing Briefing Document	October 19, 1995	50	Metro
	Design Option Narrowing Technical Summary Report	October 19, 1995	350	Metro
	Design Option Narrowing Final Recommendation Report – PMG	October 19, 1995	40	Metro
	South/North Design Option Narrowing Public Comments Report	September 1, 1995	375	Metro
	South/North Design Option Narrowing Public Comments Report – Summary	September 1, 1995	5	Metro
	Draft Design Option Narrowing Technical Summar Report Walk Isochron Compendium	yJune 19, 1995	100	Metro
	Draft Major River Crossing Technical Compendium	n J <b>une</b> 7, 1995	300	Metro
	Segments and Design Options (Maps)	April 13, 1995	100	Metro
	Southern Park-and-Ride Analysis	April 1995		
	Draft Clark County Park-and-Ride Traffic Impacts	March 15, 1995	30	Tri-Me
	Analysis of LRT Traffic Impacts Vancouver CBD and CBD North	January 1995	44	Tri-Met
Tier I Alternative	Downtown Portland Tier I Final Report – Metro Council	December 21, 1995	65	Metro
Narrowing	Downtown Portland Tier I Final Report – Steering Group	November 20, 1995	76	Metro
	South/North Downtown Portland Segment Public Comments Report	November 2, 1995	98	Metro
	Harrison Entry to Portland CBD Entry Impacts	August 1995		
	Surface Alignment Alternatives for LRT on Portlan Transit Mall	dJuly 1995	120	Tri-Me
	Downtown Portland Oversight Committee CBD LRT Alignment Recommendations	June 1995	51	Metro
	Draft Technical Memorandum – Portland CBD South Entrance Construction Impacts Analysis	April 1995	38	Tri-Me

North Corridor Interstate MAX FEIS – Appendix E

Project Phase	Title	Date	No. of Pages <sup>1</sup>	Published
<u> </u>	Portland CBD North Entrance – Draft Findings Report	April 1995	52	Tri-Met
	Draft Surface Alignment Alternatives for LRT on the Portland Transit Mall – Executive Summary	January 1995	20	Tri-Met
Tier I Alternative Narrowing	Tier I Final Report – Metro Council/C-TRAN Board of Directors	December 22, 1994	107	Metro
	Milwaukie Design Images	November 11, 1994	24	Calthorpe
	Vancouver Design Images	November 11, 1994	36	Calthorpe
	Tier I Final Recommendation Report – Steering Group	October 6, 1994	27	Metro
	Draft Findings Report – Columbia River Crossing Bridge Alternative Study	October 1994	8	Tri-Met
	Columbia River Mid-Level Bridge Analysis	October 1994		
	Tier I Final Recommendation Report – PMG	September 14, 1994	24	Metro
Tier I Alternative Narrowing cont.	Tier I Technical Summary Report – Steering Group	September 14, 1994	200	Metro
	Narrowing the Options: A Summary of Tier I Public Meetings and Comments <sup>2</sup>	September 13, 1994	200	Metro
	Public Comment Addendum	September 13, 1994	36	Metro
	LRT Operational Impacts of the Columbia River Low-Level Lift Span Bridge	September 1, 1994	15	Tri-Met
	LRT Operational Impacts of Hawthorne Bridge	September 1994		
	Draft Findings Report – Clark County SR-500	September 1994	31	Metro
	Draft Tier I Final Recommendation Report: Terminus Alternatives – PMG	August 24, 1994	16	Metro
	Tier I Technical Summary Report Briefing Document	August 15, 1994	30	Metro
	South Portland Capital Costs: Milwaukie Transit Center to Pioneer Square	July 1994	14	Tri-Met
	Draft Findings Report – Clark County I-5/Highway 99 Alignment Alternatives	July 1994	42	Metro
	Draft Findings Report – Johns Landing Design Options	July 1994	27	Tri-Met
	Draft Findings Report – North Portland Kaiser Medical Facility to Delta Park	July 1994	86	Tri-Met
	Draft Findings Report – Willamette River Crossing South Portland	s July 1994	38	Metro
	Portland CBD Report Final Draft (Tier I)	June 14, 1994	262	Metro
	Draft Findings Report – Clackamas County Study Area	June 1994	72	Metro
	LRT Representative Alternatives Conceptual Design and Order of Magnitude Cost Estimate – Draft Report	May 27, 1994	223	Metro
	Draft Vancouver CBD Preliminary Screening of Design Options	May 6, 1994	51	Metro
	Region 2040 (CTC Design Images)	May 1994	77	Calthorp

Project Phase	Title	Date	No. of Pages <sup>1</sup>	Published
	Willamette River Crossing Study	January 7, 1994	220	Metro
	Columbia River Crossing Study	December 30, 1993	335	Metro
Scoping Process	Tier I Evaluation Methodology Report	December 17, 1993	50	Metro
	Scoping Process Narrowing Report	December 17, 1993	70	Metro
	South/North Scoping Comments Report	December 17, 1993	200	Metro
	Tier I Description of Alternatives Report	December 17, 1993	50	Metro
	Technical Memorandum – Busway Evaluation	December 10, 1993	60	Metro
	Technical Memorandum – Portland Traction Company Right-of-Way (Oak Grove Area)	December 3, 1993	29	Metro
	Draft Central Eastside Connector Technical Memorandum	November 29, 1993	35	Metro
	Busway Alternatives Conceptual Design and Cost Estimate	November 16, 1993	184	Metro
Scoping Process cont.	Preliminary Alternatives Report for Scoping Meeting <sup>2</sup>	October 25, 1993	55	Metro
	Appendix I: Scoping Process Narrowing Report	: October 25, 1993	200	Metro
	Appendix II: Mode and Alignment Workshop Report (Public Workshop Report and Survey Appendix)	October 25, 1993	70	Metro
	Rail Readiness Report - North Mall Portland	July 28, 1993	7	Tri-Met
	Draft Description of Wide Range of Altematives Report	July 20, 1993	86	Metro
	Tier I – Definition of LRT Alternative Alignments	July 2, 1993	20	Tri-Met
Pre-AA Study	Portland CBD Pre-AA Study: Portland's Transit Mall Capacity Analysis – Draft Report	May 5, 1993	32	Tri-Met
	Portland CBD Pre-AA Study: S/N Downtown Alignment Assessment – Background Report	May 1993	46	COP
	Priority Corridor Analysis: Findings and Recommendations	April 22, 1993	15	Metro
	High Capacity Transit En∨ironmental Analysis – Phase I Final EIS	March 1993	170	C-TRAN
	Phase I Technical Reports Expert Review Panel Meeting	February 22, 1993	145	Metro
	Expert Review Panel Meeting – Facility and Operating Guidelines	October 26-27, 1992	120	Metro
	Expert Review Panel Meeting – Methodologies an Guidelines	d October 26-27, 1992	70	Metro
	Expert Review Panel Meeting – Travel Demand Forecasting Methodology	October 26-27, 1992	140	Metro

Source: Metro, 1997.

Note: COP = City of Portland; PDC = Portland Development Commission; AA = Alternative Analysis.

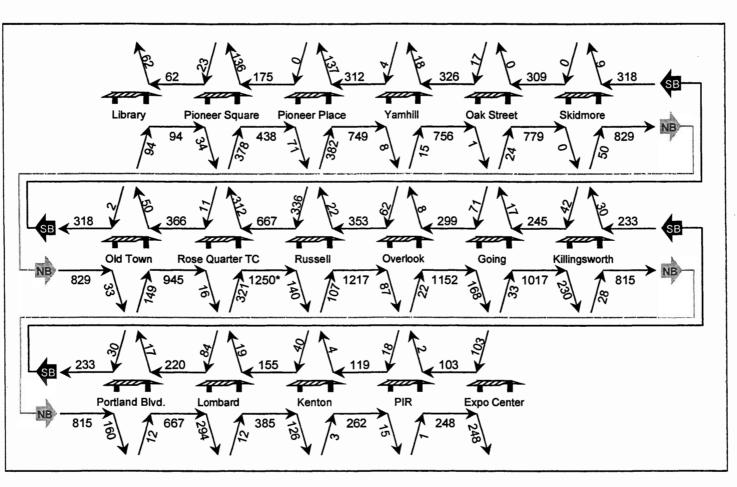
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Approximation. Must be accompanied by appendix or appendices.

### Appendix F Station Activities

#### F. STATION ACTIVITIES

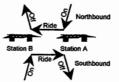
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Figure F-1 P.M. 1 Hour Station Ons and Offs Interstate MAX - (Library to Expo Center) Year 2020



\* Peak Load Point Note: PIR = Portland International Raceway

## Appendix G Other

List of Recipients List of Preparers Glossary References

### G.1 LIST OF RECIPIENTS

### **Federal Agencies:**

Advisory Council on Historic Preservation Department of the Army, Portland District Corps of Engineers Federal Emergency Management Administration Federal Highway Administration Federal Railroad Administration National Marine Fisheries Service Surface Transportation Board US Army Corps of Engineers US Coast Guard US Department of Agriculture US Department of Commerce US Department of Energy US Department of Interior US Department of Transportation US Environmental Protection Agency US Fish and Wildlife Service

#### Native American Tribes:

Confederated Tribes of the Grand Ronde Confederated Tribes of the Warm Springs Confederated Tribes of Umatilla Confederated Tribes of Siletz Columbia Inter-Tribal Fish Commission Nez Perce Tribe Yakama Nation

### **Oregon State Agencies:**

Office of the Governor, State of Oregon Oregon Department of Agriculture Oregon Department of Energy Oregon Department of Environmental Quality Oregon Department of Fish & Wildlife Oregon Department of Geology and Mineral Industries Oregon Department of Land Conservation & Development Oregon Department of Transportation Oregon Department of Water Resources Oregon Division of State Lands Oregon Economic Development Department Oregon Geology & Mineral Industries Department Oregon Office of Energy Oregon Public Utilities Commission Oregon State Board of Geologist Examiners Oregon State Historic Preservation Office Oregon State Library Oregon State Parks and Recreation Department

#### Washington State Agencies:

Office of the Governor, State of Washington Washington State Department of Transportation Washington Utilities & Transportation Commission

#### **Regional and Local Agencies/Governments:** C-TRAN

City of Gladstone, Oregon City of Milwaukie, Oregon City of Oregon City, Oregon City of Portland, Oregon City of Vancouver, Washington Clackamas County, Oregon Clark County, Washington Multnomah County, Oregon North Clackamas School District Port of Portland Portland School District

#### Libraries:

Clark County Regional Library Ledding Library Fort Vancouver Regional Library Multnomah County Library Portland State University Library University of Oregon Library Oregon State University Library

#### **Neighborhood Associations:**

Arbor Lodge Neighborhood Association Boise Improvement Association Bridgeton Neighborhood Association Downtown (Portland) Community Association Eliot Neighborhood Association Hayden Island Neighborhood Network Humboldt Neighborhood Association Irvington Neighborhood Association Kenton Neighborhood Association King Neighborhood Association Lloyd District Community Association North Portland Neighborhood Office Northeast Coalition of Neighborhoods Old Town/Chinatown Neighborhood Association Overlook Neighborhood Association Pearl District Neighborhood Association

Piedmont Neighborhood Association

Sabin Community Association

#### **Miscellaneous:**

1000 Friends of Oregon Alliance of Portland Neighborhood **Association for Portland Progress** Audubon Society of Portland Columbia Corridor Association Downtown Retail Council Historic Old Town Interstate Avenue Association Kenton Business Association Lloyd District Transportation Management Association Lower Albina Council North-Northeast Business Association North Portland Business Association Northeast Broadway Business Association **Oregon Historical Society** Oregon League of Conservation Voters Oregon League of Women Voters Oregon Water Resource Council Portland Chamber of Commerce Portland Community College Portland Development Commission Portland Metropolitan Chamber of Commerce **Portland Public Schools** Portland State University Swan Island Business Association University of Portland

Urban Studies & Planning Department, Portland State University The Urban League of Portland

### G.2 LIST OF PREPARERS

**Public Agencies:** 

**Federal Transit Administration (FTA)** (Federal lead agency for the FEIS) **Seattle, Washington** Helen M. Knoll, Regional Administrator

J.D., University of Denver College of Law, 1976. B.A., English Literature, Cornell University, 1964.

Theresa Hutchins, Community Planner B.A., The Evergreen State College, 1989.

Michael J. Williams, Regional Engineer B.S. Civil Engineering, Morgan State University, 1995.

Carol Braegelmann, Reality Specialist M.U.P. University of Virginia, 1991

Ted Uyeno, Regional Counsel B.A. University of California at Santa Barbara, 1973 J.D. University of Hawaii, 1979

#### Washington, D.C.

A. Joseph Ossi, Environmental Protection Specialist: Planning, Analysis and Support Division B.A., Rutgers University, 1971.

Metro, Portland, Oregon. (Local lead agency for the FEIS) Andrew C. Cotugno, Transportation Director B.A., City and Regional Planning, California Polytechnic State University, 1974.

Richard Brandman, Assistant Transportation Director (Project Director) B.A., Economics, University of Maryland, 1972.

Ross Roberts, High Capacity Transit Planning Manager (FEIS Project Manager) M.U.P., Urban Transportation Planning, Portland State University, 1985. B.S., Environmental Science, Willamette University, 1980

John Cullerton, Transportation Planning Supervisor (Local Traffic, Travel Forecasting) B.S., Geography, University of Oregon, 1977.

Sharon Kelly, Transportation Planning Supervisor (EIS Manager, Land Use and Economics) B.S., Geography, Oregon State University, 1979.

David Unsworth, Principal Transportation Planner (Noise and Vibration, Ecosystems, Water Quality and Hydrology)

B.A., Urban Studies, College of Wooster, 1982.

John Gray, Senior Transportation Planner (Section 4(f), Visual and Aesthetics, Section 106) M.A., Geography, California State University, 1971. B.A., Geography, California State University, 1968.

Randy Parker, Senior Transportation Planner (Travel Demand Forecasting/Transit Impacts, Energy, Operations and Maintenance Costs) B.S., Economics, Portland State University, 1990.

Jeanna Cernazanu, Associate Public Involvement Planner (Community Involvement, Social and Neighborhoods, Environmental Justice) B.A., Community Service, Honors College, University of Oregon, 1980.

Skye Brigner, Assistant Transportation Planner (Maps and Figures and Data Development) B.S., Geography, University of Oregon, 1997.

Jean Sumida Alleman, Senior Transportation Planner B.S., Economics, Massachusetts Institute of Technology, 1991

Shawn Wood, Associate Transportation Planner B.A., Urban Planning, Virginia Tech, 1993.

Jan Faraca, Administrative Secretary B.A., History, Pacific University, 1962.

Jody Kotrlik, Associate Management Analyst (Contracts and Grants Administration) Associate Degree, Business, Clark College, 1990.

Keith Lawton, Assistant Director, Technical Services M.S., Civil Engineering, Duke University, 1975.

Dick Walker, Travel Forecasting Manager B.S., Civil Engineering, Montana State University, 1974.

Scott Higgins, Senior Transportation Planner B.S., Economics, University of Oregon, 1979.

Nina Kramer, Senior Transportation Planner B.A., Geography, University of Minnesota, 1982.

Jennifer John, Associate Transportation Planner B.S., Economics, Lewis & Clark College, 1991

# Tri-County Metropolitan Transportation District of Oregon (Tri-Met), Engineering Services, Portland, Oregon.

Neil McFarlane, Executive Director of Capital Projects and Facilities B.S., Urban Planning, California State Polytechnic University at Pomona, 1975. M.S., Urban and Regional Planning, University of California at Los Angeles, 1975.

Ron Higbee, Project Director B.S., Civil Engineering, San Jose State University, 1970. M.S., Civil Engineering, San Jose State University, 1973.

Michael Fisher, Project Architect M.S., Architecture in Urban Design, Virginia Tech, 1973.

Alonzo Wertz (Environmental Mitigation and Permits) M.U.P., Urban Planning, University of Washington, 1972. B.S., Urban Planning, University of Washington, 1970.

John Griffiths, Project Engineer (Maintenance Facility)M.A., Civil Engineering, University of Virginia, 1979.B.S., Transportation Engineering and Planning, Worcester Polytechnic, 1976.

Claire Potter (Financial Analysis) B.A., Political Science, Lewis and Clark College, 1978.

Kathy Blodgett, Secretary Executive Secretary, Western Business College, 1969.

Robert A. Dethlefs, Junior Engineer B.S., Civil Engineering, Portland State University, 1995.

Jan Shearer, Community Relations Manager

Janet Schaeffer, Community Affairs Director A.B., American Civilization, Brown University, 1967.

**Oregon Department of Transportation (ODOT)** Doug Marsh, Environmental Specialist (Hazardous Materials) B.S., Portland State University, 1973.

### **Consultants:**

**Parametrix, Inc.** (Primary Consultant for FEIS) Mel Sears, PE (Regional Manager, Portland Office) B.S., Civil Engineering, Cogswell College, 1985. Professional Engineer - Oregon, Washington, California. Anne Sylvester, Transportation Division Manager (FEIS Consultant Project Manager) B.A., Economics, University of the Pacific, 1972. Professional Traffic Engineer – Oregon

Howard Roll, Transportation Planner (Traffic) M.S., Civil Engineering, Stanford, 1986 B.S., Environmental Earth Sciences, 1985 Professional Engineer (Traffic), Oregon, California

Dan Mills, Traffic Engineer (Traffic) B.S., Civil Engineering, University of Portland, 1988. Professional Engineer - Oregon.

Aaron Isenhart (Traffic) B.S., Civil Engineering, Iowa State University, 1998 Engineer in Training

Michele Eccelston, Wetlands Biologist (Ecosystems) B.S., Environmental Science and Natural Resources, Purdue University, 1992

Margaret Clancy, Wetland and Riparian, Restoration, Construction and Monitoring (Ecosystems) B.S., Forestry, University of Vermont, 1986 Society of Wetland Scientists, Certified Professional Wetland Scientist (PWS)

Gregory Green, Biologist (Ecosystems) M.S., Wildlife Ecology, Oregon State University, 1983 B.S., Biology, Eastern Oregon University, 1978

Gary Maynard, Environmental Planner (Energy) B.A., Geography, University of Washington, 1985 American Institute of Certified Planners

Linda L. Bishop, Sr. Office Administrator (Project Administration) B.A., Psychology, University of Missouri, 1980

**HNTB Corporation** (Sub-Consultant for Traffic Analysis) William I. James, III, Surface Transportation Project Manager M.S., Transportation Engineering, Villanova University, 1984. B.S., Civil Engineering, University of Virginia, 1980. Professional Engineer - Oregon, Washington.

Alan D. Black, Project Engineer B.S., Civil-Engineer, University of Houston, 1985. Professional Engineer - Texas, Washington.

Newlands & Company, Inc. (Sub-Consultant for Visual Simulations) Donald Newlands B.A., Fine Arts, Oberlin College, 1986.

Michael Minor & Associates (Subconsultant for Noise & Vibration Analysis) Michael A. Minor, President B.A., Mathematics, Whitman College, 1988. B.A., Physics, Whitman College, 1988.

Harris, Miller, Miller & Hanson (Subconsultant for Noise & Vibration Analysis)
Hugh Saurenman
B.S., Engineering, Harvey Mudd, Claremont, California, 1967
M.S., Mechanical Engineering, Tufts University, Medford, Massachusetts, 1969
Ph.D., Mechanical Engineering, Tufts University, Medford, Massachusetts, 1974

**TW Environmental, Inc.** (Subconsultant for Air Quality Analysis) Martha Moore, Environmental Engineer B.S., Environmental Resources Engineering, Humboldt State University, 1985. Professional Engineer, Oregon and California

Kate Moore, Technical Writing and Editing B.A. Communications, California State University at Fullerton, 1985.

Innovative Transportation Concepts (Subconsultant for Traffic Analysis) Thomas Bauer, Traffic Engineer Diplom-Ingenieur, Civil/Transportation Engineering, Universität Stuttgart, Germany Master of Science, Transportation Engineering, Oregon State University

#### The Larkin Group, Inc.

Geoff Larkin M..A., Political Science, University of Michigan, 1977. B.A., International Affairs, Lewis and Clark College, 1976.

Steven Siegel & Associates (Financial Analysis and Evaluation) Steve Siegel

M.S., Industrial Engineering, State University of New York at Buffalo, 1971. B.S., Industrial Engineering, Polytechnic Institute of New York, 1968.