Chapter 6

Implementation

CHAPTER 6

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6.0 Introduction

The policies and transportation strategy in this plan reflect federal, state and regional planning requirements, while balancing the need for transportation improvements with increasingly limited funding. As such, the plan serves as a 20-year blueprint for transportation improvements in the region, but leaves much work to be done. Implementing this plan will require a cooperative effort by all jurisdictions responsible for transportation planning in the region, and will involve the following:

- adoption of regional policies and transportation strategies in local plans
- a concerted regional effort to secure needed funding to build planned transportation facilities and maintain and operate an expanded transportation system
- construction of the transportation improvements needed to serve expected growth and address existing safety concerns
- focusing strategic improvements that leverage key 2040 Growth Concept components
- periodic updates of the plan to respond to development trends and the associated changes in travel demand
- incorporating transportation solutions from corridor-level or subarea refinement plans
- ongoing monitoring for consistency with the local TSP development and other implementing agency plans, including the Oregon Department of Transportation's Six-Year Program and Tri-Met's Transit Development Plan

The transportation strategy described in Chapter 5 of the plan will not meet all of the region's 20-year transportation needs, but it is a significant first step towards achieving the preferred system. Instead, it represents a pragmatic balance between the need to maintain existing infrastructure and keep pace with expected growth in the region and the realities of limited transportation funding. As the region moves forward with implementation of this plan, a new paradigm for how we view the transportation system must evolve. Like other urban utilities, transportation infrastructure must increasingly be viewed as a scarce commodity that should be managed and allocated to reflect the growing cost and complexity of expanding the system.

This chapter describes the steps necessary to implement the plan, including:

- compliance with federal, state and regional planning requirements
- implementation of the plan through local TSPs
- relationship to the Metropolitan Transportation Improvement Plan

- process for updating and amending the plan
- process for completing refinement plans, and locations where refinement plans must be completed
- outstanding issues that cannot be addressed at this time, but must be considered in future updates to the plan

Following this chapter are other important resources for implementing the plan, including appendices that describe proposed transportation projects and strategies in more detail, and a separate background document that describes much of the methodology used to develop this plan.

6.1 Demonstration of Compliance with Federal Requirements

6.1.1 Metropolitan Planning Required by TEA-21

The metropolitan planning process outlined by Congress in the federal Transportation Equity Act for the 21st Century (TEA-21) establishes a cooperative, continuous and comprehensive framework for making transportation investment decisions in metropolitan areas throughout the U.S. Program oversight is a joint FHWA/FTA responsibility. The federal planning requirements were originally promulgated as part of the 1992 federal Intermodal Surface Transportation Efficiency Act (ISTEA), and were substantially reaffirmed by TEA-21 in 1998.

Among the most significant continuing provisions of TEA-21 for the Metro region are the following planning requirements:

- Metro, in cooperation with the ODOT, Tri-Met and other transit operators, remain responsible for determining the best mix of transportation investments to meet metropolitan transportation needs
- Metro is responsible for adopting the Regional Transportation Plan
- Metro is responsible for adopting the MTIP. ODOT must include the MTIP without change in the STIP. The Governor is designated to resolve any disagreements between Metro's MTIP and ODOT's STIP
- The RTP must provide a 20-year planning perspective, addressing air quality consistency, fiscal constraint and public involvement requirements established under the original ISTEA
- The Oregon Department of Environmental Quality must adopt an Oregon State Implementation Plan (SIP). The SIP includes actions that must be adopted by Metro and results in an emissions budget for carbon monoxide and ozone. Metro must demonstrate progress toward implementing the actions identified in the SIP and demonstrate conformity with the carbon monoxide and ozone emissions budget

- A Congestion Management System (CMS) is required in larger metropolitan areas that are designated as air quality maintenance or non-attainment areas. The Portland metropolitan region was designated as a maintenance area in 1997. Highway projects that increase single-occupant vehicle capacity must be consistent with the CMS

- The CMS continues the requirement that alternatives to motor vehicle capacity increases be evaluated prior to adding single-occupant vehicle projects

- Federal Highway Administration and Federal Transit Administration certification of the planning process is required in larger metropolitan areas, including the Metro region

TEA-21 consolidated the 16 planning factors from the original ISTEA into seven broad areas to be considered in the planning process (contained in section 1203(f) of the federal act). These factors are advisory, and failure to consider any one of the factors is not reviewable in court. However, the seven factors seek to:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency

- Increase the safety and security of the transportation system for motorized and non-motorized users

- Increase the accessibility and mobility options available to people and for freight

- Protect and enhance the environment, promote energy conservation and improve quality of life

- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight

- Promote efficient system management and operation

- Emphasize the preservation of the existing transportation system.

Each of these factors has been addressed through RTP policies identified in Chapter 1 of this plan and selection of the proposed transportation projects and programs identified in Chapter 3 of this plan. Specific sections that address the seven federal planning factors are detailed in the RTP Background Document.

In addition to changes to the ISTEA planning factors and scope of regional transportation planning, TEA-21 also modified several other elements of the federal ISTEA. Under the revised provisions, the Regional Transportation Plan must:

- Include operation and management of the transportation system in the general objectives of the planning process

- Address transportation planning area boundary relationship to non-attainment area boundaries; boundaries established on date of enactment remain as is, but future

expansions of non-attainment area boundaries do not force expansion of transportation planning area unless agreed to by the Governor and Metro

- Coordinate with neighboring MPOs where a project crosses planning area boundaries
- Specifically identify freight shippers and users of public transit on the list of stakeholders to be given opportunity to comment on plans and TIPs
- Cooperate with ODOT and transit agencies in the development of financial estimates that support plan and TIP development
- Identify projects that will be implemented within a forecast of revenues that can be reasonably expected to be available over the life of the Regional Transportation Plan. The Regional Transportation Plan may also include additional projects that may be identified for illustrative purposes, and would be included in plans and TIPs if additional resources were available. Additional action by ODOT, Metro and the Secretary of Transportation is required to advance such projects

The RTP meets the TEA-21 provisions through its policies and project selection criteria. A summary of RTP compliance with these provisions is included in the RTP Background Document.

6.1.2 Air Quality Conformity: Criteria that Constitutes a Conformed Plan

The 2020 Preferred and Strategic Systems both require new revenue sources and go beyond federal requirements that long range transportation plans be based upon "constrained resources." Air quality conformity of this plan will be based upon a scaled-down 2020 Strategic System that can likely be implemented within the federally defined fiscally constrained level of reasonably available resources. Air quality conformity entails:

- Making reasonable progress on Transportation Control Measures as identified in the SIP
- Staying within the carbon monoxide and ozone emissions budgets set for transportation with the SIP based upon a fiscally constrained transportation network

Portland is currently designated a maintenance area for the National Ambient Air Quality Standards (NAAQS) for ozone and carbon monoxide under the Clean Air Act Amendments of 1990.

6.2 Demonstration of Compliance with State Requirements

6.2.1 System Plan Required by Oregon Transportation Planning Rule

The Oregon Transportation Planning Rule (TPR) sets forth a number of requirements for the RTP. Specifically, the RTP must address the following key provisions of the TPR, as set forth in Oregon Administrative Rule 660.012.000:

- **660.012.0015(2) - MPOs shall prepare TSPs in compliance with TPR**
  Metro is required to prepare a Transportation System Plan (TSP) for facilities of

regional significance within Metro's jurisdiction. The 1999 RTP constitutes this transprotation system plan.

- **660.012.0020 - TSP adequately serves regional transportation needs**
  The RTP fully addresses this requirement by identifying the region's 20-year transportation needs, including a future motor vehicle, public transportation, bicycle, pedestrian and freight system improvements, and complementary demand management, parking and financing programs.

- **660.012.0025 - Complying with Statewide Planning goals**
  This plan represents the first time a regional TSP has been adopted in the metro region. A such, the RTP estabablishes transportation needs for the purpose of local transportation and land-use planning. In some cases where a need has been established, decisions regarding function, general location and mode are deferred to a refinement plan or loal TSP. In these cases, the findings in Chapter 3 describe how these needs are met for the purpose of RTP analyis, and Sections 6.7.4 and 6.7.5 of this chapter establishes the need for refinement planning, and base assumptions for specific refinement plans that are needed to ensure consistency with the RTP.

- **660. 012.0025(3) - Refinement plans allowed**
  A number of refinement plans are proposed in the 1999 RTP, including 16 corridor plans and two area plans. Section 6.7 of this chapter describes the purpose and scope of refinement plans.

- **660.012.0030 - Determination of transportation needs**
  The project development phase of the 1999 RTP followed the congestion management requriements of Section 6.6.3 of this chapter, which incorporates the TPR requirements for determining transportation needs

- **660.012.0035 - Transportation system evaluation required**
  The 1999 RTP is built on an extensive foundation of modeling and analysis. The 2040 project included five separate land use and transportation scenarios, including the recommended alternative. A detailed transportatoin system was developed and modeled for each scenario, and the lessons learned from this effort were the starting point for the RTP update. Next, a level-of-service alternatives analysis was completed, to further refine the region's system performance standards. Finally, the system development component of the RTP update included three separate rounds of modeling and analysis that combined the principles of the 2040 project and the level of service analysis.

  For the purpose of complying this requirement, the Preferred System in Chapter 3 of the RTP establishes transportation needs relevant to the Metro area. The scale of the improvements in the Preferred System meet state, regional and local travel needs, including the needs of the disadvantaged, the movement of goods and the protection of farm and forest resources within rural reserves. Findings on these needs are detailed in Chapter 3 of this plan. Combined, these efforts meet or exceed the TPR requirements for system evaluation.

- **660.012.0035(4) - Reduction in vehicle miles traveled per capita**
  The 1999 RTP addresses this requirement through the non-SOV modal targets set forth in Figure 1.2 of this plan. The modal targets are linked to the 2040 Growth Concept, and if met, would result in satisfying the required 10 percent reduction in vehicle miles traveled per capita over the 20-year plan period. The non-SOV modal targets set the context for transportation improvements proposed in this plan. The analysis in Chapter 3 establishes findings that the region is making substantial progress toward, though the modal targets would not be met in all areas, due to the relative state of urbanization at the conclusion of the planning period. Areas with the greatest concentration of mixed-use development and quality transit service will easily meet the targets, while areas that are still developing are expected to meet the targets beyond the 20-year plan period.

  These findings represent the good faith effort required to comply with this element of the TPR. An outstanding issue in Section 6.8.10 of this chapter directs future updates of the RTP to expand on alternative measures that both comply with the TPR, and improve on the plan's ability to identify appropriate transportation projects to meet identified needs.

- **660.012.0035(6) - Measures and objectives required for non-auto travel**
  The non-SOV targets provide the basic framework for compliance with this TPR provision, which requires a number of measures for demonstrating reduced reliance on the automobile. Other policies in Chapter 1 of this plan complement the non-SOV targets, and findings in Chapter 3 of this plan demonstrate a reduced reliance on the automobile based on the proposed system improvements.

- **660.012.0040 - Transportation funding program**
  The project descriptions in Appendix 1 and financial analysis in Chapter 4 of this plan satisfy the various TPR trnasportation funding requirements. Benchmarks in Section 6.5.3 of this chapter will address TPR requirements for implementation of the RTP through the MTIP.

- **660.012.0050 - Transportation project development**
  Section 6.7 of this chapter establishes the regional project development requirements for improvements included in the RTP. These, and other related requirements are consistent with TPR provisions for project development.

Metro's compliance with these provisions through adoption of the RTP establishes compliance for the Metro region. Through the consistency review process, local TSPs will be evaluated to ensure that local strategies needed to satisfy the above regional planning requirements are implemented. However, local TSPs are not required to make specific findings on these TPR provisions for the regional system, since the RTP establishes compliance for the Metro region. Appendix 5.0 includes full findings of compliance with the TPR.

6.2.2 Regional TSP Provisions Addressed Through Local TSPs

The RTP establishes compliance for regional TSP requirements with the policies, projects and financial analysis contained in this plan, as described previously in this chapter. However, implementation of some regional TSP requirements will occur only through local

implementation of RTP policies. These include adoption of the modal targets specified in Policy 19 of Chapter 1, and parking management requirements contained in Title 2 of the Metro Code. Local adoption of the Chapter 1 modal targets is necessary to demonstrate compliance with the VMT/Capita reduction findings described in Chapter 3 of the plan.

6.3 Demonstration of Compliance with Regional Requirements

In November 1992, the voters approved Metro's Charter. The Charter established regional planning as Metro's primary mission and required the agency to adopt a Regional Framework Plan (RFP). The plan was subsequently adopted in 1997, and now serves as the document that merges all of Metro's adopted land-use planning policies and requirements. Chapter 2 of the Regional Framework Plan describes the different 2040 Growth Concept land-use components, called "2040 Design Types," and their associated transportation policies. The Regional Framework Plan directs Metro to implement these 2040 Design Types through the RTP and MTIP. These requirements are addressed as follows:

- Chapter 1 of the updated RTP has been revised to be completely consistent with applicable framework plan policies, and the policies contained in Chapter 1 of this plan incorporate all of the policies and system maps included in Chapter 2 of the framework plan. These policies served as a starting point for evaluating all of the system improvements proposed in this plan, and the findings in Chapter 3 and 5 of the RTP demonstrate how the blend of proposed transportation projects and programs is consistent with the Regional Framework Plan and 2040 Growth Concept

- The MTIP process has also been amended for consistency with the Regional Framework Plan. During the Priorities 2000 MTIP allocation process, project selection criteria were based on 2040 Growth Concept principles, and funding categories and criteria were revised to ensure that improvements critical to implementing the Growth Concept were adequately funded

Prior to completion of this updated RTP, several transportation planning requirements were included in the Urban Growth Management Functional Plan (UGMFP), which was enacted to address rapid growth issues in the region while the Regional Framework Plan and other long-range plans were under development. This updated RTP now replaces the transportation elements formerly contained in Title 6 of the UGMFP. In addition, parking policies contained in this plan were developed to be consistent with, but not overlap Title 2 of the UGMFP, which regulates off-street parking in the region. Therefore, this RTP serves as a discrete functional plan that is both consistent with, and fully complementary of the UGMFP.

6.4 Local Implementation of the RTP

6.4.1 Local Compliance with the RTP

The comprehensive plans adopted by the cities and counties within the metro region are the mechanisms by which local jurisdictions plan for transportation facilities. These local plans identify future development patterns that must be served by the transportation system. Local

comprehensive plans also define the shape of the future transportation system and identify needed investments. All local plans must demonstrate consistency with the RTP as part of their normal process of completing their plan or during the next periodic review. Metro will continue to work in partnership with local jurisdictions to ensure plan consistency.

For the purpose of local planning, all of the provisions in the RTP are recommendations unless clearly designated as a requirement of local government comprehensive plans. All local comprehensive plans and future amendments to local plans are required by state law to be consistent with the adopted RTP. For the purpose of transit service planning, or improvements to regional transportation facilities by any special district, all of the provisions in the RTP are recommendations unless clearly designated as a requirement. Transit system plans are required by federal law to be consistent with adopted RTP policies and guidelines. Special district facility plans that affect regional facilities, such as port or passenger rail improvements, are also required to be consistent with the RTP.

For inconsistencies, local governments, special districts or Metro may initiate the dispute resolution process detailed in this section chapter prior to action by Metro to require an amendment to a local comprehensive plan, transit service plan or other facilities plan. Specific elements in the 1999 RTP that require city, county and special district compliance are as follows:

Chapter 1 *Policies, objectives, motor vehicle level-of-service standard and modal targets, system maps and functional classifications including the following elements of Section 1.3:*

- *regional transportation policies 1 through 20 and objectives under those policies*
- *all system maps (Figures 1.1 through 1.15 , including the street design, motor vehicle, public transportation, bicycle, pedestrian and freight systems)*
- *motor vehicle performance standards (Table 1.1)*
- *regional non-SOV targets (Table 1.2)*

Chapter 2 *2020 population and employment forecast contained in Section 2.1 and 2.3, or alternative forecast as provided for in Section 6.4.8 of this chapter.*

Chapter 6 *The following elements of the RTP implementation strategy:*

- *Local implementation requirements contained in Section 6.4*
- *Project development and refinement planning requirements and guidelines contained in Section 6.7*

Upon adoption by ordinance, local TSPs shall be reviewed for consistency with these elements of the RTP. A finding of compliance for local TSPs that are found to be consistent with these elements of the RTP will be forwarded to the state Department of Land Conservation and

Development (DLCD) for consideration as part of state review of local plan amendments. A finding of non-compliance for local TSPs that are found to be inconsistent with the RTP will be forwarded to DLCD if conflicting elements in local plans or the RTP cannot be resolved between Metro and the local jurisdiction.

6.4.2 Local TSP Development

The state Transportation Planning Rule (TPR) requires most cities and counties in the Metro region to complete local Transportation System Plans (TSPs). These plans must be consistent with the RTP policies, projects and performance measures identified in this section.

Local TSPs must identify transportation needs for a 20-year planning period, including needs for regional travel within the local jurisdiction. Needs are generally identified either through a periodic review of a local TSP or a specific comprehensive plan amendment. Local TSPs that include planning for urban reserves must also include project staging that links the development of urban infrastructure in these areas to future expansion of the urban growth boundary.

Once a transportation need as been established, an appropriate transportation strategy or solution is identified through a two-phased process. The first phase is system-level planning, where a number of transportation alternatives are considered over a large geographic area such as a corridor or local planning area, or through a local or regional Transportation System Plan (TSP). The purpose of the system-level planning step is to:

- consider alternative modes, corridors, and strategies to address identified needs
- determine a recommended set of transportation projects, actions, or strategies and the appropriate modes and corridors to address identified needs in the system-level study area

The second phase is project-level planning (also referred to as project development), and is described separately in this chapter.

Local TSP development is multi-modal in nature, resulting in blended transportation strategies that combine the best transportation improvements that address a need, and are consistent with overall local comprehensive plan objectives.

6.4.3 Process for Metro Review of Local Plan Amendments, Facility and Service Plans

Metro will review local plans and plan amendments, and facility plans that affect regional facilities for consistency with the RTP. The following procedures are required for local plan amendments:

1. When a local jurisdiction or special district is considering plan amendments or facility plans which are subject to RTP local plan compliance requirements, the jurisdiction shall forward the proposed amendments or plans and accompanying staff report to Metro prior to public hearings on the amendment.

2. Within four weeks of receipt of notice, the Transportation Director shall notify the local jurisdiction whether the proposed amendment is consistent with RTP

requirements, and what, if any, modifications would be required to achieve consistency. The Director's finding may be appealed by both the local jurisdiction or the owner of an affected facility, first to JPACT and then to the Metro Council.

3. A jurisdiction shall notify Metro of its final action on a proposed plan amendment.

6.4.4 Transportation Systems Analysis Required for Local Plan Amendments

This section applies to city and county comprehensive plan amendments or to any local studies that would recommend or require an amendment to the Regional Transportation Plan to add significant single occupancy vehicle (SOV) capacity to multi-modal arterials and/or highways. This section does not apply to plans that incorporate the policies and projects contained in the RTP.

Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered when local transportation system plans (TSPs), multi-modal corridor and sub-area studies, mode specific plans or special studies (including land-use actions) are developed:

1. Transportation demand strategies that further refine or implement a regional strategy identified in the RTP

2. Transportation system management strategies, including intelligent Transportation Systems (ITS), that refine or implement a regional strategy identified in the RTP

3. Sub-area or local transit, bicycle and pedestrian system improvements to improve mode split

4. The effect of a comprehensive plan change on mode split targets and actions to ensure the overall mode split target for the local TSP is being achieved

5. Improvements to parallel arterials, collectors, or local streets, consistent with connectivity standards contained in section 3.07.620 of this title, as appropriate, to address the transportation need and to keep through trips on arterial streets and provide local trips with alternative routes

6. Traffic calming techniques or changes to the motor vehicle functional classification, to maintain appropriate motor vehicle functional classification

7. If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the comprehensive plan

Upon a demonstration that the above considerations do not adequately and cost-effectively address the problem and where accessibility is significantly hindered, Metro and the affected city or county shall consider:

1. Amendments to the boundaries of a 2040 Growth Concept design type

2. Amendments or exceptions to land-use functional plan requirements

3. Amendments to the 2040 Growth Concept

Demonstration of compliance will be included in the required congestion management system compliance report submitted to Metro by cities and counties as part of system-level planning and through findings consistent with the TPR in the case of amendments to applicable plans.

6.4.5 Design Standards for Street Connectivity

The design of local street systems, including "local" and "collector" functional classifications, is generally beyond the scope of the Regional Transportation Plan (RTP). However, the aggregate effect of local street design impacts the effectiveness of the regional system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the regional network. Therefore, streets should be designed to keep through trips on arterial streets and provide local trips with alternative routes. The following mapping requirements and design standards are intended to improve local circulation in a manner that protects the integrity of the regional system.

Cities and counties within the Metro region are required to amend their comprehensive plans, implementing ordinances and administrative codes, if necessary, to comply with or exceed the following mapping requirements and design standards:

1. Cities and Counties must identify all contiguous areas of vacant and under-developed parcels of five or more acres planned or zoned for residential or mixed-use development and prepare a conceptual new streets plan map. The map shall be adopted as a part of the Transportation System Plan element of the local Comprehensive Plan. The purpose of this map is to provide guidance to land-owners and developers on desired street connections that will improve local access and preserve the integrity of the regional street system.

   The conceptual street plan map should identify street connections to adjacent areas in a manner that promotes a logical, direct and connected street system. Specifically, the map should conceptually demonstrate opportunities to extend and connect to existing streets, provide direct public right-of-way routes, and limit the potential of cul-de-sac and other closed-end street designs.

2. In addition to preparing the above conceptual street plan map, Cities and Counties shall require new residential or mixed-use development that will require construction of new street(s) to provide a street map that:

   a. Responds to and expands on the conceptual street plan map as described in Section 3.07.630 A above for areas where a map has been completed

   b. Provides full street connections with spacing of no more than 530 feet between connections except where prevented by barriers such as topography, railroads, freeways, pre-existing development, or water features where regulations implementing Title 3 of the Urban Growth Management Functional Plan do not allow construction of or prescribe different standards for street facilities

   c. Provides bike and pedestrian connections on public easements or rights-of-way when full street connections are not possible. Spacing between connections shall be

no more than 330 feet except where prevented by barriers such as topography, railroads, freeways, pre-existing development, or water features where regulations implementing Title 3 of the Urban Growth Management Functional Plan do not allow construction of or prescribe different standards for construction of street facilities

d. Encourages pedestrian and bicycle travel by providing short, direct public right-of-way routes to connect residential uses with nearby existing and planned commercial services, schools, parks and other neighborhood facilities

e. Considers opportunities to incrementally extend and connect streets from adjacent or nearby areas in addition to any identified in the conceptual street plan map

f. Limits the use of cul-de-sac designs and closed street systems to situations where barriers such as topography, railroads, freeways or pre-existing development, or environmental constraints prevent full street extensions

g. Includes no closed-end streets longer than 200 feet, or with more than 25 dwelling units

h. Includes a street design, with exemplary street cross sections, that support expected speed limits

i. Considers use of narrow street design alternatives that feature total right-of-way of no more than 46 feet, including pavement widths of no more than 28 feet, curb-face to curb-face, sidewalk widths of at least 5 feet and landscaped pedestrian buffer strips that include street trees

3. For redevelopment of existing land-uses that require construction of new streets, cities and counties shall develop local approaches for meeting the connectivity and design standards outlined in Section B above.

6.4.6 Alternative Mode Analysis

Improvement in non-SOV mode share will be used as the key regional measure for assessing transportation system improvements in the central city, regional centers, town centers and station communities. For other 2040 Growth Concept design types, mode split will be used as an important factor in assessing transportation system improvements. These targets will also be used to demonstrate compliance with per capita travel reductions required by the state TPR. This section requires that cities and counties establish regional mode split targets for all 2040 design types that will be used to guide transportation system improvements, in accordance with Table 1.2 of this plan:

1. Each jurisdiction shall establish an alternative mode split target (defined as non-single occupancy vehicle person-trips as a percentage of all person-trips for all modes of transportation) in local TSPs for trips into, out of and within all 2040 Growth Concept land-use design types within its boundaries. The alternative mode split target shall be no less than the regional targets for these 2040 Growth Concept land-use design types to be established in Table 1.2 of this plan.

2. Cities and counties shall identify actions in local TSPs that will implement the mode split targets. These actions should include consideration of the maximum parking ratios adopted as part of Title 2, section 3.07.220; Regional Street Design considerations in this title and transit's role in serving the area.

6.4.7 Motor Vehicle Congestion Analysis

Motor Vehicle Level-Of-Service (LOS) is a measurement of congestion as a share of designed motor vehicle capacity of a road. Policy 13.0 and Table 1.1 of this plan establish motor vehicle level-of-service policy for regional facilities. These standards shall be incorporated into local comprehensive plans and implementing ordinances to replace current methods of determining motor vehicle congestion on regional facilities. By definition, the RTP addresses congestion of regional significance through the projects identified in Chapter 3 or refinements plans contained in this chapter of the plan. Other, more localized congestion is more appropriately addressed through the local TSP process, and includes any locations on the regional Motor Vehicle System (Figure 1.8) that are not addressed by the RTP. Intersection analysis and improvements also generally fall outside of the RTP, and capacity improvements recommended in this plan generally apply to links in the regional system, not intersections.

For the purpose of demonstrating local compliance with this policy as part of a periodic review or plan amendment, the following procedure for conducting the motor vehicle congestion analysis shall be used:

1. *Analysis* - a transportation need is identified in a given location when analysis indicates that congestion has reached the level indicated in the "exceeds deficiency threshold" column of Table 1.1 and that this level of congestion will negatively impact accessibility, as determined through section 4, below. The analysis should consider a mid-day hour appropriate for the study area and the appropriate two-hour peak-hour condition, either A.M. or P.M. or both, to address the problem. Other non-peak hours of the day, such as mid-day on Saturday, should also be considered to determine whether congestion is consistent with the acceptable or preferred operating standards identified in Table 1. The lead agency or jurisdictions will be responsible for determining the appropriate peak and non-peak analysis periods.

   An appropriate solution to the need is determined through requirements contained in this chapter. For regional transportation planning purposes, the recommended solution should be consistent with the acceptable or preferred operating standards identified in Table 1. A city or county may choose a higher level-of-service operating standard where findings of consistency with section 3.07.640(C) have been developed.

2. *Accessibility* - if a deficiency threshold is exceeded on the regional transportation system as identified in Table 1.1, cities and counties shall evaluate the impact of the congestion on regional accessibility using the best available quantitative or qualitative methods. If a determination is made by Metro that exceeding the deficiency threshold negatively impacts regional accessibility, cities and counties shall follow the transportation systems analysis and transportation project analysis procedures identified below.

3. *Consistency* - The identified function or the identified capacity of a road may be significantly affected by planning for 2040 Growth Concept design types. Cities and counties shall take actions described in Section 6.7 of this chapter, including amendment of their transportation plans and implementing ordinances, if necessary, to preserve the identified function and identified capacity of the road, and to retain consistency between allowed land-uses and planning for transportation facilities.

6.4.8 Future RTP Refinements Identified through Local TSPs

The 1999 RTP represents the most extensive update to the plan since it was first adopted in 1982. It is the first RTP to reflect the 2040 Growth Concept, Regional Framework Plan and state Transportation Planning Rule. In the process of addressing these various planning mandates, the plan's policies and projects are dramatically different than the previous RTP. This update also represents the first time that the plan has considered growth in urban reserves located outside the urban growth boundary but expected to urbanize during the 20-year plan period. As a result, many of the proposed transportation solutions are conceptual in nature, and must be further refined.

In many cases, these proposed transportation solutions were initiated by local jurisdictions and special agencies through the collaborative development process that Metro used to develop the updated RTP. However, the scope of the changes to the RTP will require most local governments and special agencies to make substantial changes to comprehensive, facility and service plans, as they bring local plans into compliance with the regional plan. In the process of making such changes, local jurisdictions and special agencies will further refine many of the solutions included in this plan.

Such refinements will be reviewed by Metro and, based on a finding of consistency with RTP policies, specifically proposed for inclusion in future updates to the RTP. This process will occur concurrently with overall review of local plans amendments, facility plans and service plans, and is subject to the same appeal and dispute resolution process. While such proposed amendments to the RTP are not effective until a formal amendment has been adopted, the purpose of endorsing such proposed changes is to allow local governments to retain the proposed transportation solutions in local plans, with a finding of consistency with the RTP.

6.4.9 Local 2020 Forecast - Options for Refinements

The 1999 RTP is a 20-year plan, with a 2020 forecast developed from 1994 base data. Metro produced an updated 2020 forecast that accounts for urban reserve actions, and estimates the amount of jobs and housing expected in urban reserves in 2020. Because local TSPs using the 2020 forecast may experience different modeling outcomes in these areas than were observed during the development of the RTP, Metro will accept local plans under the following three options:

1. Local plans in areas unaffected by urban reserve actions may be developed using the RTP forecast for 2020 (which is based on 1994 data)

2. Local plans already under way at the time of RTP adoption, and which include areas affected by urban reserve actions, may be developed using the RTP forecast for 2020 (based on 1994 data), with population and employment allocations adjusted by the local jurisdiction to reflect urban reserve actions. However, adjustments to population

and employment allocations shall (a) remain within the holding capacity of a traffic zone or area, as defined by Metro's productivity analysis, and (b) not exceed traffic zone or area assumptions of the updated 2020 forecast

3. Local plans in area affected by urban reserve actions may use the updated 2020 forecast, and any subsequent differences in proposed transportation solutions will be reconciled during Metro's review of the local plan

Metro will update the 2020 population and employment allocations periodically to reflect local and regional land-use decisions. For example, changes to the 2020 population and employment allocations could result if an urban reserve area is reduced in size or taken out altogether if the urban growth boundary is expanded or if local zoning capacity is amended to increase or decrease.

6.4.10 Transit Service Planning

Efficient and effective transit service is critical to meeting mode-split targets, and the regional transit functional classifications are tied to Region 2040 land-use types. Local transportation system plans shall include measures to improve transit access, passenger environments and transit service speed and reliability for:

- rail station areas, rapid bus and frequent bus corridors where service is existing or planned

- regional bus corridors where services exists at the time of TSP development

To ensure that these measures are uniformly implemented, cities and counties shall:

1. Adopt a transit system map, consistent with the transit functional classifications shown in Figure 1.16, as part of the local TSP. Identify all major transit stops, including the major stops identified Appendix [blank] of the RTP

2. Design pedestrian facilities to minimize walking distances to major transit stops

3. Provide marked pedestrian crossings at transit stops, and marked crossings at major stops

4. Consider locating schools, public buildings, public assistance housing, hospitals and other care facilities within walking distance of transit

5. Use street designs which anticipate planned transit stop spacing, location, and facilities (such as shelters, benches, signage, passenger waiting areas) consistent with the Creating Livable Streets design guidelines

6. Consider transit-preferential measures in street and signal improvements (e.g., signal priority, designated lanes, and traffic controls)

6.5 Metropolitan Transportation Improvement Program (MTIP)

6.5.1 The Role of the MTIP in Regional Planning

An important tool for implementing the plan is the Metropolitan Transportation Improvement Program (MTIP), the region's four-year funding document. The MTIP schedules and identifies funding sources, for projects of regional significance to be built during a four-year period. Federal law requires that all projects using federal funds be included in the MTIP. In developing the MTIP, the region gives top priority to strategic transportation investments that leverage and reinforce the urban form outlined in Chapter 1, of this plan. The MTIP is adopted by Metro and the Oregon Transportation Commission for inclusion into a unified State TIP (STIP), that integrates regional and statewide improvement plans. The MTIP is updated every two years.

ISTEA and TEA21 created important new fiscal requirements for the TIP. The TIP is fiscally constrained and includes only those projects for which federal resources are reasonably available. Projects are grouped by funding category, with project costs not to exceed expected revenue sources. The MTIP financial plan is not comprehensive; it covers only federal funds for capital improvements, and does not include operations, maintenance and preservation or local funds for capital costs.

It is the responsibility of the cities, counties, ODOT, Tri-Met and the Port of Portland to implement necessary improvements to the regional system, as well as those needed for local travel. The TIP is prepared by Metro in consultation with these agencies. Inter-regional coordination throughout the planning and programming process will help to ensure that improvement projects are consistent with regional objectives and with each other.

Projects included in the MTIP must also be included in the RTP financially constrained scenario. For the purpose of this plan, the constrained scenario is defined in Appendix [blank]. However, while the constrained scenario should provide the basis for most MTIP funding decisions, other projects from the RTP may also be selected for funding. In the event that such projects are drawn from the plan for funding, the RTP constrained scenario will be amended to include the project or projects. In addition, when the constrained scenario is amended, continued financial constraint must be demonstrated by identifying additional revenues or removal of other projects from the constrained scenario. Except in the case of exempt projects (as defined by the federal and state conformity rules) such actions require an air quality conformity determination.

6.5.2 How the MTIP is Developed

Though the MTIP development process is initiated by Metro, the work begins at the local level, with city and county elected officials receiving input from citizens through local planning efforts, and later sharing their transportation needs at the Joint Policy Advisory Committee on Transportation (JPACT). Additional public input is received at the regional level, as well, when JPACT and the Metro Council review the MTIP for final approval. Upon adoption by the Council, the MTIP is submitted to the Oregon Transportation Commission (OTC) for approval as part of the State Transportation Improvement Plan (STIP).

In 1999, more than $75 million in regional funds were allocated to a wide variety of projects, ranging from safety improvements and system expansion to projects that leverage the 2040 Growth Concept. Priorities 2000 was the process for developing the fiscal year 2000 to 2003

MTIP. The first step in Priorities 2000 was developing criteria for ranking projects by transportation modes. The second step was a solicitation for project submittals. Local governments, Tri-Met and the Port of Portland submitted 150 transportation projects, with a cost of more than $300 million, for funding consideration. In the third step, projects were ranked by technical and administrative criteria. Next, the Priorities 2000 projects were reviewed at a series of public workshops and hearings.

The final funding recommendation included 65 projects. The funding package broke new ground in Metro's objective of creating strong linkages between planned land-uses and the allocation of transportation funding. Based on the flow of federal transportation funding, the "Priorities" process for updating the MTIP and allocating revenues will occur every two years.

6.5.3 RTP Implementation Benchmarks

The RTP establishes an general direction for implementation of needed improvements that reflects a wide variety of factors, including expected development trends, existing safety and operational deficiencies, and anticipated revenue. The project timing proposed in the RTP also reflect an effort to create a balanced, multi-modal transportation system. As such, the projects are organized according to those needed during the first five, second five and final ten years of the planning period. To ensure that incremental funding decisions that occur through the MTIP follow this general RTP direction, benchmarks shall be established for monitoring RTP implementation over time, and:

1. The benchmarks shall be tied to Chapter 1 objectives and shall address the relative performance of the system and the degree to which the various RTP projects are being implemented.

2. Findings for consistency with the benchmarks shall be developed as part of the biennial MTIP update, or as necessary in conjunction with other RTP monitoring activities.

6.6 Process for Amending the RTP

6.6.1 RTP Policy, System Map and Compliance Criteria Amendments

When Metro amends policies or system maps in Chapter 1 of this plan or compliance criteria in this chapter, it will evaluate and adopt findings regarding consistency with the Regional Framework Plan. Decisions on amendments made at this level are land-use decisions for need, mode, corridor, general scope and function of a proposed project. Subsequent land-use decisions on final project design and impact mitigation will be needed prior to construction. Such analysis to evaluate impacts could lead to a "no-build" decision where a proposed project is not recommended for implementation, and would require reconsideration of the proposed project or system improvements. As such, amendments at this level shall be reviewed through the post-acknowledgement process. However, a decision on an amendment to the Regional Transportation Plan should not foreclose or appear to foreclose full and fair consideration of all relevant goal issues at such time that specific projects and programs are adopted by a local jurisdiction.

It is Metro's responsibility to adopt findings based on project need, mode, corridor, general scope and function of projects proposed in the Regional Transportation Plan. The affected jurisdiction is responsible for preparing the specific local plan amendments and findings related to specific location, project design and impact mitigation and for scheduling them for hearing before the governing body in time for action by that body by the time required.

6.6.2 RTP Project Amendments

The RTP establishes a comprehensive policy direction for the regional transportation system and recommends a balanced program of transportation investments to implement that policy direction. However, the recommended investments do not solve all transportation problems and are not intended to be the definitive capital improvement program on the local transportation system for the next 20 years.

Rather, the RTP identifies the projects, programs or further refinement studies required to adequately meet regional transportation system needs during the 20-year planning period. Local conditions will be addressed through city and county TSPs, and will require additional analysis and improvements to provide an adequate transportation system. Section E of this chapter anticipates such refinements, particularly given the degree to which this RTP has been updated from previous plans. Similarly, refinements to the RTP may result from ongoing corridor plans or area studies. The following processes may be used to update the RTP to include such changes:

1. Amendments resulting from major studies: as the findings of such studies are produced, they will be recommended by a resolution of JPACT and the Metro Council. These amendments must be incorporated into the RTP through a quasi-judicial or legislative process, as needed.

2. Amendments resulting from local TSPs: new roadway, transit, bikeway, pedestrian, freight and demand management projects necessary to meet the objectives of the RTP shall be accompanied by an demonstration of consistency with the RTP based on the following criteria:

   a. The objectives to be met by the proposed projects(s) are consistent with RTP goals, policies and objectives (Chapter 1)

   b. The proposed action is consistent with the modal function of the facility as defined in Chapter 1

   c. The impact of the proposed projects(s) on the balance of the regional system through a CMS analysis

   d. The proposed action is needed to achieve the motor vehicle level-of-service performance criteria identified in the RTP as follows:

      A) principal, major and minor arterial capacity improvements are necessary to maintain compliance with Policy 13.0, Table 1.1. Improvements that are designed to provide a higher level of service than the minimum acceptable standard established in Policy 13.0 can be designed and/or provided at the option of the

implementing jurisdiction. Such actions must be consistent with the RTP as outlined in this section and demonstrate that either:

i) a long-range evaluation of travel demand indicates a probable need for right-of-way preservation beyond that necessary for the 20-year project design, or

ii) the additional service provided by the higher level design is the result of an design characteristic necessary to achieve the minimum motor vehicle performance standard

B) local transportation system improvements must be consistent with the following:

i) the local system must adequately serve the local travel demands expected from development of the land-use plan to the year 2020 to ensure that the regional system is not overburdened with local traffic

ii) local analysis shall incorporate required street connectivity plans

iii) the local system provides continuity between neighboring jurisdictions, consistency between city and county plans for facilities within city boundaries and consistency between local jurisdictions and ODOT plans

e. The need for the proposed action based on Metro's adopted population and employment projections, or refinements as noted in Section 6.4.8

f. The proposed action is consistent with the mode split and rideshare requirements specified in Policy 19.0, Table 2 of Chapter 1

g. The proposed action represents the lowest cost system alternative solution acceptable

h. The proposed action is not prohibited by unacceptable environmental impacts or other considerations

i. A goal, policy or system plan element in the federal RTP would likely change as the result of a "no-build" project decision later in the process

j. The project is in the local jurisdiction's TSP, and a final local land-use action occurred

k. The project is contained in or consistent with the RTP, adopted comprehensive plan, or implementation plan(s) of any other affected jurisdictions

l. Sufficient public involvement activities have occurred regarding the proposed action

The amount of information required to address these criteria shall be commensurate with the scope of the project. Such additions will be amended into the RTP as part of the project update process described in this section. Operations, maintenance and safety improvements are deemed consistent with the policy intent of the RTP if (a) they are needed to serve the travel demand associated with Metro's adopted population and employment forecasts, and (b) they are consistent with affected jurisdictional plans.

6.6.3 Congestion Management Requirements

This section applies to any amendments to the Regional Transportation Plan to add significant single occupancy vehicle (SOV) capacity to multi-modal arterials and/or highways. Consistent with Federal Congestion Management System requirements (23 CFR Part 500) and TPR system planning requirements (660-12), the following actions shall be considered through the RTP when recommendations are made to revise the RTP to define the need, mode, corridor and function to address an identified transportation needs, and prior to recommendations to add significant SOV capacity:

1. Regional transportation demand strategies

2. Regional transportation system management strategies, including intelligent transportation systems (ITS)

3. High occupancy vehicle (HOV) strategies

4. Regional transit, bicycle and pedestrian system improvements to improve mode split

5. Unintended land-use and transportation effects resulting from a proposed SOV project or projects

6. Effects of latent demand from other modes, routes or time of day from a proposed SOV project or projects

7. If upon a demonstration that the above considerations do not adequately and cost-effectively address the problem, a significant capacity improvement may be included in the regional transportation plan

6.6.4 Plan Maintenance

The RTP is updated every three to five years, and covers a minimum 20-year plan period. Periodic amendments to the plan will also occur, as needed, to reflect recommendations from corridor or sub-area planning studies. As preparation for each scheduled update, development throughout the region will be monitored to determine whether growth (and the associated travel demand) occurs as forecast. Metro will review its population and employment forecasts annually and update them at least every five years for the following conditions:

- national or regional growth rates differ substantially from those previously assumed
- significant changes in growth rate or pattern develop within jurisdictions
- changes to the urban growth boundary are adopted
- a jurisdiction substantially changes its land-use plan

New information gathered during the course of the year on such issues as energy price and supply, population and employment growth, inflation and new state and federal laws may

result in different conditions to be addressed by the plan. These modifications will be incorporated as needed during periodic updates to the plan. Each update will occur in cooperation with affected jurisdictions, state agencies and public transit providers.

6.7 Project Development and Refinement Planning

6.7.1 Role of RTP and the Decision to Proceed with Project Development

After a project has been incorporated in the RTP, it is the responsibility of the local sponsoring jurisdiction to determine the details of the project (design, operations, etc.) and reach a decision on whether to build the improvement based upon detailed environmental impact analysis and findings demonstrating consistency with applicable comprehensive plans. If this process results in a decision not to build the project, the RTP will be amended to delete the recommended improvement and an alternative must be identified to correct the problem.

6.7.2 New Solutions Re-submitted to RTP if No-Build Option is Selected

When a "no-build" alternative is selected at the conclusion of a project development process, a new transportation solution must be developed to meet the original need identified in the RTP, or a finding that the need has changed or been addressed by other system improvements. In these cases, the new solution or findings will be submitted as an amendment to the RTP, and would also be evaluated at the project development level.

6.7.3 Project Development Requirements

Transportation improvements where need, mode, corridor and function have already been identified in the RTP and local plans must be evaluated on a detailed, project development level. This evaluation is generally completed at the local jurisdiction level, or jointly by affected or sponsoring agencies. The purpose of project development planning is to consider project design details and select a project alignment, as necessary, after evaluating engineering and design alternatives and potential environmental impacts. The project need, mode, corridor, and function do not need to be addressed at the project level, since these findings have been previously established by the RTP.

The TPR and Metro's Congestion Management System (CMS) document require that measures to improve operational efficiency be addressed at the project level, though system-wide considerations are addressed by the RTP. Demonstration of compliance will be included in a required Congestion Management System report that is part of the project-level planning and development. In addition, this section requires that street design guidelines be considered as part of the project-level planning process. This section does not apply to locally funded projects on facilities not designated on the Regional Motor Vehicle System Map or the Regional Street Design Map. These provisions are simply guidelines for locally funded projects.

Therefore, in addition to system-level congestion management requirements described in Section 6.6.3 in this chapter, cities, counties, Tri-Met, ODOT, and the Port of Portland shall consider the following project-level operational and design considerations during transportation project analysis:

1. Transportation system management (e.g., access management, signal inter-ties, lane channelization, etc.) to address or preserve existing street capacity.

2. Street design policies, classifications and design principles contained in Chapter 1 of this plan, and implementing guidelines contained in "Creating Livable Streets: Street Design Guidelines for 2040" (1997) or other similar resources consistent with regional street design policies.

6.7.4 Specific Corridor Refinements

The system analysis in Chapters 3 identifies a number of corridor refinement studies that must be completed before specific transportation solutions can be adopted into the RTP. In these corridors, both the need for transportation improvements, and a recommended action have been determined. At this stage, these proposed transportation projects must be developed to a more detailed level before construction can occur. This process is described in Section 6.7.3 of this chapter.

The project development stage determines design details, and a project location or alignment, if necessary, after evaluating engineering and design details, and environmental impacts. While all projects in this plan must follow this process before construction can occur, the following projects must also consider the design elements described in this section:

Banfield (Interstate 84) Corridor

Despite the relatively heavy investments made in transit and highway capacity in this corridor in the 1980s, further improvements are needed to ensure an acceptable level of access to the central city from Eastside Portland neighborhoods and East Multnomah County. However, physical, environmental and social impacts make highway capacity improvements in this corridor unfeasible. Instead, local and special district plans shall consider the following transportation solutions for this corridor:

- mitigate infiltration on adjacent corridors due to congestion along I-84 through a coordinated system of traffic management techniques (ITS)

- improve light rail headways substantially to keep pace with travel demand in the corridor

- improve bus service along adjacent corridors to keep pace with travel demand, including express and non-peak service

- consider additional feeder bus service and park-and-ride capacity along the eastern portion of the light rail corridor to address demand originating from East Multnomah and North Clackamas Counties

- develop TSM strategies for the Gateway regional center to mitigate expected spillover effects on the development of the regional center

Northeast Portland Highway

As radial urban highways such as the Banfield and Interstate-5 are increasingly burdened by peak period congestion, freight mobility will rely more heavily on circumferential routes, including I-205 and Northeast Portland Highway, for access to industrial areas and intermodal facilities. Northeast Portland Highway plays a particularly important role, as it links the Rivergate marine terminals and PDX air terminals to industry across the region (this route includes Killingsworth and Lombard streets from I-205 to MLK Jr. Boulevard, and Columbia Boulevard from MLK Jr. Boulevard to North Burgard). Though Northeast Portland Highway appears to have adequate capacity to serve expected 2020 demand, a number of refinements in the corridor are needed. Local and special district plans should consider the following transportation solutions as improvements are made in this corridor:

- improve Northeast Portland Highway as a strategy for addressing Banfield corridor and east Marine Drive congestion
- develop a long-term strategy to serve freight movement between Highway 30 and Rivergate
- implement aggressive access management along Northeast Portland Highway
- implement and refine Columbia Corridor improvements to address full corridor needs of Northeast Portland Highway, from Rivergate to I-205
- consider future grade separation at major intersections
- streamline the Northeast Portland Highway connection from the Lombard/Killingsworth section to Columbia Boulevard with an improved transition point at MLK Jr. Boulevard
- improve the Columbia Boulevard interchange at I-5 to provide full access to Northeast Portland Highway
- construct capacity and intersection improvements between 82nd Avenue and I-205

Interstate-84 to US 26 Connector

The long-term need to develop a highway link between I-84 and Highway 26 exists, but a series of interim improvements to Hogan Road are adequate to meet projected demand through 2020. The RTP calls for a series of interim improvements that will better connect Hogan Road to both I-84 on the north, and Highway 26 to the south.

These improvements are needed to ensure continued development of the Gresham regional center and expected freight mobility demands of through traffic. They also benefit transit-oriented development along the MAX light rail corridor, as they would move freight traffic from its current route along Burnside, where it conflicts with development of the Rockwood town center and adjacent station communities. In addition to planned improvements to the Hogan Road corridor, local plans should consider:

- more aggressive access management between Stark Street and Powell Boulevard on 181st, 207th and 257th avenues

- redesigned intersections improvements on Hogan at Stark, Burnside, Division and Powell to streamline through-flow.

Sunrise Highway

The full Sunrise Highway improvement from I-205 to Highway 26 is needed during the 20-year plan period, but should be implemented with a design and phasing that reinforces development of the Damascus town center, and protect rural reserves from urban traffic impacts. Though a draft environmental impact statement has been prepared for this corridor, the final environmental impact statement should be refined to consider the following design elements:

- Construct the segment from I-205/Highway 224 interchange to existing Highway 212 at Rock Creek as funds become available

- preserve right-of-way (ROW) from Rock Creek to Highway 26 as funds become available

- consider phasing Sunrise construction as follows: (a) complete I-205 to Rock Creek segment first, followed by (b) ROW acquisition of remaining segments, then (c) construction of 222nd Avenue to Highway 26 segment and (d) lastly, construction of middle segment from Rock Creek to 222nd Avenue as Damascus town center develops

- consider express, peak period pricing and HOV lanes as phases of the Sunrise Highway are constructed

- reflect planned network of streets in Damascus/Pleasant Valley area in refined interchange locations along the Sunrise Route, including a connection at 172nd Avenue, the proposed major north/south route in the area

- implement bus service in parallel corridor from Damascus to Clackamas regional center via Sunnyside Road

- avoid premature construction that could unintentionally increase urban pressures in rural reserves east of Damascus

- examine the potential for the highway to serve as a "hard edge" in the ultimate urban form of the Damascus area

- develop a concurrent plan to transition the function of the existing Highway 212 facility into a major arterial function, with appropriate access management and intersection treatments identified

I-5 to 99W Connector

An improved regional connection between Highway 99W and I-5 is needed in the Tualatin area to accommodate regional traffic, and to move it away from the Tualatin, Sherwood and Tigard town centers. This connection will have significant effects on urban form in this rapidly growing area, and the following design considerations should be addressed in a corridor plan:

- balance improvement plans with impacts on Tualatin and Sherwood town centers and adjacent rural reserves
- in addition to the northern alignment considered in the Western Bypass Study, examine the benefits of a southern alignment, located along the southern edge of Tualatin and Sherwood, including the accompanying improvements to 99W that would be required with either alignment
- identify parallel capacity improvements to Tualatin-Sherwood Road and 99W in Tigard from I-5 to Highway 217 that could be used to phase in, and eventually complement future highway improvements
- examine potential the proposed highway to serve as a "hard edge" in the ultimate urban form of the Sherwood area
- develop an access management and connectivity plan for 99W in the Tigard area that balances accessibility needs with physical and economic constraints that limit the ability to expand capacity in this area
- examine potential for peak-period pricing

Sunset Highway

Improvements are needed in this corridor to preserve access to and from the central city and the Sunset Corridor employment area, and provide access to Hillsboro regional center. The following design elements should be considered as improvements are implemented in this corridor:

- maintain off-peak freight mobility
- phase in capacity improvements from the Sylvan interchange to 185th Avenue, expanding to a total of three general purpose lanes in each direction
- improve light rail service, with substantially increased headways
- construct major interchange improvements at Sylvan, Cedar Hills Boulevard and Cornelius Pass Road
- identify and construction additional overcrossings in the vicinity of interchanges to improve connectivity and travel options for local traffic, thus improving interchange function

- consider express, HOV lanes and peak period pricing when adding highway capacity, especially west of Highway 217

Highway 213

Improvements to this highway link between I-205 and the Willamette Valley should be built in phases, and consider the following:

- continued development of the Oregon City regional center
- interim improvements identified in the 1999 Highway 213 Urban Corridor Study (and included in this plan)
- freight mobility demands
- access needs of Beavercreek urban reserves, including a re-evaluation of the suitability of Oregon City urban reserves in light of transportation constraints

Macadam/Highway 43

Though heavy travel demand existing along Macadam/Highway 43, between Lake Oswego and the central city, physical and environmental constraints preclude major roadway expansion. Instead, a long-term strategy for high-capacity transit that links the central city to southwest neighborhoods and Lake Oswego town center is needed. As this service is implemented, the following design options should be considered in local and special district plans:

- interim repairs to maintain Willamette Shores Trolley excursion service
- implement frequent bus service from Lake Oswego town center to Portland central city in the Macadam corridor
- phasing of future streetcar commuter service or commuter rail in this corridor to provide a high-capacity travel option during congested commute periods
- implement bicycle safety improvements where appropriate south of the Sellwood Bridge

6.7.5 Specific Corridor Studies

Major corridor studies will be conducted by state or regional agencies working in partnership with local governments in the following areas. In each case, a transportation need has been established by the RTP. A transportation need is identified when regional standards for safety, mobility, or congestion are exceeded. In many of these corridors, RTP analysis indicates several standards are exceeded.

The purpose of the corridor studies is to develop an appropriate transportation strategy or solution through the corridor planning process. For each corridor, a number of transportation

alternatives will be examined over a broad geographic area or through a local TSP to determine a recommended set of projects, actions or strategies that meet the identified need. The recommendations from corridor studies are then incorporated into the RTP, as appropriate. This section contains the following specific considerations that must be incorporated into corridor studies as they occur:

Interstate-5 North (I-84 to Clark County)

This heavily traveled route is the main connection between Portland and Vancouver. In addition to a number of planned highway refinements, light rail is proposed along Interstate Avenue to the Expo Center, and may eventually extend to Vancouver. As improvements are implemented in this corridor, the following design considerations should be addressed:

- consider HOV lanes and peak period pricing
- transit alternatives from Vancouver to the Central City
- maintain an acceptable level of access to the central city from Portland neighborhoods and Clark County
- maintain off-peak freight mobility, especially to numerous marine, rail and truck terminals in the area
- maintain an acceptable level of access to freight intermodal facilities and to the Northeast Portland Highway
- construct interchange improvements at Columbia Boulevard to provide freight access to Northeast Portland Highway
- address freight rail network needs
- construct additional Interstate Bridge capacity on the Interstate bridges
- develop actions to reduce through-traffic on MLK and Interstate to allow main street redevelopment

Interstate-5 South (Highway 217 to Wilsonville)

This facility serves as the major southern access to and from the central city. The route also serves as an important freight corridor, and provides access to Washington County via Highway 217. Projections for this facility indicate that growth in traffic between the Metro region and the Willamette Valley will account for as much as 80 percent of the traffic volume along the southern portion of I-5, in the Tualatin and Wilsonville area. For this reason, the appropriate improvements in this corridor are unclear at this time. However, I-5 serves as a critical gateway for regional travel and commerce, and an acceptable transportation strategy in this corridor has statewide significance. A major corridor study is proposed to address the following issues:

- the effects of peak period congestion in this area on regional freight mobility

- the ability of inter-city transit service, to/from neighboring cities in the Willamette Valley, including commuter rail, to slow traffic growth in the I-5 corridor

- the ability to maintain off-peak freight mobility with capacity improvements

- the potential for better coordination between the Metro region and valley jurisdictions on land-use policies

- the effects of a planned long-term strategy for managing increased travel along I-5 in the Willamette Valley

In addition, the following design elements should be considered as part of the corridor study:

- peak period pricing and HOV lanes for expanded capacity

- provide rapid bus service on parallel Barbur route, connecting Wilsonville to the central city

- provide additional overcrossings in West Portland town center to improve local circulation and interchange access

- add capacity to parallel arterial routes, including 72nd Avenue, Boones Ferry, Lower Boones Ferry and Carmen Drive

- add overcrossings in vicinity of Tigard Triangle to improve local circulation

- extend commuter rail service from Salem to the central city, Tualatin transit center and Milwaukie, primarily along existing heavy rail tracks

Interstate 205

Improvements are needed in this corridor to address existing deficiencies and expected growth in travel demand in Clark, Multnomah and Clackamas counties. Transportation solutions in this corridor should address the following needs and opportunities:

- provide for some peak period mobility for longer trips

- preserve freight mobility from I-5 to Clark County, with an emphasis on connections to Highway 213, Highway 224 and Sunrise Highway

- Maintain an acceptable level of access to the Oregon City, Clackamas and Gateway regional centers and Sunrise industrial area

- maintain acceptable levels of access to PDX, including air cargo access

- shape urban form in the Stafford urban reserve area with physical configuration of highway improvements

Potential transportation solutions in this corridor should evaluate the potential of the following design concepts:

- auxiliary lanes added from Airport Way to I-84 East
- consider express, peak period pricing or HOV lanes as strategy for expanding capacity
- relative value of specific ramp, overcrossing and parallel route improvements
- eastbound HOV lane from I-5 to the Oregon City Bridge
- truck climbing lane south of Oregon City
- potential for rapid bus service from Oregon City to Gateway
- potential for extension of rapid bus service north from Gateway into Clark County
- potential for refinements to 2040 land-use assumptions in this area to expand potential employment in the subarea and improve jobs/housing imbalance
- potential for re-evaluating the suitability of the Beavercreek urban reserve, based on ability to serve the area with adequate regional transportation infrastructure

McLoughlin-Highway 224

Long-term improvements are needed in this corridor to preserve access to and from the Central City from the Clackamas County area. Transportation solutions in this corridor should address the following design considerations

- institute aggressive access management throughout corridor, including intersection grade separation along Highway 224 between Harrison Street and I-205
- design access points to McLoughlin and Highway 224 to discourage traffic spillover onto 17th Avenue and Tacoma Streets
- monitor other local collector routes and mitigate spillover effect from congestion on McLoughlin and Highway 224
- consider an added reversible HOV or peak-period priced lane between Ross Island Bridge and Harold Street intersection
- expand highway capacity to a total of three general purpose lanes from Harold Street to I-205, with consideration of express, HOV lanes or peak period pricing for new capacity
- provide a more direct transition from McLoughlin to Highway 224 at Milwaukie to orient long trips and through traffic onto Highway 224 and northbound McLoughlin

- provide improved transit access to Milwaukie and Clackamas regional centers, including rapid bus in the short term, and light rail service from Clackamas regional center to Central City in the long term

Powell Boulevard/Foster Road

The concentration of urban reserves in Clackamas County and southeast Multnomah County will place heavy demands on connecting routes that link these areas with employment centers in Portland and Multnomah County. Of these routes, the Foster/Powell corridor is most heavily affected, yet is also physically constrained by slopes and the Johnson Creek floodplain, making capacity improvements difficult. More urban parts of Foster and Powell Boulevard are equally constrained by existing development, and the capacity of the Ross Island Bridge.

As a result, a corridor study is needed to explore the potential for high capacity transit strategies that provide access from the developing Pleasant Valley and Damascus urban reserves to employment areas along the Foster/Powell corridor, Gresham regional center, Columbia South Shore industrial area and central city. Such a study should consider the following transportation solutions:

- aggressive transit improvements, including rapid bus service from Central City to Damascus town center via Powell and Foster roads, and primary bus on 172nd Avenue and to the Gresham regional center, Eastside MAX and Columbia South Shore

- capacity improvements that would expand Foster Road from two to three lanes from 122nd to 172nd avenues, and from two to five lanes from 172nd Avenue to Highway 212, phased in coordination with planned capacity improvements to Powell Boulevard between I-205 and Eastman Parkway

- extensive street network connection improvements in the Mount Scott and Pleasant Valley areas to reduce local travel demand on Foster Road and Powell Boulevard, and to improve access between these areas and adjacent East Multnomah and northeast Clackamas Counties

- ITS or other system management approaches to better accommodate expected traffic growth on the larger southeast Portland network, East Multnomah and northeast Clackamas County network

Highway 217

Improvements in this corridor are needed to accommodate expected travel demand, and maintain acceptable levels of access to the Beaverton and Washington Square regional centers. The following design and functional considerations should be included in the development of transportation solutions for this corridor:

- expand highway to include a new lane in each direction from I-5 to US 26

- address the competing needs of serving localized trips to the Washington Square and Beaverton regional centers and longer trips on Highway 217

- consider express, HOV lanes and peak period pricing when adding new capacity
- design capacity improvements to maintain some mobility for regional trips during peak travel periods
- design capacity improvements to preserve freight mobility during off-peak hours
- retain auxiliary lanes where they currently exist
- improve parallel routes to accommodate a greater share of local trips in this corridor
- improve light rail service with substantially improved headways
- coordinate with planned commuter rail service from Wilsonville to Beaverton regional center

Tualatin Valley Highway

A number of improvements are needed in this corridor to address existing deficiencies and serve increased travel demand. The primary function of this route is to provide access to and between the Beaverton and Hillsboro regional centers. As such, the corridor is defined as extending from Farmington Road, in Beaverton, to Baseline Road, in Hillsboro. The following design considerations should be addressed as part of a corridor study:

- aggressively manage access as part of a congestion management strategy
- implement TSM and other interim intersection improvements at various locations between Cedar Hills Boulevard and Brookwood Avenue
- implement long-term, a limited access, divided facility from Murray Boulevard to Brookwood Avenue, with three lanes in each direction and grade separation at major intersections
- implement complementary capacity improvements on parallel routes, including Farmington, Alexander, Baseline and Walker roads

North Willamette Crossing

The RTP analysis shows a strong demand for travel between Northeast Portland Highway and the adjacent Rivergate industrial area and Highway 30 on the opposite side of the Willamette River. This demand is currently served by the St. Johns Bridge. However, the St. Johns crossing has a number of limitations that must be considered in the long term in order to maintain adequate freight and general access to the Rivergate industrial area and intermodal facilities. Currently, the St. Johns truck strategy is being developed (and should be completed in 2000) to balance freight mobility needs with the long-term health of the St. Johns town center. The truck strategy is an interim solution to demand in this corridor, and does not attempt to address long-term access to Rivergate and Northeast Portland Highway from Highway 30. Specifically, the following issues should be considered in a corridor plan:

- build on the St. Johns Truck Strategy recommendations to adequate freight and general access to Rivergate, while considering potentially negative impacts on the development of the St. Johns town center

- incorporate the planned development of a streamlined Northeast Portland Highway connection from I-205 to Rivergate to the crossing study

- include a long-term management plan for the St. John's Bridge, in the event that a new crossing is identified in the corridor plan recommendations

6.7.6 Areas of Special Concern

Section 660.012.0060 of the state Transportation Planning Rule (TPR) allows local plans to "modify planned function, capacity and performance standards, as needed, to accept greater motor vehicle congestion to promote mixed-use, pedestrian friendly development where multi-modal choices are provided." Facilities in the areas or corridors described in this section are expected to exceed the motor vehicle level of service policy set forth in this plan, and fall under this designation, as they are planned mixed use areas that will be with a wide range of transportation alternatives.

However, in each case, the range of transportation solutions needed to address an RTP motor vehicle deficiency represents an unacceptable social, financial or environmental impact, and would be inconsistent with other local, regional and statewide planning goals. Further, each of these areas or corridors represents a relatively localized impact on the overall regional system, and other, alternative travel routes that would continue to conveniently serve regional travel needs. Strategies for managing traffic impacts and providing adequate transportation performance in these areas could include bicycle, pedestrian and transit improvements, demand management programs or changes to land-use plans.

In these areas where motor vehicle performance measures will be exceeded, local TSPs shall adopt one of the following approaches for establishing other transportation performance standards for Areas of Special Concern:

1. Adopt the following performance standards in the local TSP:

   a. Non-SOV targets consistent with Table 1.2 in Chapter 1 of this plan

   b. parking ratios consistent with Title 2 of the Urban Growth Management Functional Plan (UGMFP)

   c. a street connectivity plan for the Area of Special Concern that meets the connectivity requirements set forth in Section 6. 4.5 of this chapter

   d. a plan for mixed-use development

2. Establish an Area of Special Concern action plan that:

a. anticipates the growth and subsequent impacts of motor vehicle traffic on multi-modal travel in these areas

b. establishes an action plan for mitigating the growth and subsequent impacts of motor vehicle traffic

c. establishes performance standards for monitoring and implementing the action plan

The action plan shall consider land-use strategies, as well as transportation solutions for managing the effects of continued traffic growth.

For either strategy, the adopted approach and performance measures shall be incorporated into Appendix 2 of the RTP during the next scheduled update. For an Area of Special Concern, adopted performance measures consistent with this section are required at the time of a plan amendment that significantly affected a regional facility, consistent with OAR 660.012.0060.

The following area Areas of Special Concern where refinement planning to establish performance measures shall occur as part of the local TSP process, in accordance with this section:

Highway 99W

The Highway 99W corridor between Highway 217 and Durham Road is designated as a mixed-used corridor in the 2040 Growth Concept, and connects the Tigard and King City town centers. This route also experiences heavy travel demand. The City of Tigard and Washington County have already examined a wide range of improvements that would address the strong travel demand in this corridor. The RTP establishes the proposed I-5 to 99W connector as the principal route connecting the Metro region to the 99W corridor outside the region. This emphasis changes the function of 99W, north of Sherwood, to a major arterial classification, with less need to accommodate longer, through trips.

As such, the ultimate design and scale of improvements along 99W in the heavily congestion Tigard section should be evaluated as part of the Tigard, King City and Washington County TSPs, and factor in the obvious social, financial and environmental impacts that adding capacity to this facility could bring. The primary function should be to serve circulation within the local community, and implement the planned mixed use development in the Tigard town center and along 99W where the mixed-use corridor designation applies. The local TSPs should also include specific action plans and benchmarks to ensure that traffic growth is managed in a way that is consistent with broader community goals, and to ensure that alternative mode choices are provided in the Tigard and King City town centers.

Gateway Regional Center

Like the Beaverton regional center, Gateway is at a major transportation crossroads, and both suffers and benefits from the level of access that results. The Preferred System analysis shows that from the perspective of employers looking at labor markets, the Gateway area is the most accessible place in the region. At the same time, spillover traffic from the Banfield Freeway corridor exceeds the LOS policy on a number of east/west corridors in the Gateway area, including Halsey, Glisan, Burnside, Stark and Division Streets.

The local TSP should examine the ability of local streets in these areas to absorb travel demand to a degree that cannot be measured in the regional model. A traffic management plan for these streets should be integrated with the overall TSP strategy, but should establish specific action plans and benchmarks for facilities determined to exceed the LOS policy in the local analysis. Alternative mode choices should be identified to further reduce travel demand. The local TSP should also consider strategies for providing better access to LRT, including park and ride facilities at station areas.

6.8 Outstanding Issues

The section describes a number of outstanding issues that will could not be addressed at the time of adoption of this plan, but should be addressed in future updates to the RTP.

6.8.1 Green Streets Initiative and the ESA

Metro has been awarded a TGM grant to conduct a Green Streets project to address the growing relationship between transportation planning and stream protection. The proposed Green Streets project will address potential conflicts between good transportation design and the need to protect streams and wildlife corridors. The Oregon Salmon and Watershed Plan and recent federal listing of steelhead trout further bolsters the need to develop strategies to improve water quality in our region's streams and address declining fish populations in water bodies determined to support salmon and steelhead populations.

Impervious surfaces are hard surfaces that do not allow water to soak into the ground and increase the amount of storm water running into the storm water drainage system. Streets and driveways combine to form the largest source of impervious surfaces in our urban landscape, followed by buildings and parking lots. The public right-of-way covers some 20 percent of our urban landscape. As this region continues to grow so will the amount of land dedicated for use as public right-of-way. It has become increasingly important to acknowledge the effect of this right-of-way on the health of our environment and identify strategies that minimize conflicts between uses within the right-of-way and our region's lakes, streams and wildlife corridors.

The Green Streets project will include:

- A regional culvert inventory and database that will provide jurisdictions with the latest information on transportation impacts on stream corridors;
- New street connectivity provisions that consider tradeoffs between improved connectivity and potential stream crossing impacts
- A demonstration project that tests connectivity and environmental design proposals as part of the Pleasant Valley-Damascus urban reserve plan
- A best practices *Green Streets* guidebook that defines acceptable design solutions where major streets and streams meet.

Final recommendations from the Green Streets project will be incorporated, as appropriate, into the RTP. The project is scheduled for completion in July 2001.

6.8.2 Damascus-Pleasant Valley TCSP Planning

Metro was recently awarded a special federal TCSP grant from the US Department of Transportation to complete an urban reserve plan for the Damascus-Pleasant Valley area of Clackamas County. The work scope for the project is broad, encompassing land-use, transportation, and environmental planning. The project is scheduled to begin in early 2000. The objective of the study is to prepare concept plans for this large urban reserve area in anticipation of future urbanization. Metro will work with a number of local partners to complete the project, including the cities of Portland, Gresham and Happy Valley, and Multnomah and Clackamas counties. A citizen policy advisory committee that includes residents and key stakeholders will guide the project.

The Damascus-Pleasant Valley planning effort will include conceptual transportation planning for regional facilities in the area, and more detailed street planning for northern portions of the area that are already included in the urban area. Transportation scenarios will be developed to reflect a variety of land-use alternatives for the area, and will be analyzed with the regional transportation model.

The preferred alternative will likely include refinements to the Damascus-Pleasant Valley street functional classifications and transportation improvements included in this plan. Proposed amendments to the RTP would be considered upon completion of the study, which is scheduled to conclude in Fall 2002. The preferred alternative will also include future street plans for some local streets that may be incorporated into local TSPs.

6.8.3 Regional Transportation Model Enhancements

Multi-modal Performance Measure Development

Section 660.012.0060 of the state Transportation Planning Rule allows for the development of alternative measures for evaluating transportation function and efficiency. Though the principal measure in this plan measures motor vehicle performance, future updates to the plan should uses a multi-modal measure that better reflects transportation needs and potential solutions. Such measures are already used for Areas of Special Concern identified in Chapter 1 of this plan, but should also be considered in other areas to better evaluate both the need and relative effectiveness of multi-modal transportation solutions.

Tour-Based Modeling and TRO Enhancements

Tour-based modeling represents a departure from the current trip-based model used to develop the RTP. In contrast to the current model, tour-based modeling allows for a much more detailed analysis, since it does not rely on the somewhat generalized assumptions that accompany the current model. In the current system, land-use and transportation assumptions are created for each of 1,260 traffic zones that form the smallest building block for analysis. Tour-based modeling will allow data to be evaluated to the tax lot or parcel level, which will result in a much more detailed and flexible system for testing proposed transportation improvements.

The recently completed Traffic Relief Options (TRO) project was the first Metro effort to use tour-based modeling. This study tested the effects of congestion pricing on travel in the region, and allows relative pricing costs to be evaluated in terms of the ability to redistribute travel and manage congestion. The tour-based model with TRO enhancements could offer a unique new tool for future RTP updates, as the concepts of congestion pricing and tolling are likely to be considered as major transportation strategies.

Bicycle and Pedestrian Modeling

The existing regional transportation model probably underestimates bicycle and pedestrian trips, and does not predict bicycle travel according to the transportation network. Instead, the current model predicts bicycle and pedestrian trips as part of the "mode choice" step of the modeling process, but does not assign these trips to a network to predict how they might be distributed. While pedestrian trips are generally short enough to make a network assignment impractical, bicycle trips are of sufficient length to be assigned to a network and evaluated at this level. As part of a future update to the RTP or the Regional Bicycle Plan, Metro will develop a bicycle network modeling process that will improve the region's ability to plan for bicycle travel.

The ODOT Willamette Valley Model

ODOT has developed a more detailed set of travel zones for the Willamette Valley which will allow Metro to better predict travel demand at "gateway" points where Willamette Valley traffic enters the region. Currently, the regional model simply projects historic traffic volumes on such routes, but is unable to evaluate how congestion, parallel routes, and distribution of employment in and outside the region affects travel demand at these "gateway" locations. The ODOT Valley Model has been used in other Metro transportation projects, and should be considered for the next RTP update.

6.8.4 Connectivity Research

In1996, Metro completed the Regional Street Design study, a project that resulted in new regional street design classifications in the RTP and connectivity provisions in the UGMFP. The connectivity provisions were based on a series of five case studies of subareas within the Metro region. These areas averaged two square miles in area, and ranged from a very urbanized neighborhood in Portland, to developing areas in Clackamas and Washington counties. For each subarea, conceptual street systems were used to evaluate the benefits of varying levels of street connectivity. The results of this analysis are published in Metro's technical report Street Connectivity Analysis (1997).

The connectivity analysis in the 1996 study was limited to motor vehicles, and while the findings from the study are conclusive, the consultant for the project recommended an expanded analysis of one or two of the subareas to confirm the sensitivity analysis included in the original study.

A follow-up study is proposed to confirm the motor vehicle findings of the 1996 study, and expand the analysis to examine the effects of varying levels of connectivity on pedestrian, transit and bicycle travel. This follow-up study could result in proposed changes to existing

UGMFP connectivity requirements. This follow-up study is scheduled to be conducted by Metro upon completion of the 1999 RTP update, and recommendations from the study could be considered for adoption in 2001.

6.8.5 Ramp Metering Policy and Implications

During the 1990s, ODOT has increasingly managed access to the principal arterial system (freeways and highways) with ramp metering. This system of signaled ramp controls allows ODOT to remotely manage traffic flows onto the system to streamline merges and prevent bottlenecks during peak travel periods. Ramp meters provide a low-cost alternative for adding system capacity and enhancing safety. However, as traffic volumes continue to increase on the principal arterial system as well as connecting major and minor arterial routes, the practice of ramp metering will become more complex. Already, local concerns about ramp "storage" capacity forcing backups onto local routes have required ramp expansions in some locations where metering is used.

As part of the next update of the RTP, the policy considerations raised by ramp metering should be addressed. The fundamental principle behind ramp metering is to maintain traffic flows on principal routes as a priority over local arterial routes. However, this assumption should be carefully evaluated on the basis of the performance and reliability requirements of the freeway system in the context of the new land use patterns and street classifications and configurations evolving out of the Region 2040 growth concept.

6.8.6 Green Corridor Implementation

Green corridors were adopted as part of the 2040 Growth Concept. They are designated in rural areas where state-owned highways connect neighbor cities to the metro area. The purpose of green corridors is to prevent unintended urban development along these often heavily traveled routes, and maintain the sense of separation that exists between neighbor cities and the Metro region. The green corridor concept calls for a combination of access management and physical improvements to limit the effects of urban travel on the routes on adjacent rural activities.

In several corridors, Metro has already developed inter-governmental agreements (IGAs) with local governments to address access management issues. However, IGAs are not in place in most corridors, and physical improvements, such as street and driveway closures, landscaping and public signage have not been implemented in any green corridors. During the next several years, Metro will continue to work with ODOT and affected local jurisdictions to complete IGAs for the remaining green corridors, and develop plans for necessary improvements. Such improvements should be incorporated into future updates of the RTP.

6.8.7 2040 Land-use and Transportation Evaluation

Though the RTP contains a number of land-use recommendations, more work is needed to further evaluate RTP and 2040 Growth Concept to determine potential land-use changes that would be beneficial to the transportation system. This evaluation would consider directing growth away from areas that do not have adequate transportation systems, and focusing growth in areas with surplus transportation capacity, as well as improving the balance of jobs and housing to reduce long-distance commuting on the principal arterial system.

6.8.8 Industrial Lands Evaluation

Additional work is needed in Tier 2, 3 and 4 urban reserve lands to determine where strategic transportation improvements could be implemented to make industrial land more viable for development. This evaluation would identify key areas for industrial development where non-transportation actions would enable industrial development that complements the planned transportation system.

6.8.9 TDM Program Enhancements

The TDM program should be continually updated to include new strategies for regional demand management. One such strategy that should be considered is the Location Efficient Mortgage (LEM). The LEM is a mortgage product that increases the borrowing power of potential homebuyers in "location efficient" neighborhoods. Location efficient neighborhoods are pedestrian friendly areas with easy access to public transit, shopping, employment and schools. The LEM recognizes that families can save money by living in location efficient neighborhoods because the need to travel by car is reduced. Instead of owning two cars, a family living in a location efficient neighborhood could get by with one - or none. The LEM requires bankers to look at the average monthly amount of money that applicants would be spending on transportation if they had to use a car for day-to-day transport and applies it to the servicing of a larger mortgage. This increases the purchasing power of borrowers when buying a home in location efficient neighborhoods, stimulating home purchases in existing urban areas.

6.8.10 Transportation Performance Measures

The 1999 RTP marks the first time in the 18-year evolution of the plan that a performance measure other than congestion is adopted as regional policy. The newly incorporated Area of Special Concern designation allows for a broader definition of performance in mixed use centers and corridors, where transportation solutions solely aimed at relieving congestion are inappropriate for functional, physical, financial or environmental reasons.

However, the Area of Special Concern designation is only a first step toward a more broadly defined set of performance measures. Future updates of the RTP should continue to expand the definition of performance to encompass all modes of travel as they relate to planned land uses. While congestion should be factored into a more diverse set of measures, it should be evaluated in a more comprehensive fashion to ensure that transportation solutions identified in future RTP updates represent the best possible approaches to serving the region's travel demand.

METRO

Glossary

Glossary of Transportation Definitions

Accessibility – The ability to move easily from one mode of transportation to another mode or to a given land-use destination. The more places that can be reached for a given cost, the greater the accessibility. Of equal importance is the quality of travel choices to a given destination. Accessibility is governed by both land-use patterns and the number of travel alternatives provided by the transportation system.

Access management – The principles, laws and techniques used to control access off and onto streets, roads and highways from roads and driveways. One of the primary purposes of controlling access is to reduce conflicts between motor vehicles, pedestrians and bicyclists. Examples of access management include limiting or consolidating driveways, selectively prohibiting left-turn movements at and between intersections and using physical controls such as signals and raised medians.

Air quality conformity – This term refers to the Clean Air Act Amendments of 1990, which require the metropolitan region to document with computer modeling that regionally significant transportation projects, if built, would result in (1) automotive emissions lower than those estimated to have occurred in 1990 (2) lower emissions than would result without building the project and (3) total emissions lower than the "mobile source budget" adopted in the regional air quality maintenance plan.

Alternative transportation mode – This term refers to all passenger modes of travel except for single-occupancy vehicle, including bicycling, walking, public transportation, carpooling and vanpooling.

Advanced traffic management system (ATMS) – This term refers to traffic management techniques that use computer processing and communications technologies to optimize performance of motor vehicle, freight and public transportation systems. ATMS is a subset of intelligent transportation system (ITS) technologies and must be addressed as one of the 16 ISTEA planning factors.

Americans With Disabilities Act (ADA) of 1990 – Civil rights legislation enacted by Congress that mandates the development of a plan to address discrimination and equal opportunity for disabled persons in employment, transportation, public accommodation, public services and telecommunications. Tri-Met's ADA transportation plan outlined the requirements of the ADA as applied to Tri-Met services, the deficiencies of the existing services when compared to the requirements of the new act and the remedial measures necessary to bring Tri-Met and the region into compliance with the act. Metro, as the region's metropolitan planning organization (MPO) is required to review Tri-Met's ADA Paratransit Plan annually and certify that the plan conforms to the Regional Transportation Plan. Without this certification, Tri-Met cannot be found to be in compliance with the ADA. ADA also affects the design of pedestrian facilities being constructed by local governments.

Areas of special concern – Designated areas that are planned for mixed-use development, but are also characterized by physical, environmental or other constraints that limit the range of acceptable transportation solutions for addressing a level-of-service need, but where alternative routes for regional through-traffic are provided.

Bicycle – A vehicle having two tandem wheels, a minimum of 14 inches in diameter, propelled solely by human power, upon which a

person or persons may ride. A three-wheeled adult tricycle is considered a bicycle. In Oregon, a bicycle is legally defined as a vehicle. Bicyclists have the same right to the roadways and must obey the same traffic laws as the operators of other vehicles.

Bicycle facilities – A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities, all bikeways and shared roadways not specifically designated for bicycle use.

Bike lane – A portion of a roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bicycle network – A system of connected bikeways that provide access to and from local and regional destinations and to adjacent bicycle networks.

Bikeway – A bikeway is created when a road has the appropriate design treatment for bicyclists, based on motor vehicle traffic volumes and speeds. On-road bikeways include shared roadway, shoulder bikeway, bike lane or bicycle boulevard design treatments. Another type of bikeway design treatment, the multi-use path, is separated from the roadway.

Boulevard intersections – Boulevard design classifications are usually focused on centers and some main streerts where a pedestrian and transit-oriented street design can best complement dense development patterns. However, there many locations where corridors and some main streets intersect along major streets. At these intersections, the confluence of motor vehicle traffic must be managed to limit negative impacts on multi-modal travel and the development of planned land-uses. While boulevard intersections accommodate a significant amount of motor vehicle travel, they are designed with special amenities that promote pedestrian, bicyle and public transportation travel. Pedestrian improvements are substantial, including wide sidewalks, special lighting, crossings on all streets and special crossing features where unusually heavy motor vehicle traffic is present.

Branch railroad – Non-Class I rail lines.

Capacity – The maximum number of vehicles (vehicle capacity) or passengers (person capacity) that can pass over a given section of roadway or transit line in one or both directions during a given period of time under prevailing roadway and traffic conditions.

Citizen advisory committee (CAC) – Selected for a specific issue, project or process, a group of citizens volunteer and are appointed by Metro to represent citizen interests. The RTP citizen advisory committee reviews regional transportation issues.

Clean Air Act Amendments of 1990 – Amendments to the Clean Air Act which specify that no transportation project, whether federally or locally funded, may interfere with attainment or maintenance of federal air quality standards. With respect to transportation planning, this requirement means that the Federal Highway Administration and the Federal Transit Administration must affirm that all regionally significant transportation projects must be identified in the Metro Transportation Improvement Program and must be demonstrated to conform with the 1982 Oregon State (Air Quality) Implementation Plan (SIP). Note: The SIP is currently being amended to show Portland-area attainment of national air quality standards and methods adopted to maintain the standards for a 20-year period. EPA approval of the SIP amendment is expected in late 1997.

Closed-end street – A street that has only one egress to any other existing street or planned street identified in the local Transportation System Plan. Cul-de-sacs, dead-end and looped streets

are examples of closed-end streets.

Collector of regional significance – This term refers to routes that connect the regional arterial system and the local collector system by collecting and distributing neighborhood traffic to arterials streets. Collectors of regional significance have three purposes. First, these facilities ensure adequate access to the primary and secondary land-use components of the 2040 Growth Concept. Second, collectors of regional significance allow dispersion of arterial traffic over a number of lesser facilities where an adequate local network exists. Third, collectors of regional significance help to define appropriate collector level movement between juridictions.

Community – For the purposes of the RTP, this term refers to informal subareas of the region, and may include one or more incorporated areas and adjacent unincorporated areas that share transportation facilities or other urban infrastructure. For example, references to the east Multnomah County community usually includes the cities of Gresham, Troutdale, Fairview and Wood Village and unincorporated areas that abut these jurisdictions (see "Regional").

Community connector bikeway – These bikeways connector smaller town centers, main streets, station areas, industrial areas and other regional attractors to the regional bikeway system.

Connector roadway route – A road that connects freight facilities or freight generation areas to the main roadway route.

Congestion management system (CMS) – The CMS is one of the six management systems required by ISTEA. The CMS is to provide "information on transportation system performance and alternative strategies to alleviate congestion and enhance mobility." A key provision of CMS is that consideration must be given to a variety of demand reduction and operational management strategies as alternatives to increases in single-occupant vehicle capacity when addressing deficiencies. This includes methods to monitor and evaluate performance, identify alternative actions, assess and implement cost-effective actions and evaluate the effectiveness of implemented actions.

Contiguous parcels – Parcels of land that are adjacent to one another; not separated by other parcels, public right-of-way or an easement that prevents construction of a street.

Density bonus – This term refers to allowing developers to build at higher densities than stated in local zoning code. This incentive is designed to promote more compact development, reduce trip lengths and promote alternative modes of travel.

Distribution facility – A facility where freight is reloaded from one land-based model to another for further distribution.

Employee Commute Options (ECO) Rule – The ECO Rule is part of House Bill 2214 adopted by the 1992 Oregon Legislature. The rule directs the Department of Environmental Quality to institute an employee trip reduction program. The rule is designed to reduce 10 percent of commuter trips for all businesses that employ 50 or more persons at a single site.

Freight intermodal facility – An intercity facility where freight is transferred between two or more modes (e.g., truck to rail, rail to ship, truck to air, etc.)

Functional plan – A limited purpose multi-jurisdictional plan for an area or activity having significant district-wide impact upon the orderly and responsible development of the metropolitan area that serves as a guideline for local comprehensive plans consistent with ORS 268.390.

Greater metropolitan region – Defined as the greater area surrounding and including Metro's jurisdictional area, including parts of Multnomah, Clackamas and Washington counties as well as urban areas in Marion, Columbia and Yamhill counties (see "Metropolitan Region").

Growth Concept – A concept for the long-term growth management of our region, stating the preferred form of the regional growth and development, including if, where, and how much the urban growth boundary should be expanded, what densities should characterize different areas, and which areas should be protected as open space.

HCT corridor – This is a corridor designation that indicates that the right-of-way in this corridor would allow for future fixed guideway LRT or high-speed, high-quality regional rapid bus that emulates LRT.

High-occupancy vehicle (HOV) – This term refers to vehicles that are carrying two or more persons, including the driver. An HOV could be a transit bus, vanpool, carpool or any other vehicle that meets the minimum occupancy requirements of the specific facility. In practice, only vehicles with two or three or more persons would be able to use a designated "HOV" travel lane.

Impervious surfaces – This term refers to hard surfaces that do not allow water to soak into the ground and increase the amount of stormwater running off into the stormwater drainage system. The majority of total impervious surfaces is from roads, sidewalks, parking lots and driveways. Stormwater runoff from these impervious surfaces reduces the amount of recharge of water to ground water and increases the capacity requirements of the storm water drainage system.

Intermodal facility – A transportation element that accommodates and interconnects different modes of transportation and serves the statewide, interstate and international movement of people and goods. For example, an intermodal yard is a railyard that facilities the transfer of containers or trailers. *See also passenger intermodal facility and freight intermodal facility definitions.*

Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 – The federal highway/public transportation funding reauthorization that, among other features, funds the national highway system and gives states and local governments more flexibility in making transportation decisions. The act places significant emphasis on broadening public participation in the transportation planning process to include key stakeholders, including the business community, community groups, transit operators, other governmental agencies and those who have been traditionally underserved by the transportation system. Among other things, the act requires the metropolitan area planning process to consider such issues as land-use planning, energy conservation, intermodal connectivity and enhancement of transit service. Finally, the act integrates transportation planning with achievement of the air quality conformity requirements embodied in the Clean Air Act Amendments of 1990 and state air quality plans.

Joint Policy Advisory Committee on Transportation (JPACT) – A 17-member committee that consists of elected officials from area cities and counties as well as leaders from public agencies in the region with an interest in transportation. This committee's role is to evaluate transportation needs and coordinate transportation decisions for the region, and give recommendations to the Metro Council.

Land Conservation and Development Commission (LCDC) – The seven-member directorship of Oregon's statewide planning program. The LCDC is responsible for approving comprehensive land-use plans promulgating regulations for each of the statewide planning goals.

Local comprehensive plan – A generalized, coordinated land-use map and policy statement of the governing body of a city or county that inter-relates all functional and natural systems and activities related to the use of land, consistent with state law.

Main roadway route – A road linking major cities, regions of the state or other states.

Marine facility – A facility where freight is transferred between water-based and land-based modes.

Metro –The regional government and designated metropolitan planning organization (MPO - see below) of the Portland metropolitan area. It is governed by a 7-member Metro Council elected by and representing districts within Metro's jurisdictional boundaries: Multnomah County and generally the urban portions of Clackamas and Washington counties. Metro is responsible for the Oregon Zoo, solid waste landfills, the Oregon Convention Center, the Portland Center for the Performing Arts, establishing and maintaining the urban growth boundary, and for regional transportation planning activities such as the preparation of the RTP, and the planning of regional transportation projects including light-rail.

Metro Committee for Citizen Involvement (MCCI) – A committee composed of citizen representatives from the tri-counties area, to "advise and recommend actions to the Metro Council on matters pertaining to citizen involvement."

Metro Council – A decision-making body composed of seven members elected from districts throughout the metropolitan region (urban areas of Clackamas, Multnomah and Washington counties). The Council approves Metro policies, including transportation plans, projects and programs recommended by the Joint Policy Advisory Committee on Transportation.

Metro Policy Advisory Committee (MPAC) – A committee established by the Metro charter and composed of local elected officials (including representatives from Clark County, Wash. and the state of Oregon), MPAC is responsible for recommending to the Metro Council adoption of or amendment to any element of the charter-mandated Regional Framework Plan.

Metropolitan Planning Organization (MPO) – An individual agency designated by the state governor in each federally recognized urbanized area to coordinate transportation planning for that metropolitan region. Metro is that agency for Clackamas, Washington and Multnomah Counties; for Clark County, Wash., that agency is the Southwest Washington Regional Transportation Council (SWRTC, formally the Intergovernmental Resource Center).

Metropolitan region – Defined as the area included within Metro's jurisdictional boundary, including parts of Multnomah, Clackamas and Washington counties (see "Greater Metropolitan Region").

Metropolitan Transportation Improvement Program (MTIP) – A staged, multi-year, intermodal program of transportation projects which is consistent with the metropolitan transportation plan.

Mobility – The ability to move people and goods from place to place, or the potential for movement. Mobility improves when the transportation network is refined or expanded to improve capacity of one or more modes, thus allowing people and goods to move more quickly toward a particular destination.

Motor vehicle level of service (LOS) – A qualitative measure describing operational conditions within a traffic stream, and their

perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, convenience and safety. An LOS rating of "A" through "F" describes the traffic flow on streets and highways and at intersections. The following table describes general traffic flow characteristics for each level of service on a street or highway:

LOS	Traffic Flow Characteristics
A	Virtually free flow; completely unimpeded
B	Stable flow with slight delays; reasonably unimpeded
C	Stable flow with delays; less freedom to maneuver
D	High density but stable flow
E	Operating conditions at or near capacity; unstable flow
F	Forced flow, breakdown conditions
Greater than F	Demand exceeds roadway capacity, limiting volume than can be carried and forcing excess demand onto parallel routes and extending the peak period

Source: 1985. Highway Capacity Manual (A through F descriptions)
Metro (>F Description)

Multi-use path – A path that is physically separated from motor vehicle traffic by an open space or barrier and is either within the highway right-of-way or within an independent right-of-way, used by bicyclists, pedestrians, joggers, skaters and other non-motorized travelers.

Multi-use path with bicycle and pedestrian transportation function – These paths are paved off-street regional facilities that accommodate bicycle and pedestrian travel and meet the requirements of the Amercian with Disabilities Act. Multi-use paths with a bicycle and/or pedestrian transportation function are connections that are likely to be used by people bicycling or walking to work or school, to access transit or to get to a store, library or other local destination. These paths are generally located near or in residential areas or near centers. Bicycle/pedestrian sidewalks on bridges are also included in this functional classification.

Neighbor city – Nearby incorporated cities with separate urban areas from the Metro urban area, but connected to the metropolitan area by major highways. Neighbor cities include Sandy, Estacada, Canby, Newberg, North Plains and Scappoose.

Oregon Bicycle and Pedestrian Plan – An element of the Oregon Transportation Plan, this plan offers the general principles and policies that ODOT follows to provide bikeways and walkways along state highways. This plan also provides guidance to cities and counties, as well as other organizations and private citizens, in establishing bicycle and pedestrian facilities on local transportation systems.

Oregon's Statewide Planning Goals – The 19 goals that provide a foundation for the state's land-use planning program. The 19 goals can be grouped into four broad categories: land-use, resource management, economic development, and citizen involvement. Locally adopted comprehensive plans and regional transportation plans must be consistent with the statewide planning goals.

Oregon Transportation Plan (OTP) – The state's official statewide, intermodal transportation plan that will set priorities and state policy in Oregon for the next 40 years. The plan, developed by the Oregon Department of Transportation through the statewide transportation planning process, responds to federal ISTEA requirements and Oregon's Transportation

Planning Rule.

Park–and-ride – A mode of travel, usually associated with movements between work and home that involves use of a private auto on one portion of the trip and a transit vehicle (i.e., a bus or a light-rail vehicle) on another portion of the trip. A park-and-ride trip could consist of an auto trip from home to a parking lot, and transfer at that point to a bus in order to complete the trip to work.

Parking cash-out – This term refers to a transportation demand management strategy where the market value of a parking space is offered to an employee by the employer. The employee can either spend the money for a parking space, or pocket it and then use an alternative mode to travel to work. Measures such as parking cash-out provide disincentives for commuting by single-occupancy vehicles.

Passenger intermodal facility – The hub for various statewide, national and international passenger modes and transfer points between modes (e.g., airport, bus and train stations).

Peak period pricing – Peak period pricing, also known as value, variable or congestion pricing, is a transportation management tool that applies market pricing principles to roadway use. This tool involves the use of user surcharges or tolls on congested facilities during peak traffic periods and may allow a reduced price for HOV use. It is the only user fee that is both location and time specific. Charging drivers per mile of travel during the congested times of the day has been used to relieve traffic congestion by discouraging some vehicle trips and shifting others to alternative modes, facilities, destinations or times of travel.

Pedestrian – A person on foot, in a wheelchair or walking a bicycle.

Pedestrian district – Pedestrian districts are areas of high or potentially high pedestrian activity where the region places priority on creating a walkable environment. Specifically, the central city, regional and town centers, and light-rail station communities are areas planned for the levels of compact, mixed-use development served by transit that will generate substantial walking and these areas are defined as pedestrian districts. Pedestrian districts should be designed to reflect an urban development and design pattern where walking is a safe, convenient and interesting travel mode. These areas will be characterized by buildings oriented to the street and by boulevard type street design features, such as wide sidewalks with buffering from traffic, marked street crossings at all intersections with special crossing amenities at some locations, pedestrian-scale lighting, benches, bus shelters, awnings and street treets. All streets in pedestrian districts are important pedestrian connections.

Pedestrian facility – A facility provided for the benefit of pedestrian travel, including walkways, crosswalks, signs, signals, illumination and benches.

Public transportation – This term refers to both publicly and privately funded transportation serving the general public, including fixed-route bus and rail service, inter-city passenger bus and rail service, dial-a-ride and demand responsive services, client transport services and commuter/rideshare programs. For the purposed of the RTP, school buses and taxi subsidy programs are not included in this definition.

Rail main line – Class I rail lines (e.g., Union Pacific and Burlington Northern/Sante Fe).

Regional – For the purposes of the RTP, this term refers to large subareas of the region, or the entire region, and usually includes many incorporated areas and adjacent unincorporated areas that share

major transportation facilities or other urban infrastructure (see "Community").

Regional access bikeway – The function of regional access bikeways is to focus on accessibility to annd within the central city, regional centers and some of the larger town centers. Bicyclist travel time to and from activity centers is an important consideration on regional access bikeways. Regional access bikeways generally have higher bicyclist volumes because they serve areas of higher population and employment density.

Regional corridor bikeway – Regional corridor bikeways function as longer routes that provide point-to-point connectivity between the central city, regional centers and larger town centers. Regional corridor bikeways are generally of longer distance than regional access bikeways and community connector bikeways. Regional corridor bikeways generally have higher automobile speends and volumes than community connector bikeways.

Regional Framework Plan – Required of Metro under the Metro charter, the Regional Framework Plan must address nine specific growth management and land-use planning issues (including transportation), with the consultation and advice of MPAC. To encourage regional uniformity, the plan shall also contain model terminology, standards and procedures for local land-use decision making that may be adopted by local governments.

Regional frequent bus – Frequent bus provides slightly slower but more frequent bus service (service runs at least every 10 minutes) along selected corridors and provides for enhanced passenger amenities (such as covered bus shelters, lighting, curb extensions, signal preemption) along the corridor and at major bus stops.

Regional rapid bus – Rapid bus emulates LRT in speed, frequency and comfort (service runs at least every 15 minutes during the weekday and weekend midday base periods). Passenger amenities are concentrated at transit centers (such as schedule information, ticket machines, bicyle parking, covered bus shelters, lighting).

Regional Transportation Plan (RTP) – The official intermodal transportation plan that is developed and adopted thorough the metropolitan transportation planning process for the metropolitan planning area.

Regional Urban Growth Goals and Objectives (RUGGOs) – An urban growth policy framework that represents the starting point for the agency's long-range regional planning program.

Reload facility – An intermediary facility where freight is reloaded from one land-based mode to another.

Right-of-way (ROW) – This term refers to publicly-owned land, property or interest therein, usually in a strip, within which the entire road facility (including travel lanes, medians, sidewalks, shoulders, planting areas, bikeways and utility easements) must reside. The right-of-way is usually defined in feet and is acquired for or devoted to multi-modal transportation purposes including bicycle, pedestrian, public transportation and vehicular travel.

Rural area – Those areas located outside the Metro urban growth boundary (UGB).

Rural arterials – These routes serve urban reserve areas, rural reserve areas and green corridors. There are two function categories of rural arterial – urban-to-urban and farm-to-market. Urban-to-urban rural arterials provide key connections to the regional motor vehicle sysytem and 2040 Growth Concept design types within the urban growth boundary. While principal arterials provide primary connections from the Metro region to neighboring

cities, urban-to-urban rural arterials also function as secondary connections to neighboring cities. Farm-to-market rural arterials provide farm to market access between urban and rural areas.

Shared roadway – A type of bikeway where bicyclists and motor vehicles share a travel lane.

Sidewalk – A walkway separated from the roadway with a curb, constructed of a durable, hard and smooth surface, designed for preferential or exclusive use by pedestrians.

Significant increase in SOV capacity – For major and minor arterials an increase in SOV capacity is created by the construction of additional general purpose lanes totaling 1/2 lane miles or more in length. General-purpose lanes are defined as through travel lanes or multiple turn lanes. This also includes the construction of a new general -purpose highway facility on a new location. Lane tapers are not included as part of the general-purpose lane. Significant increases in SOV capacity should be assessed for individual facilities rather than for the planning area. For principal arterials, any increase in SOV capacity created by the construction of additional general-purpose lanes other than that resulting from a safety project or a project solely intended to eliminate a bottleneck.

Single-occupancy vehicle (SOV) – This term refers to vehicles that are carrying one person.

State Transportation Improvement Program (STIP) – A federally required document that allocates transportation funds to a staged, multi-year, statewide, intermodal program of transportation projects – consistent with the statewide transportation plan and planning processes and metropolitan plans, TIPs and processes. The metropolitan TIP must be included in the STIP without change.

Technical Advisory Committee (TAC) – A group of technical staff from government agencies participating in the project. The TAC is responsible for producing the base technical information that will ultimately be used by local decision-makers to complete the project purpose.

Telecommute – This term refers to a transportation demand management strategy whereby an individual substitutes working at home for commuting to a work site on either a part-time or full-time basis.

Traffic – The number of motor vehicles in a given location at a given point in time.

Traffic calming – A transportation system management technique that aims to prevent inappropriate through-traffic and reduce motor vehicle travel speeds on a particular roadway. Traditionally, this technique has been applied to local residential streets and collectors and may include speed bumps, curb extensions, planted median strips or rounds and narrowed travel lanes.

Transit – For purposes of the RTP, this term refers to publicly funded and managed transportation services and programs within the urban area, including light-rail, regional rapid bus, frequent bus, primary bus, secondary bus, minibus, paratransit and park-and-ride.

Transit level of service – The comfort, safety, convenience and utility of transportation service, measured differently for various types of transportation systems.

Transit/mixed-use corridor – Transit/mixed-use corridors (referred to only as corridors in the 2040 Growth Concept) are priority areas for pedestrian travel. They served by good quality transit lines and provide for densities that are

somewhat higher than today. These corridors will generate substantial pedestrian traffic near neighborhood-oriented retail development, schools, parks and bus stops. These corridors should include such design features as wide sidewalks with buffering from traffic, street crossings at least every 660 feet (unless there are no interesections, bus stops or other pedestrian attractions) with special street crossing amenities at some locations, pedestrian scale lighting, benches, bus shelters, awnings and street trees. This designation includes multi-modal bridges.

Transit–oriented development – A mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused on a major transit stop designed to support a high level of transit use. Key features include a mixed-use center and high residential density.

Transportation Control Measures (TCMs) –

Transportation demand management (TDM) – Actions, such as ridesharing and vanpool programs, the use of alternative modes, and trip-reduction ordinances, which are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity.

Transportation disadvantaged/ persons potentially underserved by the transportation system – Individuals who have difficulty in obtaining transportation because of their age, income, physical or mental disability.

Transportation management area (TMA) – As defined in federal regulations, this term refers to "an urbanized area with population over 200,000" and "applies to the entire metropolitan planning area." All locations must meet certain standards and non-attainment TMAs must meet additional planning requirements.

Transportation management associations (TMA) – This term refers to non-profit coalitions of local businesses and/or public agencies dedicated to reducing traffic congestion and pollution and improving commuting options for employees.

Transportation Planning Rule (TPR) – The implementing rule of statewide land-use planning goal (#12) dealing with transportation, as adopted by the state Land Conservation and Development Commission (LCDC). Among its many provisions, the rule includes requirements to preserve rural lands, reduce vehicle miles traveled (VMT) per capita by 20 percent in the next 30 years, reduce parking spaces and to improve alternative transportation systems.

Transportation Policy Alternatives Committee (TPAC) – Senior staff-level policy committee that reports and makes policy recommendations to JPACT. TPAC's membership includes technical staff from the same governments and agencies as JPACT, plus representatives of the Federal Highway Administration and the Southwest Washington Regional Transportation Council (SWRTC); there are also six citizen representatives with strong public involvement skills and diverse backgrounds appointed by the Metro Council.

Transportation system management (TSM) – Strategies and techniques for increasing the efficiency, safety, capacity or level of service of a transportation facility without major new capital improvements. This may include signal improvements, intersection channelization, access management, HOV lanes, ramp metering, incident response, targeted traffic enforcement and programs that smooth transit operations.

Transportation system plan (TSP) – A plan for one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas.

Tri-Met – Tri-County Metropolitan Transportation District, which is the transit agency for most of Clackamas, Multnomah and Washington counties.

Truck terminal – A facility that serves as a primary gateway for commodities entering or leaving the metropolitan area.

Urban area – Those areas located within the Metro urban growth boundary (UGB).

Urban growth boundary – The politically defined boundary around a metropolitan area outside of which no urban improvements may occur (sewage, water, etc.). It is intended that the UGB be defined so as to accommodate all projected population and employment growth within a 20-year planning horizon. A formal process has been established for periodically reviewing and updating the UGB so that it accurately reflects projected population and employment growth.

Urban Growth Management Functional Plan – A regional functional plan with requirements binding on cities and counties in the Metro region, as mandated by Metro's Regional Framework Plan. The plan addresses such issues as accommodation of projected regional population and job growth, regional parking management, water quality conservation, retail in employment and industrial areas and accessibility on the regional transportation system. All cities and counties in the Metro region shall adopt changes to local comprehensive plans and zoning codes to address these issues within 24 months after the adoption of the plan ordinance by the Metro Council.

Walkway – A hard-surfaced transportation facility built for use by pedestrians, including persons using wheelchairs. Walkways include sidewalks, paths and paved shoulders.

Wide outside lane – A wider than normal curbside travel lane that is provided for ease of bicycle operation where there is insufficient room for a bike lane or shoulder bikeway.

M E M O R A N D U M

METRO

DATE: November 8, 1999

TO: JPACT

FROM: Andrew C. Cotugno, Transportation Director

RE: JPACT Meetings for Calendar Year 2000

Please mark your calendar for the following JPACT meeting times scheduled during calendar year 2000 in Metro conference room 370A-B:

Thursday	January 13, 2000	7:30 a.m.
Thursday	February 10, 2000	7:30 a.m.
Thursday	March 9, 2000	7:30 a.m.
Thursday	April 13, 2000	7:30 a.m.
Thursday	May 11, 2000	7:30 a.m.
Thursday	June 8, 2000	7:30 a.m.
Thursday	July 13, 2000	7:30 a.m.
Thursday	August 10, 2000	7:30 a.m.
Thursday	September 14, 2000	7:30 a.m.
Thursday	October 12, 2000	7:30 a.m.
Thursday	November 9, 2000	7:30 a.m.
Thursday	December 14, 2000	7:30 a.m.
Thursday	January 11, 2001	7:30 a.m.

ACC:rmb

COMMITTEE MEETING TITLE JPACT

DATE Nov. 18, 1999

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NAME	AFFILIATION
Andy Cotugno	metro
Kay VanSickel	ODOT
Fred Hansen	TRI-MET
David Bragdon	Metro
Sharron Kelley	Mult Co
Roy Rogers	Washington County
Mary Legry	WSDOT
Rod Monroe	Metro Council P.O.
Jack W Russell	One Team Com
Lou Ogden	Wash Co Cities (Tual)
Andy Ginsburg	ODEQ
John A. Leuthausen	EMCTC - City of Gresham
ED. WASHINGTON	METRO COUNCILOR
R E Dollarhide	VANCOUVER
KARL ROHDE	C³
CHARLIE HALES	Portland
ROB DRAKE	CITIES OF WASHINGTON CO.
MIKE JORDAN	CLACK CO.
Bill Atherton	Metro
Kvistad	
TOM KLOSTER	METRO
Kate Deane	ODOT
Mike Hoglund	Metro

COMMITTEE TITLE JPACT

DATE 11-18-99

p. 2 of 4

NAME	AFFILIATION
Beth Wemple	KITTELSON & ASSOC.
Lynn Peterson	1000 Friends of Oregon
BERNIE BOTTOMLY	Tri-Met
GEOFF LARKINS	LARKINS GROUP INC
Bob Post	BRW, Inc
[signature]	
Karen Schilling	Multnomah County
Beckie Lee	Multnomah County
Tony Mendoza	Tri-Met
Ron Papsdorf	Cities of Mult. County
Gary Ketsion	Citizen - TPAC
Kathy Lehtola	Washington County
Tom MARKGRAF	Cong. Blumenauer's Office
JACK KLOSTER	King City
JIM HOWELL	AORTA
Robert Schoenberg	Vanc. Biz Journal
Dick Feeney	Tri-Met
Dean Lookingbill	RTC

COMMITTEE TITLE JPACT

DATE 11-18-94 p. 3 of 4

NAME	AFFILIATION
John Kvistad	Clackamas County
Ted Spence	C/
Ted Spence	City
Judy Edwards	Westside Transp. Alliance
Scott L Rice	Cornelius City Councilor
DOUGLAS KLOTZ	WILLAMETTE PEDESTRIAN COALITION
STEVE DOTTERRER	CITY OF PORTLAND STAFF
Jim Peterson	Mult. Co.
Jessica HAMILTON	Rep. DAVID WU
MICHAEL WISHART	ALTERNATE CLACKAMAS CITIES
BLAIR BLUMTACKER	WASHINGTON COUNTY
ANDY BACK	Washington Co.
Paul Silver	City of Wilsonville
Marc Zoltan	City of Portland
Martha Bennett	City of Milwaukie
Randy Parker	Metro
Ross Williams	Citizens for Sensible Transportation
John Cullerton	Metro

COMMITTEE TITLE JPACT

DATE 11-18-99 p. 4

NAME	AFFILIATION
Jana L. Whitehill-Bozinic	Metro
Kim White	Metro
Neil McFarlane	Tri Met