

Chapter 6
Implementation



METRO

2004 RTP

CHAPTER 6

Implementation

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. However, there is 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 TriMet'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 United States. 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, TriMet 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 2025 Illustrative System requires 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 on a scaled-down 2025 Illustrative System that can likely be implemented within the federally defined fiscally constrained level of reasonably available resources. This system will be termed the 2025 Financially Constrained System. 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.

6.1.3 Demonstration of Air Quality Conformity

Appendix 4.0 provides detailed information on the air quality conformity analysis completed on the 2025 Financially Constrained System.

6.2 Demonstration of Compliance with State Requirements

This section identifies the applicable state regulations for the regional transportation system plan and identifies the corresponding provisions contained in this RTP. Findings of Fact and Conclusions of Law explaining TPR compliance, which were adopted with the 2000 RTP, are found in Appendix 5.0.

6.2.1 System Plan Required by Oregon Transportation Planning Rule

The Oregon Transportation Planning Rule (TPR) sets forth a number of requirements for Metro's Transportation System Plan (TSP). This RTP has a number of purposes. This Plan is adopted as the regional functional plan for transportation and the federal metropolitan transportation plan, as well as the regional TSP under state law. The RTP as regional TSP, must address provisions of Oregon Administrative Rule 660.012.000 applicable to regional TSPs.

The following TPR provisions are addressed in the portions of this multipurpose plan indicated under each applicable TPR requirement. Together, these portions of the 2000 RTP comprise the regional TSP. Other portions of the RTP not indicated under the applicable TPR requirement address regional and federal planning issues beyond the regional TSP under this administrative rule.

- **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 portions of the 2000 RTP which constitutes the regional transportation system plan are provisions of Chapters 1, 2, 5, 6 and the Appendix which address regional TSP issues, including the priority system of improvements.
- **660.012.0020 - TSP adequately serves regional transportation needs**
The RTP fully addresses this requirement by identifying the region's 20-year transportation needs in Chapter 2, including the future motor vehicle, public transportation, bicycle, pedestrian and freight system improvements, and complementary demand management, parking and financing programs in Chapter 5 adequate to respond to these identified needs.
- **660.012.0025 - Complying with Statewide Planning goals**
This is the first regional TSP adopted in the metro region. As such, the 2000 RTP identifies transportation needs for regional facilities for the purpose of informing regional and 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 local TSP. In these cases, the findings in Chapter 5 describe how these needs are met for the purpose of RTP analysis, and Sections 6.7.5 and 6.7.6 of this chapter establish 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 2000 RTP, including 16 corridor plans and three 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 2000 RTP followed the congestion management requirements of Section 6.6.3 of this chapter, which incorporates the TPR requirements for determining transportation needs.

- **660.012.0035 - Transportation system evaluation required**
This 2000 RTP is built on an extensive foundation of modeling and analysis. The Region 2040 project included five separate land use and transportation scenarios, including the alternative adopted and acknowledged in the 1995 Regional Urban Growth Goals and Objectives as the 2040 Growth Concept. A detailed transportation system was developed and modeled for each scenario, and the lessons learned from this effort were the starting point for the 2000 RTP update. Next, a level-of-service alternatives analysis was developed to further refine the region's system performance standards. Finally, the system development component of the 2000 RTP update included four separate rounds of modeling and analysis that combined the principles of the Region 2040 project and the level of service analysis.

For the purpose of complying with this requirement, the Priority System in Chapter 5 of the 2000 RTP establishes a scale of the improvements that are adequate to meet state and regional travel needs in the Metro area, including the needs of the disadvantaged, the movement of goods and the protection of farm and forest resources within rural reserves.

- **660.012.0035(4) - Reduction in vehicle miles traveled per capita**
The 2000 RTP addresses this requirement through the non-SOV modal targets set forth in Table 1.3 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 5 establishes that the region is making substantial progress toward meeting this TPR requirement, 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 modal targets in Table 1.3 of this plan 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 modal targets, and findings in Chapter 5 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 1.1 and financial analysis in Chapter 4 of this plan satisfy the various TPR transportation 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 adoption of the 2000 RTP provisions that address these applicable provisions of the TPR establishes the regional TSP 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 2000 RTP establishes compliance for regional TSP requirements with the policies, projects and financial analysis contained in this plan. Local consistency with the 2000 RTP is described in Section 6.4.1. 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 19.0 of Chapter 1, and in parking management requirements contained in Title 2 of the Urban Growth Management Functional Plan. Local adoption of the Chapter 1 modal targets is necessary to demonstrate compliance with the VMT/Capita reduction findings described in Chapter 5 of the plan.

6.2.3 Special Designations in the Oregon Highway Plan (OHP)

The Oregon Highway Plan (OHP) establishes three special district designations for certain areas along state-owned facilities. The purpose of the designations is to respond to unique community access and circulation needs, while maintaining statewide travel function. Though these special districts are generally identified jointly between ODOT and local jurisdictions, the RTP establishes a policy framework that supports these OHP designations through the 2040 Growth Concept and corresponding regional street design classifications contained in Section 1.3.5. The following is a summary of how RTP street design designations correspond to the OHP special district classifications:

- ***Special Transportation Area (STA)***: This designation is intended to provide access to community activities, businesses and residences along state facilities in a downtown, business district or community center. In these areas, the OHP acknowledges that local access issues outweigh highway mobility, except on certain freight routes, where mobility needs are more balanced with local access.

The RTP addresses this OHP designation through the boulevard design classifications, located in the 2040 central city, regional center, town center and main street land use components. In the Metro

region, state routes designated as boulevards that also meet other standards as defined in the OHP, are eligible to be designated STAs. Further, the application of the boulevard design classifications also factors in major freight corridors, and this design classification is generally not applied to such routes.

- **Commercial Center:** This designation applies to relatively large (400,000 square feet) commercial centers located along state facilities. In these areas, the OHP allows for consolidate access roads or driveways that serve these areas, but such access is subject to meeting OHP mobility standards on the state highway serving the center. If the center has consolidated access roads and meets other OHP standards, the OHP mobility standard may be reduced.

The RTP supports this OHP designation with the throughway design classifications, which include freeway and highway design types. The throughway designs are mobility-oriented, and generally apply to routes that form major motor vehicle connections between the central city, regional centers and intermodal facilities. The throughway design classifications support the concept of limiting future access on a number of state facilities in the region that are designated as principal routes in the RTP.

- **Urban Business Area (UBA):** This designation recognizes existing commercial strips or centers along state facilities with the objective of balancing access need with the need to move through-traffic.

In the Metro region, these areas are generally designated as mixed-use corridors and neighborhoods in the 2040 Growth Concept, and a corresponding regional or community street design classification in the RTP which calls for a balance between motor vehicle mobility, and local access. These designs are multi-modal in nature, and include transit, bicycle and pedestrian design features, consistent with the OHP designation. The regional and community street classification can also be found in some regional and town centers, and where these are state routes, the facility is eligible for the OHP designation of Urban Business Area.

6.2.4 Compliance with State Requirements

Compliance with Statewide Planning Goals

Together, the RTP and city and county TSPs that implement the RTP will constitute the land use decision about need, mode, and function and general location of planned transportation facilities and improvements shown in the RTP. As the regional transportation system plan, the RTP constitutes the land use decision about need, mode and function of planned transportation facilities and improvements. The RTP also identifies the general location of planned transportation facilities and improvements.

The land use decision specifying the general location of planned regional transportation facilities and improvements will be made by cities and counties as they develop and adopt local TSPs that implement the RTP. While the specific alignment of a project may be incorporated into a TSP, such decisions are subject to the project development requirements in Section 6.7, and must include findings of consistency with applicable statewide planning goals, as described below.

In preparing and adopting local TSPs, cities and counties will prepare findings showing how specific alignment of planned regional facilities or general location or specific alignment of local facilities is consistent with provisions of the RTP, acknowledged comprehensive plans and applicable statewide planning goals, if any. If the actual alignment or configuration of a planned facility proposed by a city or county is inconsistent with the general location of a facility in the RTP, the process described in Section 6.4 to resolve such issues shall be used prior to a final land use decision by a city or county.

This section describes how cities and counties will address consistency with applicable local comprehensive plans and statewide planning goals.

General Location of Planned Transportation Facilities

Maps included in the RTP illustrate the general location of planned transportation facilities and improvements. For the purposes of this plan, the general location of transportation facilities and improvements is the location shown on maps adopted as part of this plan and as described in this section. Where more than one map in the RTP shows the location of a planned facility, the most detailed map included in the plan shall be the identified general location of that facility.

Except as otherwise described in the plan, the general location of planned transportation and facilities is as follows:

For new facilities, the general location includes a corridor within 200 feet of the location depicted on the maps included within the RTP. For interchanges, the general location corresponds to the general location of the crossing roadways. The general location of connecting ramps is not specified. For existing facilities that are planned for improvement the general location includes a corridor within fifty feet of the existing right-of-way. For realignments of existing facilities the general location includes a corridor within 200 feet of the segment to be realigned, measured from the existing right-of-way or as depicted on the plan map.

Local transportation system plans and project development are consistent with the RTP if a planned facility or improvement is sited within the general location shown on the RTP maps and described above in this section. Cities and counties may refine or revise the general location of planned facilities as they prepare local transportation system plans to implement the RTP. Such revisions may be appropriate to lessen project impacts, or to comply with applicable requirements in local plans or statewide planning goals. A decision to authorize a planned facility or improvement outside of the general location shown and described in the RTP requires an amendment to the RTP to revise the proposed general location of the improvement.

Transportation Facilities and Improvements authorized by existing acknowledged comprehensive plans

New decisions are required to authorize transportation facilities and improvements included in the RTP that are not authorized by the relevant jurisdiction's acknowledged comprehensive plan on August 10, 2000. Many of the facilities and improvements included in the RTP are currently authorized by the existing, acknowledged comprehensive plans. Additional findings demonstrating consistency with an acknowledged plan or the statewide planning goals are required only if the facility or improvement is not currently allowed by the jurisdiction's existing acknowledged comprehensive plan. Additional findings would be required if a local government changes the function, mode or general location of a facility from what is currently provided for in the acknowledged comprehensive plan.

Applicability of Statewide Planning Goals to decisions about General Location

Several statewide planning goals include “site specific” requirements that can affect decisions about the general location of planned transportation facilities. These include:

- Goal 5 Open Spaces, Scenic, Historic and Natural Resources
- Goal 7 Natural Hazards and Disasters
- Goal 9 Economic Development, as it relates to protection of sites for specific uses (i.e. such as sites for large industrial uses)
- Goal 10 Housing, as it relates to maintaining a sufficient inventory of buildable lands to meet specific housing needs (such as the need for multi-family housing)
- Goal 15 Willamette River Greenway

Generally, compliance with the goals is achieved by demonstrating compliance with an acknowledged comprehensive plan. If City and county plans have been acknowledged to comply with the Goals and related rules, a planned improvement consistent with that plan is presumed to comply with the related goal requirement. Cities and counties may adopt the general location for needed transportation improvements, and defer findings of consistency with statewide planning goals to the project development phase. However, specific alignment decisions included in a local TSP must also include findings of consistency with applicable statewide planning goals.

In some situations, the Statewide Planning Goals and related rules may apply in addition to the acknowledged plan. This would occur, for example, if the jurisdiction is in periodic review, or an adopted statewide rule requirement otherwise requires direct application of the goal. Cities and counties will assess whether there are applicable goal requirements, and adopt findings to comply with applicable goals, as they prepare local transportation system plans to implement the regional transportation plan.

If in preparing a local TSP, a city or county determines that the identified general location of a transportation facility or improvement is inconsistent with an applicable provision of its comprehensive plan or an applicable statewide planning goal requirement, it shall:

- propose a revision to the general location of the planned facility or improvement to accomplish compliance with the applicable plan or goal requirement. If the revised general location is outside the general location specified in the RTP, this would require an amendment to the RTP; or
- propose a revision to the comprehensive plan to authorize the planned improvement within the general location specified in the RTP. This may require additional goal findings, for example, if a goal-protected site is affected.

Effect of an Approved Local TSP on Subsequent Land Use Decisions

Once a local TSP is adopted and determined to comply with the RTP and applicable local plans and statewide planning goals, the actual alignment of the planned transportation facility or improvement is determined through the project development process. Subsequent actions to provide or construct a

facility or improvement that are consistent with the local TSP may rely upon and need not reconsider the general location of the planned facility.

Additional land use approvals may be needed to authorize construction of a planned transportation improvement within the general location specified in an adopted local transportation system plan. This would occur if the local comprehensive plan and land use regulations require some additional review to authorize the improvement, such as a conditional use permits. Generally, the scope of review of such approvals should be limited to address siting, design or alignment of the planned improvement within the general location specified in the local TSP.

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 Metropolitan Transportation Improvement Program (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 2040 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 2000 RTP now replaces and expands the performance standards required for all city and county comprehensive plans in the region contained in Title 6 of the UGMFP. *See Sections 6.4.4 through 6.4.7, 6.6, 6.6.3 and 6.7.3.* In addition, parking policies contained in this plan were developed to complement Title 2 of the UGMFP, which regulates off-street parking in the region. *See Section 1.3.6, Policy 19.1.* Therefore, this RTP serves as a discrete functional plan that is both consistent with, and fully complementary of the UGMFP.

To ensure consistency between the 2000 RTP and local transportation system plans (TSPs), Metro shall develop a process for tracking local TSP project and functional classification refinements that are consistent with the RTP, and require a future amendment to be incorporated into the RTP. Such

changes should be categorized according to degrees of significance and impact, with major changes subject to policy-level review and minor changes tracked administratively. This process should build on the established process of formal comment on local plan amendments relevant to the RTP.

6.4 Local Implementation of the RTP

6.4.1 Local Consistency 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.

The 2000 RTP is Metro's regional functional plan for transportation. Functional plans by state law include "recommendations" and "requirements." The listed RTP elements below are all functional plan requirements. Where "consistency" is required with RTP elements, those elements must be included in local plans in a manner that substantially complies with that RTP element. Where "compliance" is required with RTP elements, the requirements in those elements must be included in local plans as they appear in the RTP.

For inconsistencies, cities and counties, special districts or Metro may initiate the dispute resolution process detailed in this 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 2000 RTP that require city, county and special district compliance or consistency are as follows:

- Chapter 1 *Consistency with policies, objectives, motor vehicle level-of-service measure 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 1.19, including the street design, motor vehicle, public transportation, bicycle, pedestrian and freight systems)*
 - *motor vehicle performance measures (Table 1.2), or alternative performance measures as provided for in Section 6.4.7(1)*
 - *regional non-SOV modal targets (Table 1.3)*
- Chapter 2 *Consistency with the 2020 population and employment forecast contained in Section 2.1 and 2.3, or alternative forecast as provided for in Section 6.4.9 of this chapter, but only for the purpose of TSP development and analysis.*

Chapter 6 *Compliance with 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*

For the purpose of local planning, all remaining provisions in the RTP are recommendations unless clearly designated in this section 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.

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

6.4.2 Local TSP Development

Local TSPs must identify transportation needs for a 20-year planning period, including needs for regional travel within the local jurisdiction, as identified in the RTP. 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 potential urban areas located outside the urban growth boundary shall also include project staging that links the development of urban infrastructure in these areas to future expansion of the urban growth boundary. In these areas, local plans shall also prohibit the construction of urban transportation improvements until the urban growth boundary has been expanded and urban land use designations have been adopted in local comprehensive plans.

Once a transportation need has 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 in Section 6.7.

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. Prior to adoption by ordinance, local TSPs shall be reviewed for consistency with these elements of the RTP. Metro will submit formal comment as part off the adoption process for local TSPs to identify areas where inconsistencies with the RTP exist, and suggest remedies.

Upon adoption of a local TSP, Metro will complete a final consistency review, and a finding of consistency with applicable 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 or local periodic review. 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.

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 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 through formal written comment 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.
4. Following adoption of a local plan, Metro shall forward a finding of consistency to DLCD, or identify inconsistencies that were not remedied as part of the local adoption process.

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 the regional motor vehicle system, as defined by Figure 1.12. This section does not apply to projects in local TSPs that are included in the 2000 RTP. For the purpose of this section, significant SOV capacity is defined as any increase in general vehicle capacity designed to serve 700 or more additional vehicle trips in one direction in one hour over a length of more than one mile. 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 6.4.5, 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
4. Designation of an Area of Special Concern, consistent with Section 6.7.7

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 2000 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 transportation 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 redevelopable 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 involving construction of new street(s) to provide a site plan that reflects the following:
 - a. Street connections:
 - Responds to and expands on the conceptual street plan map as described in Section 6.4.5(1) for areas where a map has been completed.
 - 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 where lease provisions, easements, covenants or other restrictions existing prior to May 1, 1995, which preclude street connections.
 - Where streets must cross water features identified in Title 3 of the Urban Growth Management Functional Plan (UGMFP), provide crossings at an average spacing of 800 to 1,200 feet, unless habitat quality or length of crossing prevents a full street connection.
 - b. Accessways:
 - When full street connections are not possible provides bike and pedestrian accessways on public easements or rights-of-way in lieu of streets. Spacing of accessways between full street connections shall be no more than 330 feet except

where prevented by barriers such as topography, railroads, freeways, pre-existing development, or where lease provisions, easements, covenants or other restrictions existing prior to May 1, 1995 which preclude accessway connections.

- Bike and pedestrian accessways that cross water features identified in Title 3 of the UGMFP should have an average spacing no more than 530 feet, unless habitat quality or length of crossing prevents a connection.

c. Centers, main streets and station communities:

- Where full street connections over water features identified in Title 3 of the UGMFP cannot be constructed in centers, main streets and station communities (including direct connections from adjacent neighborhoods), or spacing of full street crossings exceeds 1,200 feet, provide bicycle and pedestrian crossings at an average spacing of 530 feet, unless exceptional habitat quality or length of crossing prevents a connection.

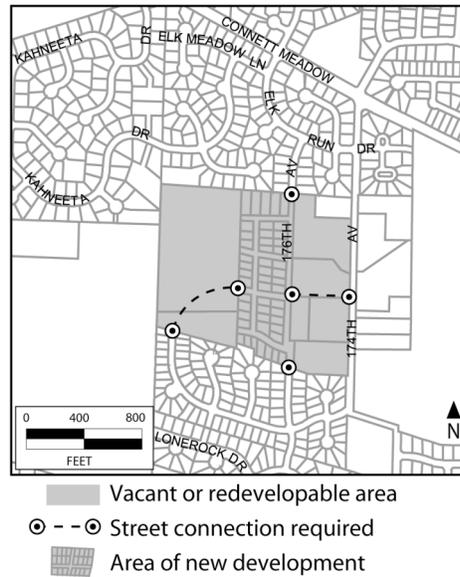
d. Other considerations:

- Limits the use of cul-de-sac designs and other closed-end street systems to situations where barriers prevent full street extensions.
- Includes no closed-end street longer than 200 feet or with more than 25 dwelling units.
- Includes street cross-sections demonstrating dimensions of right-of-way improvements, with streets designed for posted or expected speed limits.

For replacement or new construction of local street crossings on streams identified in Title 3 of the Urban Growth Management Functional Plan, Cities and Counties, TriMet, ODOT and the Port of Portland shall amend design codes, standards and plans to allow consideration of the stream crossing design guidelines contained in the Green Streets handbook.

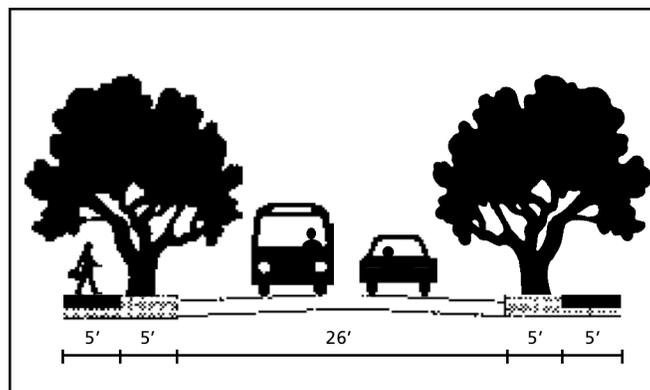
Figure 6.1 demonstrates a site plan map that a developer would provide to meet code regulations for the subdivision of a single parcel. Figure 6.2 shows a street cross-section that could be submitted by a developer for approval during the permitting process.

Figure 6.1
Site Plan Map



Source: Metro

Figure 6.2
Street Cross Section – Local Street, mid-block



Source: Metro

3. Street design code language and guidelines must allow for:
 - a. Consideration of narrow street design alternatives. For local streets, no more than 46 feet of total right-of-way, 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. Special traffic calming designs that use a narrow right-of-way, such as woonerfs and chicanes, may also be considered as narrow street designs.

- b. Short and direct public right-of-way routes to connect residential uses with nearby commercial services, schools, parks and other neighborhood facilities.
 - c. Consideration of opportunities to incrementally extend streets from nearby areas.
 - d. Consideration of traffic calming devices to discourage traffic infiltration and excessive speeds on local streets.
4. For redevelopment of existing land-uses that require construction of new streets, cities and counties shall develop local approaches to encourage adequate street connectivity.

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, non-SOV mode share will be used as an important factor in assessing transportation system improvements. These modal 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 non-SOV regional modal targets for all 2040 design types that will be used to guide transportation system improvements, in accordance with Table 1.3 in Chapter 1 of this plan:

1. Each jurisdiction shall establish an alternative mode share 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 share target shall be no less than the regional modal targets for these 2040 Growth Concept land-use design types to be established in Table 1.3 in Chapter 1 of this plan.
2. Cities and counties, working with TriMet and other regional agencies, shall identify actions in local TSPs that will result in progress toward achieving the non-SOV modal targets. These actions should initially be based on RTP modeling assumptions, analysis and conclusions, and include consideration of the maximum parking ratios adopted as part of Title 2, section 3.07.220 of the *Urban Growth Management Functional Plan*; regional street design considerations in Section 6.7.3, Title 6, transportation demand management strategies and transit's role in serving the area. Local benchmarks for evaluating progress toward achieving modal targets may be based on future RTP updates and analysis, if local jurisdictions are unable to generate this information as part of TSP development.
3. Metro shall evaluate local progress toward achieving the non-SOV modal targets during the 20-year plan period of a local TSP using the Appendix 1.8 "TAZ Assumptions for Parking Transit and Connectivity Factors" chart as minimum performance requirements for local actions proposed to meet the non-SOV requirements.

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 1.2 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. Jurisdictions may adopt alternative standards that do not exceed the minimum LOS established in Table 1.2. However, the alternative standard must not:

- result in major motor vehicle capacity improvements that have the effect of shifting unacceptable levels of congestion into neighboring jurisdictions along shared regional facilities;
- result in motor vehicle capacity improvements to the principal arterial system (as defined in Figure 1.12) that are not recommended in, or are inconsistent with, the RTP.
- increase SOV travel to a measurable degree that affects local consistency with the modal targets contained in Table 1.3.

By definition, the RTP addresses congestion of regional significance through the projects identified in Chapter 5 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 1.12) that are not addressed by the RTP. Localized congestion occurs where short links within the transportation system are exceeding LOS standards, though the overall system in the vicinity of the congested link is performing acceptably. In cases where these localized areas of congestion are located on Principal Arterial routes (as defined in Figure 1.12) or the Regional Freight System (Figure 1.17), they shall be evaluated as part of the local TSP process to determine whether an unmet transportation need exists that has not been addressed in the RTP. Should a local jurisdiction determine that an unmet need exists on such a facility, the jurisdiction shall identify the need in the local TSP, and propose one of the following actions to incorporate the need and recommended solution into the RTP:

- Identify the unmet need and proposed projects at the time of Metro review of local TSPs for consistency, but incorporate the project into the regional TSP during the next scheduled RTP update; or
- Propose an amendment to the RTP for unmet needs and resulting projects where a more immediate update of the regional TSP is appropriate or required.

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 Table 1.2 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 1.2 and that this level of congestion will negatively impact accessibility, as determined through Section 6.4.7(2). 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 1.2. 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 1.2. A city or county may choose a higher level-of-service operating standard where findings of consistency with section 6.4.4 have been developed as part of the local planning process. The requirements in Section 6.6.2 shall also be satisfied in order to add any projects to the RTP based on the higher level-of-service standard.

2. *Accessibility* – If a deficiency threshold is exceeded on the regional transportation system as identified in Table 1.2, 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 in Sections 6.4.2 and 6.7.3.
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 2000 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 process that Metro used to develop the updated RTP. However, the scope of the changes to the RTP will require most cities and counties 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. Section 6.3 requires Metro to develop a process for to ensure consistency between the 2000 RTP and local TSPs by developing a process for tracking local project and functional classification refinements that are consistent with the RTP, but require a future amendment to be incorporated into the RTP. This process will occur concurrently with overall review of local plan amendments, facility plans and service plans, and is subject to the same appeal and dispute resolution process. While such proposed amendments to the RTP may not be effective until a formal amendment has been adopted, the purpose of endorsing such proposed changes is to allow cities and counties to retain the proposed transportation solutions in local plans, with a finding of consistency with the RTP, and to provide a mechanism for timely refinements to local and regional transportation plans.

6.4.9 Local 2020 Forecast – Options for Refinements

The 2000 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. Local TSPs using the 2020 forecast may experience different modeling outcomes in these areas than were observed during the development of the RTP. Therefore, Metro will accept local plans under the following four 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 areas 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.
4. Local plans may be based on updated, locally developed population and employment data, conditions and 2020 forecasts. However, population and employment data and forecasts, and the methodology for generating the data and forecasts shall be coordinated at the county level, and accepted by Metro technical staff and TPAC as statistically valid. Subsequent adjustments to the population and employment allocations for traffic zones may be made in the local planning to reflect updated population and employment data and 2020 forecasts. Metro shall consider the updated locally developed data and forecasts in future RTP forecasts of population and employment. Subsequent differences in local TSP project

recommendations that result from the differences in population and employment forecasts will be resolved in the next scheduled RTP update.

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. The provisions in this section are for the purpose of TSP development and analysis, and do not necessarily apply to other planning activities.

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 2040 Growth Concept land-use components. 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.
2. Amend development code regulations to require new retail, office and institutional buildings on sites at major transit stops to:
 1. Locate buildings within 20 feet of or provide a pedestrian plaza at the major transit stops
 2. Provide reasonably direct pedestrian connections between the transit stop and building entrances on the site
 3. Provide a transit passenger landing pad accessible to disabled persons (if not already existing to transit agency standards)
 4. Provide an easement or dedication for a passenger shelter and underground utility connection from the new development to the transit amenity if requested by the public transit provider
 5. Provide lighting at a transit stop (if not already existing to transit agency standards).
3. Consider designating pedestrian districts in a comprehensive plan or other implementing land use regulations as a means of meeting or exceeding the requirements of OAR 660-012-

0045 (4a-c) and this plan section 6.4.10(2) above. Pedestrian district designation shall address the following criteria:

- (a) A connected street and pedestrian network, preferably through a local street and pedestrian network plan covering the affected area.
 - (b) Designated pedestrian districts should specifically consider, but are not limited to these elements: Transit/pedestrian/bicycle interconnection; parking and access management; sidewalk and accessway location and width; alleys; street tree location and spacing; street crossing and intersection design for pedestrians; street furniture and lighting at a pedestrian scale; and traffic speed. When local transportation system plans are adopted, designated pedestrian districts should be coordinated with the financing program required by the Transportation Planning Rule.
4. Provide for direct and logical pedestrian crossings at transit stops and marked crossings at major transit stops.
 5. Consider street designs which anticipate planned transit stop spacing, location, and facilities (such as shelters, benches, signage, passenger waiting areas) and are consistent with the Creating Livable Streets design guidelines.

Public transit providers shall consider the needs and unique circumstances of special needs populations when planning for service. These populations include, but are not limited to, students, the elderly, the economically disadvantaged, the mobility impaired and others with special needs. Consideration shall be given to:

1. adequate transit facilities to provide service
2. hours of operation to provide transit service corresponding to hours of operation of institutions, employers and service providers to these communities
3. adequate levels of transit service to these populations relative to the rest of the community and their special needs

6.5 Metropolitan Transportation Improvement Program (MTIP)

6.5.1 The Role of the MTIP in Regional Planning

An important tool for implementing the RTP 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 TEA-21 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, TriMet and the Port of Portland to implement necessary improvements to the regional system, as well as those needed for local travel. These agencies are eligible to receive federal funds allocated through the MTIP process for projects included in the RTP. 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 system. For the purpose of this plan, the assumptions used to develop the financially constrained system are defined in Appendix 4.2. Projects included in the financially constrained system are identified by an asterisk (*) in Figures 5.8 through 5.14 in Chapter 5. However, while the financially constrained system 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 financially constrained system will be amended to include the project or projects. In addition, when the financially constrained system is amended, continued financial constraint must be demonstrated by identifying additional revenues or removal of other projects from the financially constrained system. 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, TriMet 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 held throughout the region.

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 a 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 reflects 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.

In addition, benchmarks should be designed to track the following general information to the degree practicable for ongoing monitoring:

- progress on financing the strategic system
- progress in completing the modal systems described in Chapter 1
- relative change in system performance measures
- progress toward land use objectives related to the RTP
- relative comparisons with similar metropolitan regions on key measures

6.5.4 Improvements in Urban Reserves

During the MTIP process, improvements that add capacity or urban design elements to rural facilities in urban reserves should:

- be coordinated with expansion of the urban growth boundary
- not encourage development outside of the urban growth boundary
- not disrupt the economic viability of nearby rural reserves
- be consistent with planned urban development or other transportation facilities

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 6.7 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 is evaluated through a CMS analysis.
- d. The proposed action is needed to achieve the motor vehicle level-of-service performance criteria identified in the RTP, or alternative performance criteria adopted in local TSPs under the provisions of Section 6.4.7, as follows:
 - A) principal, major and minor arterial capacity improvements are necessary to maintain compliance with Policy 13.0, Table 1.2, or alternative performance criteria adopted in local TSPs. 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 a design characteristic necessary to achieve the minimum motor vehicle performance measure
 - 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 regional non-SOV modal targets specified in Table 1.3 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, or 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.

- 3. Amendments resulting from updates to the Regional Framework Plan or related functional 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 (OAR 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 considerations in 1 through 6 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

Metro is the regional planning agency for the metropolitan area. Metro does not complete local transportation system plans, engineer or build transportation facilities or permit land uses or transportation projects. These activities occur at the local level. 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.). The local jurisdiction responsible for the applicable transportation system plan shall reach a decision on whether to build the improvement based upon detailed environmental impact analysis, adoption of actions to mitigate impacts and findings demonstrating consistency with applicable comprehensive plans and applicable statewide planning goals. 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 address the original transportation need.

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, function and general location have already been identified in the RTP and local plans for a specific alignment 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, in coordination with Metro. 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, potential environmental impacts and consistency with applicable comprehensive plans and the RTP. The project need, mode, function and general location 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 Interim 1996 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. Therefore, demonstration of compliance for projects not included in the RTP shall be documented in a required Congestion Management System report that is part of the project-level planning and development (Appendix D of the Interim CMS document). In addition, the CMS requires that street design guidelines be considered as part of the project-level planning process. This CMS requirement does not apply to locally funded projects on local facilities. Unless otherwise stipulated in the MTIP process, 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, TriMet, ODOT, and the Port of Portland shall consider the following project-level operational and design considerations during transportation project analysis as part of completing the CMS report:

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. See Section 1.3.5, Policy 11.0, Figure 1.4. Implementing guidelines are contained in *Creating Livable Streets: Street Design Guidelines for 2040* (2nd edition, 2002) or other similar resources consistent with regional street design policies.
3. Environmental design guidelines, as contained in *Green Streets: Innovative Solutions for Stormwater and Street Crossings* (2002), and *Trees for Green Streets: An Illustrated Guide* (2002), or other similar resources consistent with federal regulations for stream protection.

Transportation providers in the Metro region, including the cities and counties, TriMet, ODOT, and the Port of Portland are required to amend their comprehensive plans, implementing ordinances and administrative codes, if necessary, to consider the *Creating Livable Streets* design guidelines as part of project development. Transportation providers shall amend design codes, standards and plans to allow consideration of the guidelines contained in *Green Streets: Innovative Solutions for Stormwater and Street Crossings*.

6.7.4 Refinement Planning Scope and Responsibilities

In some areas defined in this section, the need for refinement planning is warranted before specific projects or actions that meet and identified need can be adopted into the RTP. Refinement plans generally involve a combination of transportation and land use analysis, multiple local jurisdictions and facilities operated by multiple transportation providers. Therefore, unless otherwise specified in this section, Metro or ODOT will initiate and lead necessary refinement planning in coordination with other affected local, regional and state agencies. Refinement planning efforts will be multi-modal evaluations of possible transportation solutions in response to needs identified in the RTP, including land use alternatives and to address consistency with applicable statewide planning goals. Refinement plans fall into two broad groups of scope and complexity:

- Type I - Major corridor refinements are necessary where a transportation need exists, but mode, function and general location of a transportation improvement are not determined, and a range of actions must be considered prior to identifying specific projects.
- Type II - Minor corridor refinements are necessary where both the need and mode for a transportation improvement are identified in the RTP, but a specific project has not been identified.

Appendix 3.1 describes the 2000 RTP prioritization for major corridor refinements and minor corridor refinements. Refinement plan and corridor study prioritization and specific scope for each corridor is subject to annual updates as part of the Unified Work Plan (UWP).

6.7.5 Type I – Major Corridor Refinements

Type I, major corridor refinements 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, and in some cases, mode, function or general location may be determined or the decision on these elements narrowed at the TSP level to focus the refinement planning work. 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 Type I major corridor refinements is to develop an appropriate transportation strategy or solution through the corridor planning process that determined mode, function and general location of a project or set of projects. 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. This section of the RTP also identifies a number of corridor planning issues that shall be addressed as part of the refinement planning process.

For refinement planning in corridors located outside the urban growth boundary, this work shall also address relevant statewide planning goal exception requirements pursuant to Section 660.012.0070 of the state transportation planning rule. These findings shall expand on exceptions findings made as part of the 2000 RTP adoption ordinance, but address more localized issues relevant to the refinement level of planning.

The specific project recommendations from Type I major corridor refinements 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 and proposed highway capacity improvements, 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 Portland Central City (including light rail transit and express bus)
- 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
- consider adding reversible express lanes to I-5
- consider new arterial connections for freight access between Highway 30, port terminals in Portland and port facilities in Vancouver, Wa.
- 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
- consider additional Interstate Bridge capacity sufficient to handle project needs
- develop actions to reduce through-traffic on MLK and Interstate to allow main street redevelopment

Interstate-5 South (Highway 217 to Willamette River/Boones Bridge)

This facility serves as the major southern access to and from the central city. The route also serves as an important freight corridor, where Willamette Valley traffic enters the region at the Wilsonville “gateway,” 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. A joint ODOT and Wilsonville study¹ concludes that in 2030 widening of I-5 to eight lanes would be required to meet interstate freeway capacity standards set by Metro and ODOT and that freeway access capacity would not be adequate with an improved I-5/Wilsonville Road interchange. For these reasons, 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 widening I-205 on the I-5 South corridor
- the effects of the I-5 to 99W Connector on the Stafford Road interchange and the resultant need for increased freeway access
- the effects of peak period congestion in this area on regional freight mobility and travel patterns
- 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
- the effects of UGB expansion and Industrial Lands Evaluation studies on regional freight mobility
- the effects to freight mobility and local circulation due to diminished freeway access capacity in the I-5/Wilsonville corridor

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

¹ I-5/Wilsonville Freeway Access Study, DKS Associates, November 2002

- provide additional overcrossings in West Portland town center to improve local circulation and interchange access
- provide additional freeway access improvements in the I-5/Wilsonville corridor to improve freight mobility and local circulation, (e.g. a new Boeckman Road interchange)
- 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
- additional I-5 mainline capacity (2030 demand on I-5 would exceed capacity)
- provision of auxiliary lanes between all I-5 freeway on- and off-ramps in Wilsonville.

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 Corridor
- 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

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 a 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 or light rail from Oregon City to Gateway

- potential for extension of rapid bus service or light rail 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 area for urban growth boundary expansion, 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, to provide access to the developing Clackamas regional center and to support downtown development in the Milwaukie town center. The recently completed South/North light rail study demonstrated a long-term need for high-capacity transit service in this corridor. The long-term transit need is critical, as demonstrated in the RTP analysis, where both highway and high-capacity transit service were needed over the 20-year plan period to keep pace with expected growth in this part of the region. The 2040 Growth Concept also calls for the regional centers and central city to be served with light rail. 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 Lake Road, 34th Avenue, Johnson Creek boulevard, 17th Avenue and Tacoma Street
- 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 in each direction 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 Phase 2

The Powell Boulevard / Foster Road Corridor represents both a key transportation challenge and an opportunity to meet 2040 regional land use goals. The Powell / Foster Corridor is a top priority among corridors requiring refinement plans. Despite policy changes to level-of-service standards that permit greater levels of congestion, significant multi-modal improvements will be needed in order to continue to serve transportation needs of the communities and industrial areas in southeast Portland and Gresham. The corridor is also critical to providing access to the planned growth areas in Pleasant Valley, along with Damascus and Springwater that have recently been added to the Urban Growth Boundary. In addition, the corridor is constrained by significant topographical and environmental features.

As a result of the findings from Phase 1 of the Powell Boulevard / Foster Road Corridor Plan, which was completed in 2003, specific multi-modal projects have been identified that address transportation needs on Powell Boulevard between inner SE Portland and Gresham, and on Foster Road west of Barbara Welch Road. System level decisions for transit service were also made for the corridor.

Several outstanding transportation problems in the Pleasant Valley, Damascus and south Gresham areas, require additional planning work before specific multi-modal projects can be developed and implemented. The Phase 2 plan should closely coordinated with concept plans for Damascus and the Springwater area, in order to incorporate the updated land use and transportation assumptions. It should examine the following transportation solutions and strategies:

- Determine the appropriate cross section on Foster Road between Barbara Welch Road and Jenne Road and the project timing, to meet roadway, transit, pedestrian and bike needs.
- Explore possibilities for potential new street connection improvements in the Mount Scott area that reduce local travel demand on Foster Road and improve access to the Pleasant Valley area.
- Develop conceptual designs and determine right-of-way for an improvement and extension of SE 174th Avenue between Powell Boulevard and Giese Road, or another new north-south roadway in the area, to accommodate travel demand and improve access to Pleasant Valley. The alignment should consider engineering feasibility, land use and environmental affects, safety, and overall costs.
- Further define the three-lane Highland Drive and Pleasant View Drive option that was recommended as part of Phase 1. This option needs to address design, operational, and safety-related issues.
- Work with local jurisdictions to provide for access management on arterials serving Pleasant Valley and Damascus.
- Address other regional north-south transportation needs identified by the Damascus Concept Plan and Springwater concept planning effort. Further evaluate alignment issues, engineering cost estimates, and right-of-way impacts of future roadway projects north of Damascus that are identified as part of the concept planning effort.

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
- consider improve light rail service or rapid bus 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. One primary function of this route is to provide access to and between the Beaverton and Hillsboro regional centers. Tualatin Valley Highway also serves as an access route to Highway 217 from points west along the Tualatin Valley Highway corridor. As such, the corridor is

defined as extending from Highway 217 on the east to First Avenue in Hillsboro to the west, and from Farmington Road on the south to Baseline Road to the north. The following design considerations should be addressed as part of a corridor study:

- develop an access management plan as part of a congestion management strategy
- implement TSM and other interim intersection improvements at various locations between Cedar Hills Boulevard and Brookwood Avenue
- the relative trade-offs of a variety of capacity and transit improvements, including:

- a. improvements on parallel routes such as Farmington, Alexander, Baseline and Walker roads as an alternative to expanding Tualatin Valley Highway
 - b. seven-lane arterial improvements from Cedar Hills Boulevard or Murray Boulevard to Brookwood Avenue or Baseline Road in Hillsboro
 - c. a limited access, divided facility from Cedar Hills Boulevard or Murray Boulevard to Brookwood Avenue, with three lanes in each direction and some grade separation at major intersections
 - d. transit service that complements both the function of Tualatin Valley Highway and the existing light rail service in the corridor
- evaluate impacts of the principal arterial designation, and subsequent operation effects on travel within the Beaverton regional center
 - evaluate motor vehicle and street design designations as part of the study to determine the most appropriate classifications for this route

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. The St. Johns Bridge currently serves this demand. 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

Barbur Boulevard/Interstate-5

This corridor provides access to the Central City and to neighborhoods and commercial areas in the inner southwest quadrant of the region. Barbur Boulevard is identified as a multi-modal facility with potential light rail or Rapid Bus as well as serving a regional role for motor vehicle, bicycle and

pedestrian systems. I-5 in this corridor is a Main Roadway route for freight and a Principle Arterial for motor vehicles extending southward beyond the region.

Segments of both Barbur Boulevard and I-5 in this corridor experience significant congestion and poor service levels even with Priority System improvements, especially from the Terwilliger interchange northward. However, Rapid Bus service along Barbur and other expanded bus services are expected to experience promising ridership levels. Significant localized congestion occurs along the intersecting street segments of Bertha, Terwilliger and Capitol Highway /Taylors Ferry roads. Broad street cross-sections, angled intersections and limited signalized crossing opportunities along Barbur Boulevard creates traffic safety hazards and inhibits walking to local destinations and access to transit services.

Transportation solutions in the corridor should include the following considerations:

- Regional and local transit services and facilities needed to serve the Barbur corridor within the RTP planning horizon.
- Possible new locations or relocations for I-5 on-ramps and off-ramps and street connections across the freeway right-of-way.
- Opportunities for new or improved local street connections to Barbur Boulevard.
- Facilities to improve bicycle and pedestrian safety along Barbur and access to transit services and local destinations.
- Traffic management and intelligent transportation system improvements along the corridor.
- Potential mainline freeway improvements including possible southbound truck climbing lanes.

6.7.6 Type II - Minor Corridor Refinements

Type II minor corridor refinements 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, and in some cases, mode, function or general location may be determined or the decision on these elements narrowed at the TSP level to focus the refinement planning work. 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 minor corridor refinement process is to identify specific projects consistent with the identified need, mode and general corridor. 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. For minor refinement planning in corridors located outside the UGB, this work shall also address relevant statewide planning goal exception requirements pursuant to Section 660.012.0070 of the state transportation planning rule. These findings shall expand on exceptions findings made as part of the 2000 RTP adoption ordinance, but address more localized issues relevant to the refinement level of planning. The specific project recommendations from major corridor studies are then incorporated into the RTP, as appropriate.

Because minor corridor refinements are more specific in location and mode, local TSPs shall consider measures to protect future right-of-way options within the affected corridors. Likewise, the refinement planning process shall make recommendations for corridor preservation or right-of-way acquisition strategies to ensure that final project recommendations are not precluded by land use decisions within the corridor.

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 should 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
- Implement the St. Johns Truck Strategy recommendations in order to direct truck traffic onto the designated freight system, as shown in Figure 1.17, and protect the Lombard main street and St. Johns town center from truck traffic impacts.

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 or a corridor study should address:

- 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
- the need for a long-term primary freight route in the corridor
- the potential for a new alignment south of Powell Boulevard to US 26.

Sunrise Corridor

The full Sunrise Corridor 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. This corridor includes rural areas outside the Metro area urban growth boundary. Impacts on rural resources in these areas shall be addressed through statewide planning goal exception findings that expand on findings already adopted in the 2000 RTP, pursuant to Section 660.012.0070 of the state transportation planning rule. Though a draft environmental impact statement has been prepared for this corridor, the final environmental impact statement should be refined to consider the following 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 Corridor 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
- pursue a Green Corridor intergovernmental agreement (IGA) for the Sunrise Corridor from the Damascus town center to US 26, with the specific western terminus for the IGA flexible to future expansion of the urban growth boundary.

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. The RTP has narrowed the corridor to include two alternatives that depart from I-5 in the same general corridor, but split to form northern and southern alignments relative to the City of Sherwood. Impacts on rural resources in both alignments of this corridor shall be addressed through statewide planning goal exception findings that expand on findings already adopted in the 2000 RTP, pursuant to Section 660.012.0070 of the state transportation planning rule. This connection will also have significant effects on urban form in this rapidly growing area, and the following 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
- link urban growth boundary expansion in this area to the corridor plan and 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
- consider express, peak-period pricing and HOV lanes
- pursue a Green Corridor intergovernmental agreement (IGA) for the I-5/99W connector and Highway 99W south of the connector.

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 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, peak period pricing or HOV lanes 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 area, including a re-evaluation of the suitability of Oregon City urban growth boundary expansion in light of transportation constraints
- transit service to areas south of Oregon City.

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 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, using either the Willamette Shore Line right-of-way, the Macadam Corridor Design Guidelines (1985) rail alignment or other right-of-way as appropriate.

- implement bicycle safety improvements where appropriate south of the Sellwood Bridge

6.7.7 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 have 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:

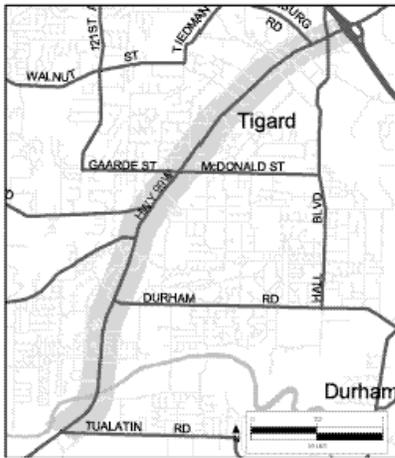
1. Adopt the following performance measures, and provide an analysis that demonstrates progress toward meeting these measures in the local TSP:
 - a. Non-SOV modal targets consistent with Table 1.3 in Chapter 1 of this plan
 - b. parking ratios consistent with Title 2 of the Urban Growth Management Functional 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 3.6 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 affects a regional facility, consistent with OAR 660.012.0060.

The following 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 has 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 is intended to change in the long term the function of 99W, north of Sherwood, to a major arterial classification, with less need to accommodate longer, through trips.

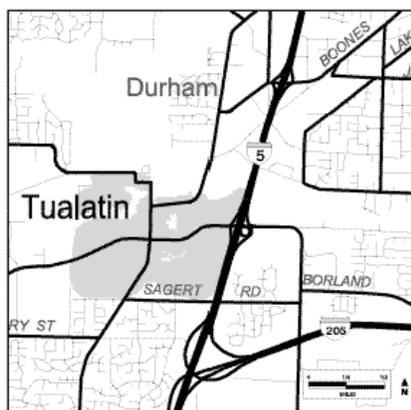
However, for much of Washington County, Highway 99W will still be a major connection, linking Sherwood and Tigard to the rest of the County and linking the rest of the County to the Highway 99W corridor outside of the region. A number of alternatives for relieving congestion have been tested as part of the RTP update, and by the City of Tigard in earlier planning efforts. These efforts led to the common conclusion the latent travel demand in the Highway 99W corridor is too great to be reasonably offset solely by capacity projects. While the RTP proposed new capacity on 99W between I-5 and Greenburg Road, no specific capacity projects are proposed south of Greenburg Road, due to latent demand and the impacts that a major road expansion would have on existing development. As a result, this section of Highway 99W is not expected to meet the region's motor vehicle level of service policies during mid-day and peak demand periods in the future, and an alternative approach to managing and accommodating traffic in the corridor is needed.

Since statewide, regional and local travel will still need to be accommodated and managed for sometime ODOT, Metro, Washington County and Tigard should cooperatively address the means for transitioning to the future role of the facility to emphasize serving circulation within the local community. This will include factoring in the social, environmental and economic impacts that congestion along this facility will bring. Additionally the analysis should specifically document the schedule for providing the alternatives for accommodating the regional and statewide travel. Similarly the local TSPs should include the agreed upon action plans and benchmarks to ensure the

local traffic and access to Highway 99W is managed in a way that is consistent with broader community goals. Additional alternative mode choices should be ensured for Tigard and King City town centers. TriMet should be a major participant in the alternative mode analysis. The results of this cooperative approach should be reflected in the local TSPs and the RTP.

In addition, other possible solutions, such as ODOT's new program for local street improvements along highway corridors, may provide alternatives for managing traffic growth on 99W. Finally, the local TSPs should also consider changes to planned land use that would minimize the effects of growing congestion.

Tualatin Town Center



Tualatin town center is adjacent to an important industrial area and employment center. New street connections and capacity improvements to streets parallel to 99W and I-5 help improve local circulation and maintain adequate access to the industrial and employment area in Tualatin. However, the analysis of travel demand on regional streets shows that several streets continue to exceed the LOS policy established in Table 1.2, including Hall Boulevard and Boones Ferry Road.

The Tualatin transportation system plan should further evaluate ITS or other system management strategies to further address travel demands and peak-hour expected congestion along Hall Boulevard and Boones Ferry Road entering the town center. In addition, 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 in addition to placing an emphasis on connectivity, including new development, retrofits and interconnected parking lots in commercial/employment areas. Overall, commuter rail is expected to be an important part of the modal mix of improvements for this part of the region because it offers separate right-of-way for transit service in a corridor that is expected to experience congestion during the morning and evening two-hour peak period. The local TSP should also consider strategies for providing better access to commuter rail.

6.8 Outstanding Issues

The section describes a number of outstanding issues that 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 Damascus/Boring Concept Planning

Metro received federal grant money for the purpose of completing a concept plan for a new urban area in the Damascus/Boring area. Clackamas County and Metro will jointly develop the concept

plan, with the assistance of a Contractor and the participation of area citizens, key organizations, service providers and cities. ODOT will also participate in the process. The concept planning is anticipated to start in winter of 2003, will take approximately two years to complete. There will be extensive public involvement during this process.

The Damascus/Boring Concept Plan will be a cooperative planning effort to create plan and implementation strategies for development of approximately 12,000 acres located south of Gresham and east of Happy Valley in Clackamas County. The concept plan is a follow-up to a December 2002 decision by Metro to bring the area inside the Urban Growth Boundary. The Damascus/Boring Concept plan will be closely coordinated with the environmental analysis of the Sunrise Corridor Unit 1 effort and will address the general need, modes, function, and location of the proposed Sunrise Corridor Unit 2. Important components of the concept plan are expected to include:

- A land-use element that locates a combination of uses and densities that support local and regional housing and employment needs, provides a diverse range of housing, and identifies commercial and industrial employment opportunities that allow residents to work near their home
- A multi-modal transportation system element that serves interstate, regional and community travel needs and informs the Sunrise Corridor Unit 2 planning process
- A natural resources element that identifies natural resource areas and protection strategies
- A public infrastructure and facilities element for water, sewer, storm water, parks, schools, fire and police

The concept plan will provide the basis for future comprehensive plan amendments and development code regulations that must be adopted before development can take place. The Damascus/Boring Concept Plan will identify and evaluate multi-modal transportation system alternatives to serve regional and community needs in the area. The alternatives will include combinations of highway, arterial, boulevard and transit improvements that are complemented by a network of local streets, multi-use trails and bicycle and pedestrian connections. If the Damascus/Boring Concept Plan reaffirms that Sunrise Corridor Unit 2 improvements are needed, the concept plan will identify transportation alternatives to be evaluated through a future DEIS process similar to that already initiated for the Unit 1 portion of the Sunrise Corridor.

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.

6.8.2 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 use 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.

6.8.3 Connectivity Research

In 1996, 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 2000 RTP update, and recommendations from the study could be considered for adoption in 2001.

6.8.4 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.

6.8.5 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.

6.8.6 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. The evaluation would also include an analysis of the effect of relative wages on the mix of jobs and housing needed to realize transportation benefits.

- *Damascus & Pleasant Valley Urban Reserves:* The overall jobs/housing imbalance in Clackamas County results in heavy travel demand on routes like I-205 and Highway 224 that link Clackamas County to employment areas. A review of the Damascus and Pleasant Valley Urban Reserves should consider the potential for improving jobs/housing balance in these areas. This review should include areas in the Pleasant Valley areas that have been recently incorporated into the urban area, but are largely undeveloped.
- *Beavercreek Urban Reserves:* Urbanization of these reserves would require major improvements to Highway 213 and connecting arterial streets that may be inappropriate in scale and cost, and could negatively impact adjacent areas in Oregon City.

6.8.7 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.

6.8.8 TDM Program Enhancements

The TDM Subcommittee is in the process of developing a 3-5 year strategic plan that clearly articulates a new vision and proposed direction for the Regional Travel Options program. The strategic direction is to develop a more collaborative marketing program that eliminates duplication of marketing effort and that delivers a clear message to all of our customers (students, commuters, aging population, shoppers, etc). The regional evaluation program will also become more collaborative as we work to develop performance measure and evaluate progress toward non-SOV modal targets for regional centers and industrial areas. The strategic plan will update TDM policies resulting in RTP Amendments that reflect new strategies for promoting travel options to the region.

In addition, 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.

6.8.9 Transportation Performance Measures

The 2000 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.

6.8.10 Transit Stop Planning

TriMet, in cooperation with regional partners, defined most of the major transit stops as a part of the Primary Transit Network planning process in 1997. Planning for the location of transit station continues as TriMet and other transit providers participate in specific corridor planning or implements elements of their strategic plan. Amendments to Figure 1.16 will be necessary as these planning efforts continue. As these planning efforts will include participation from the affected local jurisdictions, amendments to their transportation system plans should be made as planning is completed.

As a part of these planning efforts, transit providers may consider policy standards for station spacing for particular types of service lines, amenities to be provided at transit stops and design standards for those amenities. Jurisdictions are also encouraged to undertake transit stop area plans at major transit stops on rapid bus lines, similar to previous planning efforts for light rail stations.

6.8.11 Job Access and Reverse Commute

The Transportation Efficiency Act (TEA-21) of 1998 included the Job Access and Reverse Commute Program to address the mobility challenges facing welfare recipients and low-income persons. This grant program requires States to develop solutions collaboratively with Metropolitan Planning Organizations (MPOs), local and regional transportation agencies and social service providers. The federal Job Access and Reverse Commute Program provides grants to help States and localities develop a coordinated, regional approach to new or expanded transportation services that connect welfare recipients and other low-income persons to jobs and other employment services. Job Access

projects support developing new or expanded transportation services such as shuttles, vanpools, new bus routes, guaranteed ride home programs and other transit service expansion for welfare recipients and low-income persons. Reverse Commute projects provide transportation services to suburban employment centers from urban, rural and other suburban locations for all persons.

In response to the federal legislation, the purpose of the Portland Job Access Plan is to connect low-income persons and those receiving Temporary Assistance to Needy Families (TANF) with employment areas and related services in the Portland metropolitan region. The community to be served includes approximately 220,000 people with incomes 150 percent below the poverty level. In 1999, Phase I funding for Portland's Job Access Plan matched existing local resources with federal funds to provide over 87,000 new transit rides for low-income and welfare recipients in Washington, Clackamas and Multnomah counties. The new services improved connections and services to both urban and rural areas of the tri-county area using a combination of public, non-profit and private providers. This has allowed individuals with limited resources to enhance their access to the regional transit network and reduce their transportation burdens. The Regional Job Access Committee represents more than 20 organizations, including Metro, transit providers, social service agencies, childcare providers and employers.

Many of today's entry-level positions do not work traditional work hours and the public transportation system is less efficient or non-existent during off-peak shift times. More than 75 employers, representing more than 25,000 employees, have new transportation options for these "hard to serve" shifts from the first year federal Job Access funds. New transportation options range from carpool incentives to evening or early morning shuttle services which allow low-income job seekers access to otherwise unattainable employment locations.

While job training is a key to job placement, the Portland Job Access Plan recognizes that travel training is a key to job retention. Knowing how to use the available transportation services can ease the commute and provide options for childcare. The plan stresses regional coordination and information access as a key to preparing welfare recipients for their commute.

6.8.12 Financial Implementation

JPACT will convene a committee to address transportation funding issues. This committee will consider the information and concepts addressed in Section 5.4 and report back to JPACT with a funding implementation strategy and an analysis of how the strategy addresses the principles identified in Section 5.4.1. JPACT and its transportation funding committee will work with other government agencies, private sector and non-profit agency efforts to address transportation funding in the state and region as it considers its implementation strategy. This effort will lead to proposals for new sources of transportation revenue to build, operate and maintain the RTP Priority system.

6.8.13 RTP Modal Targets Implementation

Metro was recently awarded state Transportation/Growth Management funds to identify best practices and further clarify what constitutes a minimum requirements for local transportation system plans to meet the RTP modal targets. Metro's primary goal is to ensure that the planning programs be adopted, and that on-the-ground progress be demonstrated over time. However, progress toward the non-SOV modal targets is an output of the regional travel demand model, but

cannot be generated by local jurisdictions. Progress would be periodically evaluated as part of RTP updates. The project will:

- Identify best practices and minimum requirements for local governments to demonstrate that local TSPs can meet non-SOV mode split targets in the RTP. Meeting this objective will allow Metro to ensure RTP compliance with Section 660-012-0035(5) of the Transportation Planning Rule.
- Ensure that minimum requirements identified are reasonably sufficient to enable local jurisdictions to achieve the Non SOV Modal Targets of Table 1.3 and the Alternative Mode Analysis of section 6.4.6 of the RTP.
- Ensure that minimum requirements identified can be carried out by Metro and/or local jurisdictions without a significant commitment of staff time or other resources.
- Provide education on the benefits of reducing non-SOV mode trips.

This effort could result in amendments to the RTP.

6.8.14 Defining System Adequacy

Section 660.012.0060 of the Oregon Transportation Planning Rule (TPR) requires local governments to evaluate amendments to acknowledged plans and regulations to ensure that the changes are consistent with planned transportation improvements. For the Metro region, the RTP defines the “priority” system of improvements for major transportation facilities as the basis for evaluating such amendments.

However, given that a 46 percent funding shortfall between the priority system and existing revenue projections exists, this methodology can result in plan amendments being justified by transportation improvements that are unlikely to occur in a timely period, due to the current funding shortfall. Under this scenario, a more realistic basis for evaluating the system might be the “financially constrained” system, which represents just 40 percent of the larger “illustrative” system, and is based on recent funding history. Conversely, using the much more conservative financially constrained system for this analysis risks turning away unanticipated economic development that is consistent with the general intent of a local plan, but requiring greater transportation infrastructure than is provided in the constrained scenario.

Prior to the next update to the RTP, the issue of defining an adequate system of improvements for the purpose of evaluating local plan amendments should be addressed in detail to ensure a balance between allowing desired development and preventing land use actions that outstrip the public ability to provide transportation infrastructure. This effort should include a cross-section of local and regional interests and state agency officials, and could lead to recommended RTP amendments that implement a new strategy for considering such proposals. The effort should be led jointly by Metro and the Oregon Department of Transportation.

6.8.15 Wilsonville I-5 South Corridor

Based on the results of the *I-5/Wilsonville Freeway Access Study* (DKS Associates, November 2002, prepared for ODOT and the City of Wilsonville, with Metro’s participation), there will be a future deficiency for freeway access capacity in Wilsonville based on year 2020 PM peak forecasts. Improvements were identified in the City of Wilsonville’s *2003 Transportation Systems Plan* to address

this deficiency, but did not include the effects of the planned southern alignment for the I-5 to 99W Connector to the Stafford Road Interchange, the plans for which were outside of the scope of the TSP. The improvements include an improved local street system in Wilsonville, freeway access improvements and I-5 operational improvements. Improvements to the local roadway system are not adequate by themselves to mitigate the future 2020 interchange access needs without interchange improvements. In evaluating two freeway access improvement alternatives (an enhanced Wilsonville Road diamond interchange and a new Boeckman Road interchange to I-5) it was found that improvements to the Wilsonville Road interchange would be necessary with either interchange alternative. Based upon the findings of study, an enhanced Wilsonville Road diamond interchange, currently in preliminary engineering, is needed to meet future 2020 capacity demands. Implementation of the enhanced Wilsonville Road diamond interchange project depends upon funding availability.

The analysis of future freeway access needs was conducted with a wide range of travel forecasts, assessing the sensitivity of the findings in the 2020 PM peak period with various travel demand assumptions. In each case, the findings noted above were found to be consistent in terms of the required first step being the enhanced Wilsonville Road diamond interchange. However, utilizing an approximation technique to extend 2020 forecasts to 2030, it was found that in 2030 widening of I-5 to eight lanes would be required to meet interstate freeway capacity standards set by Metro and ODOT and that freeway access capacity would not be adequate with the improved I-5/Wilsonville Road interchange and further access improvements would be necessary. Thus, other freeway access improvements (e.g. a new Boeckman Road interchange) must be considered in future regional capacity studies, including the Regional Transportation Plan update, I-5 South Corridor Study, I-5 to 99W Connector and/or a Stafford/I-205 Study in conjunction with possible urban growth boundary expansions and industrial land evaluations.

6.8.16 National Highway System (NHS) Routes Update

A component of the federal requirements that warrants special effort is a needed update to the National Highway System (NHS) designations in the RTP. These routes were originally designated in the early 1990s, and are due for an update that considers 2040 land use and transportation considerations that have since been adopted into regional and local plans. This effort will occur prior to the next RTP update.