

Chapter 1

Regional Transportation Policy



METRO

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CHAPTER 1

Regional Transportation Policy

1.0 Introduction

This chapter presents the overall policy framework for specific transportation policies, objectives and actions identified throughout this plan. It also sets a direction for future planning and decision-making by the Metro Council and the implementing agencies, counties and cities. A 21-member Regional Transportation Plan citizen advisory committee guided development of this chapter. The committee was appointed by the Metro Council in May 1995 to develop regional transportation policies and propose transportation solutions as part of the update to the 1992 Regional Transportation Plan. The group met monthly until January 1998. The culmination of the group's work can be found in policies in this chapter and in the guiding principles developed for use in updating the other chapters of this plan. This chapter is organized as follows:

Regional Transportation Vision: This section establishes the basic mission of the plan as a means for implementing the 2040 Growth Concept.

Connecting Land-use and Transportation: This section identifies the individual transportation needs for each 2040 Growth Concept land use component and the relative importance of each component to the region.

Regional Transportation Policies: This section provides specific policies and supporting objectives regarding the design, function and performance of the regional transportation system. As a whole, these policies form the basis for improvements recommended in Chapters 3 and 5 of this plan. The objectives establish how a particular policy will be implemented. Motor vehicle performance measures will be used to make a determination of whether the proposed transportation system is adequate to serve planned land uses during the 20-year plan period. Benchmarks will be developed to track implementation of these policies.

1.1 Regional Transportation Vision

Adoption of the 2040 Growth Concept established a new direction for planning in the Portland metropolitan region by linking urban form to transportation. This new direction reflects a regional commitment to developing a plan that is based on efficient use of land and a safe, cost-effective and efficient transportation system that supports the land uses in the 2040 Growth Concept and serves all forms of travel.

The unifying theme of the 2040 Growth Concept is to preserve the region's livability while planning for expected growth in this region – a principle that calls for a regional transportation system designed to meet the specific needs of each 2040 Growth Concept land use component. This Regional Transportation Plan seeks to protect the region's livability by defining a transportation system that:

- anticipates the region's current and future travel needs
- accommodates an appropriate mix of all forms of travel

- supports key elements of the 2040 Growth Concept through strategic investments in the region’s transportation system

1.2 Connecting Land Use and Transportation

While the 2040 Growth Concept is primarily a land use planning strategy, the success of the concept, in large part, hinges on implementation of regional transportation policies identified in this plan. The following are descriptions of each of the 2040 Growth Concept land-use components and the transportation system envisioned to serve them. The 2040 Growth Concept land-use components, called 2040 Design Types, are grouped into a hierarchy based on investment priority. Table 1.1 lists each 2040 Design Type, based on this hierarchy. Figure 1.0 shows the adopted Region 2040 Growth Concept Map.

Table 1.1
Hierarchy of 2040 Design Types

Primary land-use components	Secondary land-use components
Central city	Local industrial areas
Regional centers	Station communities
Regionally significant industrial areas	Town centers
Intermodal facilities	Main streets
	Corridors
Other urban land-use components	Land-use components outside of the urban area
Employment areas	Urban reserves
Inner neighborhoods	Rural reserves
Outer neighborhoods	Neighboring cities
	Green corridors

Source: Metro

1.2.1 Primary Components

The central city, regional centers, regionally significant industrial areas and intermodal facilities are centerpieces of the 2040 Growth Concept, and form the geographic framework for more locally oriented components of the plan. Implementation of the overall growth concept is largely dependent on the success of these primary components. For this reason, these components are the primary focus of 2040 Growth Concept implementation policies and most infrastructure investments.

Figure 1.1
2040 Growth Concept

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Portland central city

Central city and regional centers

Portland's central city already forms the hub of the regional economy. Regional centers in suburban locales such as Gresham, Beaverton and Hillsboro are envisioned in the 2040 Growth Concept as complementary centers of regional economic activity. These areas have the region's highest development densities, the most diverse mix of land uses and the greatest concentration of commerce, offices and cultural amenities. They are the most accessible areas in the region by both auto and public transportation, and have very pedestrian-oriented streets.

In the 2040 Growth Concept, the central city is highly accessible by a high-quality public transportation system, multi-modal street network and a regional freeway system of through-routes. Light rail lines radiate from the central city, connecting to each regional center. The street system within the central city is designed to encourage public transportation, bicycle and pedestrian travel, but also accommodate auto and freight movement. Of special importance are the bridges that connect the east and west sides of the central city, and serve as critical links in the regional transportation system.



Downtown Hillsboro

Regional centers also feature a high-quality radial transit system serving their individual trade areas and connecting to other centers, as well as light rail connections to the central city. In addition, a fully improved network of multi-modal streets tie regional centers to surrounding neighborhoods and nearby town centers, while regional through-routes will be designed to connect regional centers with one another and to points outside the region. The street design within regional centers encourages public transportation, bicycle and pedestrian travel while also accommodating automobile and freight movement.

Regionally significant industrial areas and intermodal facilities

Regionally significant industrial areas serve as "sanctuaries" for long-term industrial activity. A network of major street connections to both the regional freeway system and intermodal facilities primarily serves these areas. Many industrial areas are also served by freight rail, and have good access to intermodal facilities. Freight intermodal facilities, including air and marine terminals, freight rail yards and common carrier truck terminals are areas of regional concern. Access to these areas is centered on



Terminal 6 in Rivergate industrial area

rail, the regional freeway system, public transportation, bikeways and key roadway connections.

While industrial activities often benefit from roadway improvements largely aimed at auto travel, there are roadway needs unique to freight movement that are critical to the continued vitality of industrial areas and intermodal facilities.

1.2.2 Secondary components

While more locally oriented than the primary components of the 2040 Growth Concept, town centers, station communities, main streets and corridors are significant areas of urban activity. Because of their density and pedestrian-oriented design, they play a key role in promoting public transportation, bicycling and walking as viable travel alternatives to the automobile, as well as conveniently close services from surrounding neighborhoods. As such, these secondary components are an important part of the region's strategy for achieving state goals to limit reliance on any one mode of travel and increase walking, bicycling, carpooling, vanpooling and use of transit.

Local industrial areas

Local industrial areas serve as important centers of local employment and industrial activities. A network of major street connections to both the regional freeway system and intermodal facilities generally serves these areas. Access to these areas is centered on rail, the regional freeway system, public transportation, bikeways and key roadway connections.

While local industrial activities often benefit from roadway improvements largely aimed at auto travel, there are roadway needs unique to freight movement that are critical to the continued vitality of these areas.

Station communities

Station communities are located along light rail corridors and feature a high-quality pedestrian and bicycle environment. These communities are designed around the transportation system to best benefit from the public infrastructure. While they include some local services and employment, they are mostly residential developments that are oriented toward the central city, regional centers and other areas that can be accessed by rail for most services and employment.

Town centers and main streets

Town centers function as local activity areas that provide close access to a full range of local retail and service offerings within a few miles of most residents. While town centers will not compete with regional centers in scale or economic diversity, they will offer some specialty attractions of regional interest. Although the character of these centers varies greatly, each will function as strong business and civic communities with excellent multi-modal arterial street access and high-quality public transportation with strong connections to regional centers and other major destinations. Main streets feature mixed-use storefront style



Hillsdale town center

development that serves the same urban function as town centers, but are located in a linear pattern along a limited number of bus corridors. Main streets feature street designs that emphasize pedestrian, public transportation and bicycle travel.



Highway 99W

Corridors

Corridors will not be as intensively planned as station communities, but similarly emphasize a high-quality bicycle and pedestrian environment and convenient access to public transportation. Transportation improvements in corridors will focus on nodes of activity – often at major street intersections – where transit and pedestrian improvements are especially important. Corridors can include auto-oriented land uses between nodes of activity, but such uses are carefully planned to preserve the pedestrian orientation and scale of the overall corridor design.

1.2.3 Other urban components

Some components of the 2040 Growth Concept are primarily of local significance, including employment areas and neighborhoods. Urban activities in these areas often impact the regional transportation system, but are best addressed through the local planning process.

Employment areas

Employment areas allow mixed commercial and industrial uses, including some residential development. A network of arterial street connections to both the regional freeway system and intermodal facilities primarily serves these areas. Some employment areas also are served by freight rail. Employment areas often are located near industrial areas, and may benefit from freight improvements primarily directed toward industrial areas and intermodal facilities.

Neighborhoods

In recent decades, neighborhoods have become more congested largely due to a lack of street connections. A lack of street connections discourages walking and bicycling for local trips in these areas, and forces local auto trips onto the regional multi-modal arterial network. The 2040 Growth Concept envisions master street plans in all areas to increase the number of local street connections to the regional roadway network. However, new connections must be designed to discourage through-travel on local neighborhood streets.



North Portland neighborhood

1.2.4 Components outside the urban area

The remaining components of the 2040 Growth Concept are located outside the urban growth boundary.

Urban reserves

Since January 2000 changes in state regulations, Metro now has the option to adopt urban reserves, which would be located outside the urban growth boundary. If urban reserves are designated, they are intended to accommodate future growth and would eventually require multi-modal access to the rest of the region. General street and public transportation planning is completed prior to urbanization as part of the RTP process, and is based on specific 2040 Growth Concept land use policies for these areas. Once urban reserves are brought within the urban growth boundary, more detailed transportation system planning at the regional and local level occurs in conjunction with detailed land-use planning. Urban reserves designated by the Metro Council in March, 1997 were remanded to Metro by the Oregon Court of Appeals in January, 2000. Some of these areas are being studied for possible addition to the urban growth boundary for housing consistent with state law. No urban reserve areas have been designated by Metro at this time.

Rural reserves

These largely undeveloped reserves are also located outside the urban growth boundary and have very limited transportation facilities. Roadways in these areas are intended to serve rural industry and needs, and urban travel on these routes is accommodated with designs that are sensitive to their basic rural function. Rural reserves will be protected from urbanization for the foreseeable future through state statutes and administrative rules, county land-use ordinances, intergovernmental agreements and by limiting rural access to urban through-routes when possible. Urban-to-urban travel is generally discouraged on most rural routes, with exceptions identified in this plan.

Neighboring cities and green corridors

Neighboring cities are separated from the main urban area by rural reserves, but are connected to regional centers within the metropolitan area by limited-access green corridor transportation routes. Green corridor routes will include bicycle and public transportation service to neighboring cities. Neighboring cities will be encouraged through intergovernmental agreements to balance jobs and households in order to limit travel demand on these connectors. The region also has an interest in maintaining reasonable levels of through-travel on major routes that pass through neighbor cities and function as freight corridors. Growth in neighboring cities will ultimately impact through-travel and could create a need for bypass routes. Such impacts also will be addressed through coordination with county and state agencies, as well as individual neighboring cities.

1.3 Regional Transportation Policies

The following section contains the regional policies for transportation. The policies are grouped into seven subject areas: public process, connecting land use, equal access and safety, protecting the environment, designing the transportation system, managing the transportation system and implementing the transportation system. In most cases, objectives follow each policy statement. The objectives identify how a particular policy will be implemented. Benchmarks will be developed to track implementation of these policies.

The policies aim to implement the 2040 Growth Concept and:

- protect the economic health and livability of the region
- improve the safety of the transportation system
- provide a transportation system that is efficient and cost-effective, investing our limited resources wisely
- provide access to more and better choices for travel in this region and serve special access needs for all people, including youth, elderly and disabled
- provide adequate levels of mobility for people and goods within the region
- protect air and water quality and promote energy conservation
- provide transportation facilities that support a balance of jobs and housing
- limit dependence on any single mode of travel and increase the use of transit, bicycling, walking and carpooling and vanpooling
- provide for the movement of people and goods through an interconnected system of highway, air, marine and rail systems, including passenger and freight intermodal facilities and air and water terminals
- integrate land use, automobile, bicycle, pedestrian, freight and public transportation needs in regional and local street designs
- use transportation demand management and system management strategies
- limit the impact of urban travel on rural land through use of green corridors.

Figure 1.1 provides a complete listing of all policies identified in this chapter.

Figure 1.2

Regional Transportation Policies

Policy 1.0. Public Involvement

Provide complete information, timely public notice, full public access to key decisions and support broad-based, early and continuing involvement of the public in all aspects of the transportation planning process that is consistent with Metro's adopted local public involvement policy for transportation planning. This includes involving those traditionally under-served by the existing system, those traditionally under-represented in the transportation process, the general public, and local, regional and state jurisdictions that own and operate the region's transportation system.

Policy 2.0. Intergovernmental Coordination

Coordinate among the local, regional and state jurisdictions that own and operate the region's transportation system to better provide for state and regional transportation needs.

Policy 3.0. Urban Form

Facilitate implementation of the 2040 Growth Concept with specific strategies that address mobility and accessibility needs and use transportation investments to leverage the 2040 Growth Concept.

Policy 4.0. Consistency Between Land-use and Transportation Planning

Ensure the identified function, design, capacity and level of service of transportation facilities are consistent with applicable regional land use and transportation policies as well as the adjacent land-use patterns.

Policy 5.0. Barrier-Free Transportation

Provide access to more and better transportation choices for travel throughout the region and serve special access needs for all people, including youth, elderly and disabled.

Policy 5.1 Interim Job Access and Reverse Commute Policy

Serve the transit and transportation needs of the economically disadvantaged in the region by connecting low-income populations with employment areas and related social services.

Policy 6.0. Transportation Safety and Education

Improve the safety of the transportation system. Encourage bicyclists, motorists and pedestrians to share the road safely.

Policy 7.0. The Natural Environment

Protect the region's natural environment.

Policy 8.0. Water Quality

Protect the region's water quality.

Policy 9.0. Clean Air

Protect and enhance air quality so that as growth occurs, human health and visibility of the Cascades and the Coast Range from within the region is maintained.

Policy 10.0. Energy Efficiency

Design transportation systems that promote efficient use of energy.

Policy 11.0. Regional Street Design

Design regional streets with a modal orientation that reflects the function and character of surrounding land uses, consistent with regional street design concepts.

Policy 12.0. Local Street Design

Design local street systems to complement planned land uses and to reduce dependence on major streets for local circulation, consistent with Section 6.4.5 in Chapter 6 of this plan.

Policy 13.0. Regional Motor Vehicle System

Provide a regional motor vehicle system of arterials and collectors that connect the central city, regional centers, industrial areas and intermodal facilities, and other regional destinations, and provide mobility within and through the region.

Policy 14.0. Regional Public Transportation System

Provide an appropriate level, quality and range of public transportation options to serve this region and support implementation of the 2040 Growth Concept, consistent with Figures 1.15 and 1.16.

Policy 14.1. Public Transportation System Awareness and Education

Expand the amount of information available about public transportation to allow more people to use the system.

Policy 14.2. Public Transportation Safety and Environmental Impacts

Continue efforts to make public transportation an environmentally-friendly and safe form of motorized transportation.

Policy 14.3. Regional Public Transportation Performance

Provide transit service that is fast, reliable and has competitive travel times compared to the automobile.

Policy 14.4 Special Needs Public Transportation

Provide an appropriate level, quality and range of public transportation options to serve the variety of special needs individuals in this region and support implementation of the 2040 Growth Concept.

Policy 14.5 Special Needs Public Transportation

Provide a seamless and coordinate public transportation system for the special needs population.

Policy 14.6 Special Needs Public Transportation

Encourage the location of elderly and disabled facilities in areas with existing transportation services and pedestrian amenities.

Policy 15.0. Regional Freight System

Provide efficient, cost-effective and safe movement of freight in and through the region.

Policy 15.1. Regional Freight System Investments

Protect and enhance public and private investments in the freight network.

Policy 16.0. Regional Bicycle System Connectivity

Provide a continuous regional network of safe and convenient bikeways connected to other transportation modes and local bikeway systems, consistent with regional street design guidelines.

Policy 16.1. Regional Bicycle System Mode Share and Accessibility

Increase the bicycle mode share throughout the region and improve bicycle access to the region's public transportation system.

Policy 17.0. Regional Pedestrian System

Design the pedestrian environment to be safe, direct, convenient, attractive and accessible for all users.

Policy 17.1. Pedestrian Mode Share

Increase walking for short trips and improve pedestrian access to the region's public transportation system through pedestrian improvements and changes in land-use patterns, designs and densities.

Policy 17.2. Regional Pedestrian Access and Connectivity

Provide direct pedestrian access, appropriate to existing and planned land uses, street design classification and public transportation, as a part of all transportation projects.

Policy 18.0. Transportation System Management

Use transportation system management techniques to optimize performance of the region's transportation systems. Mobility will be emphasized on corridor segments between 2040 Growth Concept primary land-use components. Access and livability will be emphasized within such designations. Selection of appropriate transportation system techniques will be according to the functional classification of corridor segments.

Policy 19.0. Regional Transportation Demand Management

Enhance mobility and support the use of alternative transportation modes by improving regional accessibility to public transportation, carpooling, telecommuting, bicycling and walking options.

Policy 19.1. Regional Parking Management

Manage and optimize the efficient use of public and commercial parking in the central city, regional centers, town centers, main streets and employment centers to support the 2040 Growth Concept and related RTP policies and objectives.

Policy 19.2 Peak Period Pricing

Manage and optimize the use of highways in the region to reduce congestion, improve mobility and maintain accessibility within limited financial resources.

Policy 20.0. Transportation Funding

Ensure that the allocation of fiscal resources is driven by both land use and transportation benefits.

Policy 20.1. 2040 Growth Concept Implementation

Implement a regional transportation system that supports the 2040 Growth Concept through the selection of complementary transportation projects and programs.

Policy 20.2. Transportation System Maintenance and Preservation

Emphasize the maintenance, preservation and effective use of transportation infrastructure in the selection of the RTP projects and programs.

Policy 20.3. Transportation Safety

Anticipate and address system deficiencies that threaten the safety of the traveling public in the implementation of the RTP.

1.3.1 Public Process

Policy 1.0. Public Involvement

Provide complete information, timely public notice, full public access to key decisions and support broad-based, early and continuing involvement of the public in all aspects of the transportation planning process that is consistent with Metro's adopted local public involvement policy for transportation planning. This includes involving those traditionally under-served by the existing system, those traditionally under-represented in the transportation process, the general public, and local, regional and state jurisdictions that own and operate the region's transportation system.

- a. Objective: Develop a detailed public involvement work plan consistent with the regional public involvement policy for each transportation plan, program or project.
- b. Objective: Provide opportunities for the public to supply input. Revise work scopes, plans and programs to reflect public comment, as appropriate. Create a record of public comment received and agency response regarding draft transportation plans and programs at the regional level.

Metro's public involvement policy for regional transportation planning and funding activities is intended to support and encourage broad-based public participation in the development and review of Metro's transportation plans, programs and projects. The policy was developed in response to citizen interest, changes in state and federal transportation planning requirements, and in an effort to reach traditionally under-served portions of the population. The Metro Council adopted the public involvement policy in July 1995. Workshops, public meetings, hearings, open houses, mailings, flyers, surveys and paid advertising all are used to seek input from citizens. Metro coordinates input from the public and our local, regional, state and federal planning partners through several committees (see Policy 2.0 discussion).

Policy 2.0. Intergovernmental Coordination

Coordinate among the local, regional and state jurisdictions that own and operate the region's transportation system to better provide for state and regional transportation needs.

Metro's transportation planning activities also are guided by a decision-making framework that integrates federal, state, regional and local government staff and interested groups into the transportation and land-use decision-making processes of the region. Metro's job is to make sure that local planning is coordinated throughout the region, consistent with federal, state and regional requirements. Metro's planning partners include the cities, counties and affected special districts of the region, Oregon Department of Transportation (ODOT), Oregon Department of Environmental Quality, Port of Portland and TriMet. Metro also coordinates with Southwest Washington Regional Transportation Council (RTC), C-Tran, the Washington Department of Transportation, the Southwest Washington Air Pollution Control Authority and other Clark County governments on bi-state issues. Those affected special districts that have identified their interest are included in the RTP interested parties mailing list. In addition, plan materials are sent to the Oregon Special Districts Association for their coordination of comments by special districts.

By providing regional coordination amongst the planning partners and setting regional standards, cities and counties can better coordinate their planning efforts with neighboring jurisdictions – and this benefits the entire region. Metro facilitates this coordination through three decision-making

bodies – the Metro Council, the Joint Policy Advisory Committee on Transportation (JPACT) and Transportation Policy Alternatives Committee (TPAC). Figure 1.2 displays the regional decision-making process.

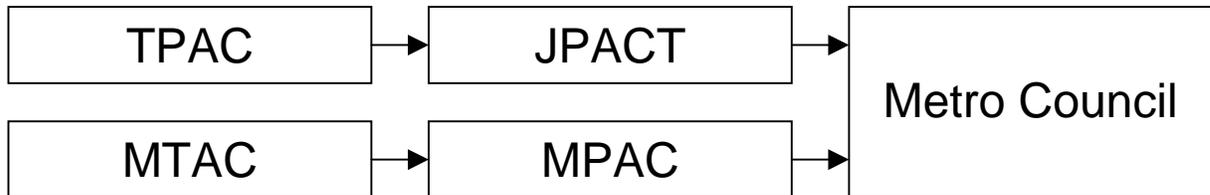
Metro Council. The seven members of the Metro Council are elected from districts throughout the region. The Council approves Metro policies, including transportation plans recommended by JPACT. The Metro Council, in making policy decisions and approving transportation plans, relies on JPACT and the Metro Policy Advisory Committee (MPAC) for input. JPACT and MPAC, in turn, rely on technical expertise and input from TPAC and the Metro Technical Advisory Committee (MTAC).

JPACT. The Joint Policy Advisory Committee on Transportation provides a forum for elected officials and representatives of agencies involved in transportation planning to evaluate transportation policies and make recommendations on projects to implement those policies. This 17-member committee makes funding recommendations to the Metro Council. The committee includes elected officials from local governments within the region, three Metro councilors, representatives from ODOT, TriMet, the Port of Portland, plus representatives from governments and agencies of Clark County, Wash., and the state of Washington. The JPACT finance subcommittee also meets to develop and recommend financing strategies to implement the region’s transportation policies.

TPAC. The Transportation Policy Alternatives Committee provides technical input into the planning process and makes recommendations to JPACT. TPAC membership includes senior technical staff from cities and counties in the region, ODOT, TriMet, the Port of Portland, the Washington Department of Transportation, Federal Highway Administration, Oregon Department of Environmental Quality and the Southwest Washington Regional Transportation Council. There are also six citizen representatives with strong public involvement skills and diverse backgrounds appointed to TPAC by the Metro Council.

RTP Citizen Advisory Committee. In addition, the 21-member RTP Citizen Advisory Committee was appointed by the Metro Council in May 1995 to provide citizen perspectives on transportation issues during the RTP update. Members of the committee were selected as delegates for specific constituencies, to represent various citizen, demographic, business and special interest perspectives. The committee provided direct input to all of Metro’s working committees and to the Metro Council.

Figure 1.3
Regional Decision-Making Process



Source: Metro

1.3.2 Connecting Land Use

Policy 3.0. Urban Form

Facilitate implementation of the 2040 Growth Concept with specific strategies that address mobility and accessibility needs and use transportation investments to leverage the 2040 Growth Concept.

- a. Objective: Serve new development with interconnected public streets that provide safe and convenient pedestrian, bicycle and motor vehicle access.
- b. Objective: Provide Street, bicycle and pedestrian connections to transit routes within and between new and existing residential, commercial and employment areas and other activity centers.
- c. Objective: Encourage development that supports increased mobility and accessibility, particularly by transit, walking and bicycling.
- d. Objective: Support mixed-use development to reduce travel demand. Locate housing, jobs, schools, parks and other destinations within walking distance of each other whenever possible.
- e. Objective: Leverage the region's multi-modal transportation investment by supporting the development of innovative tools including transit-oriented development, the location efficient mortgage and others.

Policy 4.0. Consistency Between Land-use and Transportation Planning

Ensure the identified function, design, capacity and level of service of transportation facilities are consistent with applicable regional land use and transportation policies as well as the adjacent land use patterns.

- a. Objective: Provide adequate transportation facilities to support a land use plan that implements the 2040 Growth Concept.
- b. Objective: Provide transportation facilities that enhance jobs and housing as well as the community identity of neighboring cities.

1.3.3 Equal Access and Safety

Policy 5.0. Barrier-Free Transportation

Provide access to more and better transportation choices for travel throughout the region and serve special access needs for all people, including youth, elderly and disabled.

- a. Objective: Continue to work with local, regional and state jurisdictions to provide transportation facilities that comply with the Americans with Disabilities Act of 1990.
- b. Objective: Continue to work with local, regional and state jurisdictions to identify and assess structural barriers to mobility for transportation disadvantaged populations in current and planned regional transportation system and address through a comprehensive program.
- c. Objective: Continue to work with local, regional and state jurisdictions to make public transportation stops and walkway approaches accessible.
- d. Objective: Develop outreach programs that encourage and support ridership among youth, elderly and disabled populations.

Policy 5.1 Interim Job Access and Reverse Commute Policy

Serve the transit and transportation needs of the economically disadvantaged in the region by connecting low-income populations with employment areas and related social services.

- a. Objective: Improve transportation options for the targeted population by improving transportation options through development of programs and services.
- b. Objective: Provide employers, case managers and community services staff with training and resources directly related to the unique transportation needs of the targeted population.
- c. Objective: Develop education and information materials specifically designed for the targeted population.

Policy 6.0. Transportation Safety and Education

Improve the safety of the transportation system. Encourage bicyclists, motorists and pedestrians to share the road safely.

- a. Objective: Promote safety in the design and operation of the transportation system.
- b. Objective: Minimize conflicts between modes, particularly between motor vehicles, freight, transit, pedestrians and bicycles.
- c. Objective: Develop and implement regional safety and education programs. Coordinate regional efforts to promote safe use of roadways by motorists, bicyclists and pedestrians through a public awareness program.
- d. Objective: Provide region-wide coverage of local traffic education programs, and actively distribute safety information to local jurisdictions, law enforcement agencies, schools and community organizations that inform and educate motorists, bicyclists and pedestrians.

1.3.4 Protecting the Environment**Policy 7.0. The Natural Environment**

Protect the region's natural environment.

- a. Objective: Place a priority on protecting the natural environment in all aspects of the transportation planning process.
- b. Objective: Reduce the environmental impacts associated with transportation system planning, project development, construction and maintenance activities.
- c. Objective: Reduce negative impacts on parks, public open space, natural areas, wetlands and rural reserves arising from noise, visual impacts and physical segmentation.
- d. Objective: New transportation and related utility projects shall seek to avoid fragmentation and degradation of components of the Regional System (regionally significant parks, natural areas, open spaces, trails and greenways). If avoidance is infeasible, impacts shall be minimized and mitigated.

Policy 8.0. Water Quality

Protect the region's water quality.

- a. Objective: Meet applicable state and federal water quality standards in the planning process.
- b. Objective: Support the implementation of Green Streets practices through pilot projects and regional funding incentives.
- c. Objective: Support local jurisdiction efforts to reduce impervious surface coverage in the development review and street design process.
- d. Objective: Continue to coordinate updates to the Green Streets guidelines with state and federal regulatory agencies to ensure ongoing compliance with fish protection regulations.
- e. Objective: Implement a coordinated strategy to remove or retrofit culverts on the regional transportation system that block or restrict fish passage.

Ecosystems do not conform to political boundaries. Streams and watersheds cross both city and county boundaries, and transportation projects often impact watersheds. In recent years, it has become increasingly important to acknowledge the effect of developing the public right-of-way on the health of our environment, particularly urban waterways. Streets and driveways combine to form the largest source of impervious surfaces in our urban landscape. A particular challenge is how to address conflicts between planned transportation improvements and identified stream corridors, and how transportation improvements can be constructed in concert with stream corridor protection plans.

Impervious surfaces are hard surfaces that do not allow water to filter into the ground, and instead, rely on piped stormwater drainage systems that convey runoff directly to streams. The majority of total impervious surfaces are from roads, sidewalks, parking lots and driveways.

Higher impervious surface coverage has been linked to dramatic changes in the shape of streams, water quality, water temperature and the biological health of waterways. The regional Green Streets program seeks to mitigate this effect on streams over time through a combination of retrofits to existing streets, and design guidelines for new streets that allow stormwater to infiltrate directly into the ground. Examples of Green Streets techniques that could be used by local jurisdictions in the development review and street design process include:

- extensive use of street trees to intercept, absorb and evaporate stormwater
- use of pervious paving materials on sidewalks and local streets
- use of stormwater detention basins and swales on smaller streets and roads, as long as runoff velocities are low enough to prevent erosion
- design impervious surfaces on streets and sidewalks so that stormwater drains into adjacent pervious areas such as planting strips or landscaped private property
- use of shared parking to reduce the size and number of parking lots
- use of erosion control techniques during construction of regional streets and adjacent development projects.

Policy 9.0. Clean Air

Protect and enhance air quality so that as growth occurs, human health and visibility of the Cascades and the Coast Range from within the region is maintained.

- a. Objective: Encourage use of all modes of travel (e.g., transit, telecommuting, zero-emissions vehicles, carpooling, vanpooling, bicycles and walking) that contribute to clean air.
- b. Objective: Include strategies for planning and managing air quality in the regional airshed in the State Implementation Plan for the Portland-Vancouver air quality maintenance areas as required by the federal Clean Air Act Amendments.
- c. Objective: Develop new regional strategies to comply with federal Clean Air Act Amendments requirements and provide capacity for future growth.
- d. Objective: Work with the state to pursue close collaboration of the Oregon and Clark County Air Quality Management Areas.
- e. Objective: Provide regional support for implementation of the voluntary parking provisions of the Portland region's Ozone Maintenance Plan.
- f. Objective: Ensure timely implementation and adequate funding for Transportation Control Measures as identified in the State Implementation Plan.

Policy 10.0. Energy Efficiency

Design transportation systems that promote efficient use of energy.

- a. Objective: Reduce the region's transportation-related energy consumption through increased use of transit, telecommuting, zero-emissions vehicles, carpooling, vanpooling, bicycles and walking and through increasing efficiency of the transportation network to diminish delay and corresponding fuel consumption.

1.3.5 Designing the Transportation System

The design and function of individual transportation facilities and entire systems have a significant impact on adjacent land uses and the character of the communities they serve. As a result, transportation systems planning must consider larger regional and community goals and values, such as protection of the environment, the regional economy and the quality of life that area residents presently enjoy.

The Regional Transportation Plan measures economic and quality-of-life impacts of the proposed system by evaluating key indicators, such as access to jobs and retail services, mode share, vehicle miles traveled, travel times, travel speeds, level of congestion and air quality impacts. Other key indicators include economic benefits to the community, access to transportation by the traditionally underserved, including low-income and minority households and the disabled, energy costs and protection of natural resources. The Regional Transportation Plan defines a transportation system that balances all of the policies in this plan. Sometimes these policies are in conflict – so each transportation project or program must be evaluated in terms of financial constraints, associated social, economic and environmental impacts, and how it best achieves an overall balance between those conflicting goals. The following policy guides planning and implementation of the region's transportation system.

REGIONAL STREET DESIGN POLICIES

Policy 11.0. Regional Street Design

Design regional streets with a modal orientation that reflects the function and character of surrounding land uses, consistent with regional street design concepts.

- a. Objective: Support local implementation of regional street design concepts and Green Streets design alternatives in local transportation system plans and development codes.

Regional street design policies address federal, state and regional transportation planning mandates with street design concepts intended to support local implementation of the 2040 Growth Concept. The design concepts reflect the fact that streets perform many, often conflicting functions, and the need to reconcile conflicts among travel modes to make the transportation system safer for all modes of travel. Implementation of the design concepts is intended to promote community livability by balancing all modes of travel and address the function and character of surrounding land uses when designing streets of regional significance. The *Green Streets* design guidelines are tailored to support the regional street design guidelines, and provide a series of complementary *Green Street* guidelines for each of the street design classifications contained in this section.

Regional street design concepts

Regional street design concepts are intended to serve multiple modes of travel in a manner that supports the specific needs of the 2040 land-use components. The street design concepts fall into five broad classifications:

- **Throughways** – emphasize motor vehicle travel and connect major activity centers, industrial areas and intermodal facilities
- **Boulevards** – serve major centers of urban activity and emphasize public transportation, bicycle and pedestrian travel while balancing the many travel demands of intensely developed areas
- **Streets** – serve transit corridors, main streets and neighborhoods with designs that integrate many modes of travel and provide easy pedestrian, bicycle and public transportation travel
- **Roads** – are traffic-oriented with designs that integrate all modes but primarily serve motor vehicles
- **Local streets** – complement the regional system by serving neighborhoods and carrying local traffic.

Figure 1.4
Regional Street Design Map

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These design concepts apply to the regional system as they relate to specific 2040 Growth Concept land-use components. Figure 1.4 provides a chart of regional street design classifications for roadways that serve a given 2040 land use. The most appropriate street design classification for roadways that serve a given land use is indicated with a solid circle(s). Separate regional street design guidelines were developed to guide local implementation of the design concepts. A detailed discussion of these guidelines can be found in *Creating Livable Streets: Street Design for 2040*. The regional street design map, Figure 1.3, applies the regional street design concepts to streets of regional significance. Following Figure 1.4 is a detailed description of the purpose and design emphasis of each design concept.

Figure 1.5
Regional Street Design Classifications
and the 2040 Growth Concept

		Primary Components			Secondary Components				Other Urban Components				
		Central City	Regional Centers	Industrial Areas	Station Communities	Town Centers	Main Streets**	Corridors	Employment Areas	Inner Neighborhood	Outer Neighborhood	Exurban Areas	
Regional Street Design Classifications	Throughways	Freeway	<i>Throughways are not included in this chart because Freeway and Highway designs do not reflect adjacent land use.</i>										
		Highway											
	Boulevards	Regional Boulevard	●	●	○	●	●	●	○	○	○	○	○
		Community Boulevard	●	●	○	●	●	●	○	○	○	○	○
	Streets	Regional Street	○	○	○	○	○	●	●	○	●	●	
		Community Street	○	○	○	○	○	●	●	○	●	●	
	Roads	Urban Road			●					●			
		Rural Road											●

- Most appropriate street design classification
- Appropriate street design classification in transition areas
- ** Main Streets feature Boulevard designs along key segments and at major intersections

Source: Metro

Throughways

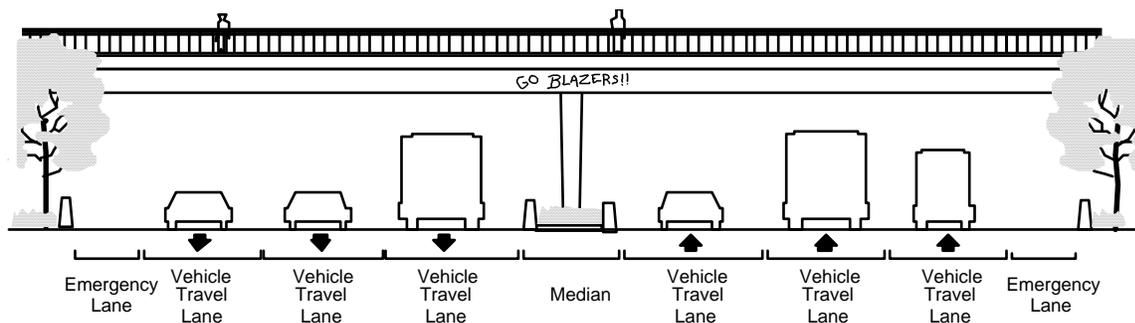
The purpose of throughways is to connect major activity centers within the region, including the central city, regional centers, industrial areas and intermodal facilities to one another and to points outside the region. Throughways are divided into limited access freeway designs where all intersections have separated grades, and highways that include a mix of separate and at-grade intersections.

Both freeways and highways are designed to provide high-speed travel for longer motor vehicle trips throughout the region, are primary freight routes and serve all 2040 Growth Concept land-use components. In addition to facility designs that promote mobility, throughways may also benefit from access management and advanced traffic management system techniques. These facilities may carry transit through-service, with supporting amenities limited to transit stations. These facilities may also incorporate transit-priority design treatment where appropriate, and may incorporate light rail or other high-capacity transit.

Freeways

Freeways usually consist of four to six vehicle travel lanes, with additional lanes in some situations. They are completely divided, with no left-turn lanes. Freeway designs have few street connections, and always occur at separated grades with access controlled by ramps. There is no driveway access to freeways or buildings oriented toward these facilities – only emergency parking is allowed. Freeway designs do not include pedestrian amenities, with the exception of improved crossings on overpasses and access ramps. Bikeways designed in conjunction with freeway improvements usually are separated facilities. Figure 1.5 illustrates a typical cross-section of a freeway.

Figure 1.6
Freeway Design Elements



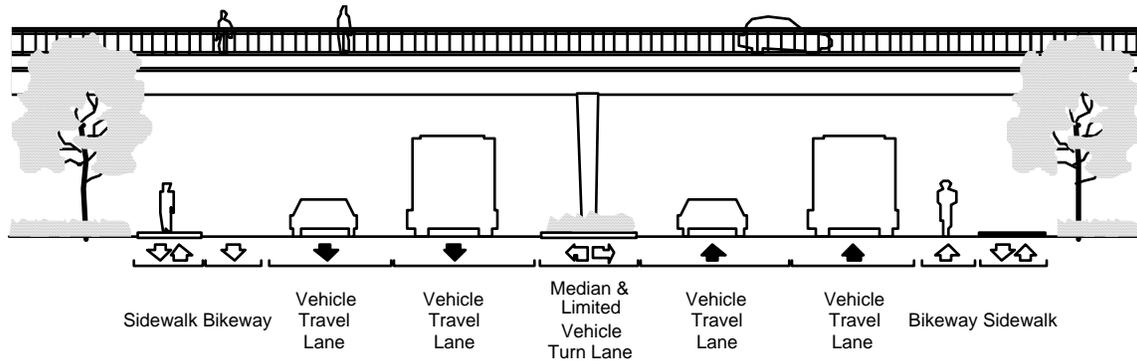
Source: Metro

Highways

Highways usually consist of four to six vehicle travel lanes, with additional lanes in some situations. Highway designs have few street connections, and they may occur at same-grade or on separate grades. Highways are usually divided with a median, but also have left-turn lanes where at-grade intersections exist. There are few driveways on highways, and buildings are not usually oriented toward these facilities. On-street parking is usually prohibited in highway designs, but may exist in

some locations. Highway designs include striped bikeways and sidewalks with optional buffering. Improved pedestrian crossings are located on overpasses, underpasses and at same-grade intersections. Figure 1.6 illustrates a typical cross-section of a highway.

Figure 1.7
Highway Design Elements



Source: Metro

Boulevards

Boulevards are designed with special amenities that promote pedestrian, bicycle and public transportation travel in the districts they serve. Boulevards serve the multi-modal needs of the region's most intensely developed activity centers, including the central city, regional centers, station communities, town centers and some main streets. As such, these facilities may benefit from access management, traffic calming and ATMS techniques that reinforce pedestrian, bicycle and public transportation travel. Boulevards are divided into regional and community-scale designs.

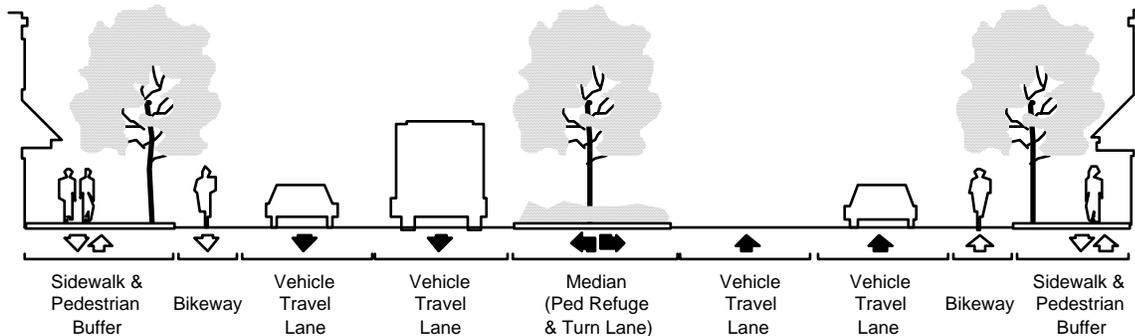
Regional boulevards

Regional boulevards mix a significant amount of motor vehicle traffic with public transportation, bicycle and pedestrian travel where dense development is oriented toward the street. These designs feature low to moderate vehicle speeds and usually include four vehicle lanes. Additional lanes or one-way couplets may be included in some situations. Regional boulevards have many street connections and some driveways, although combined driveways are preferable. These facilities may include on-street parking when possible. The center median serves as a pedestrian refuge and allows for left-turn movements at intersections.

Regional boulevards are designed to be transit-oriented, with high-quality service and substantial transit amenities at stops and station areas. Pedestrian improvements are substantial on boulevards, including broad sidewalks, pedestrian buffering, special street lighting and crossings at all intersections with special crossing amenities at major intersections. These facilities have bike lanes or wide outside lanes where bike lanes are not physically possible, or are shared roadways where motor vehicle speeds are low. They also serve as primary freight routes and may include loading facilities

within the street design. Loading facilities should occur on side streets, where feasible. Figure 1.7 illustrates a typical cross-section of a regional boulevard.

Figure 1.8
Regional Boulevard Design Elements

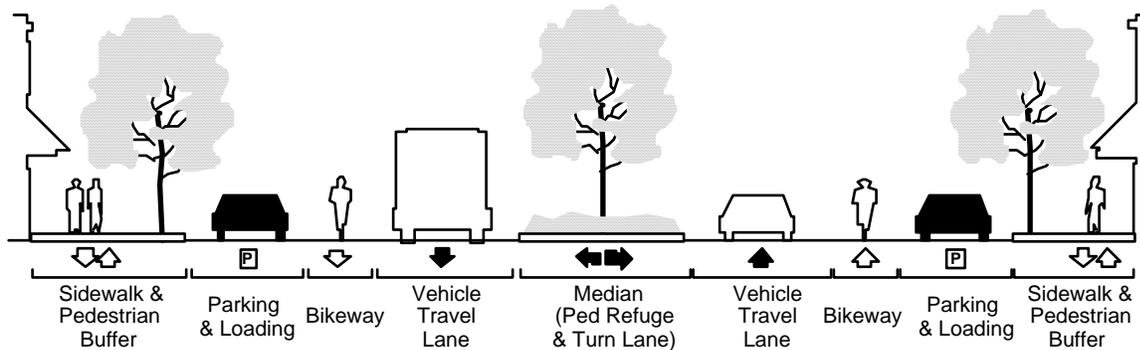


Source: Metro

Community boulevards

Community boulevards mix motor vehicle traffic with public transportation, bicycle and pedestrian travel where dense development is oriented toward the street. These facilities are designed for low motor vehicle speeds and usually include four vehicle lanes and on-street parking. Fewer vehicle lanes may be appropriate in some situations, particularly when necessary to provide on-street parking. Community boulevards have many street connections and some driveways, although combined driveways are preferable. Where appropriate, center medians offer a pedestrian refuge and allow for left turn movements at intersections. Figure 1.8 illustrates a typical cross-section of a community boulevard.

Figure 1.9
Community Boulevard Design Elements



Source: Metro

Community boulevards are designed to be transit-oriented, with high-quality service supported by substantial transit amenities at stops and station areas. Pedestrian improvements are also substantial, including broad sidewalks, pedestrian buffering, special street lighting and crossings at all intersections with special crossing amenities at major intersections. Community boulevards have striped or shared bikeways and some on-street parking. These facilities also serve as secondary freight routes, and may include loading facilities within the street design. Loading facilities should occur on side streets, where feasible.

Boulevard intersections

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

Streets

Streets are designed with amenities that promote pedestrian, bicycle and public transportation travel in the districts they serve, particularly where development densities warrant special transit and pedestrian design consideration. Streets serve the multi-modal needs of the region's corridors, neighborhoods and some main streets. As such, these facilities may benefit from access management, traffic calming and ATMS techniques that enhance pedestrian, bicycle and public transportation travel, while providing appropriate vehicle mobility. Streets are divided into regional and community scale designs.

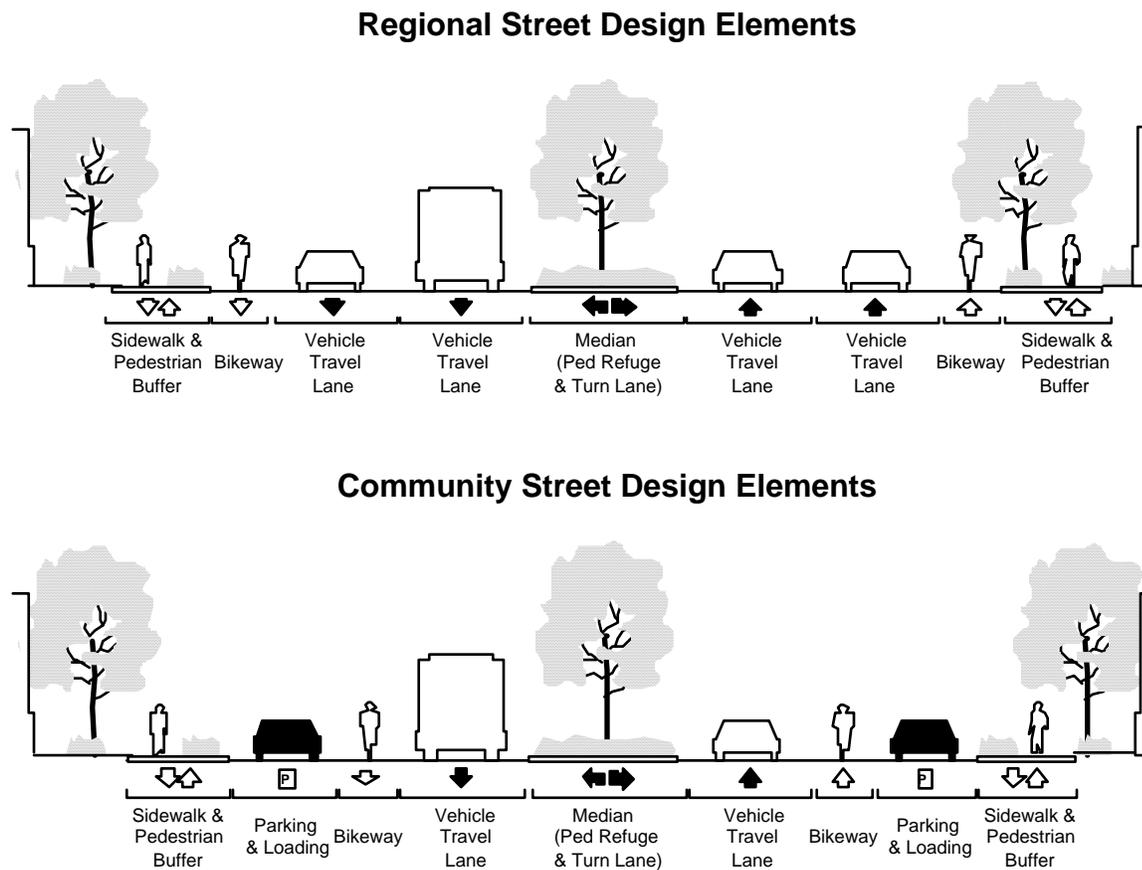
Regional streets

Regional streets are designed to carry significant vehicle traffic while also providing for public transportation, bicycle and pedestrian travel. These facilities serve a development pattern that ranges from low-density residential neighborhoods to more densely developed corridors and main streets, where buildings are often oriented toward the street at major intersections and transit stops. Regional street designs accommodate moderate motor vehicle speeds and usually include four vehicle lanes. Additional motor vehicle lanes may be appropriate in some situations. These facilities have some to many street connections, depending on the district they are serving. Regional streets have few driveways that are combined whenever possible. On-street parking may be included, and a center median serves as a pedestrian refuge and allows for left turn movements at intersections.

These facilities are designed to be transit-oriented, with high-quality service and substantial transit amenities at stops and station areas. Although less substantial than in boulevard designs, pedestrian improvements are important along regional streets, including sidewalks that are buffered from motor vehicle travel, crossings at all intersections and special crossing amenities at major intersections. Regional streets have bike lanes or wide outside lanes where bike lanes are not physically possible, or are shared roadways where motor vehicle speeds are low. They also serve as primary freight routes

and may include loading facilities within the street design, where appropriate. Figure 1.9 illustrates a typical cross-section of a regional and community street.

Figure 1.10
Regional and Community Street Design Elements



Source: Metro

Community streets

Community streets are designed to carry vehicle traffic while providing for public transportation, bicycle and pedestrian travel. These facilities serve lower-density residential neighborhoods as well as more densely developed corridors and main streets, where buildings are often oriented toward the street at main intersections and transit stops. Community street designs allow for moderate motor vehicle speeds and usually include four motor vehicle lanes and on-street parking. However, fewer travel lanes may be appropriate when necessary to provide for on-street parking. These facilities have some to many street connections, depending on the 2040 Growth Concept land-use components they serve. Community streets have few driveways that are shared when possible. A center median serves as a pedestrian refuge and allows for left-turn movements at intersections.

Community streets are transit-oriented in design, with transit amenities at stops and station areas. Although less substantial than in boulevard designs, pedestrian improvements are important on community streets, including sidewalks that are buffered from motor vehicle travel, crossings at all intersections and special crossing features at major intersections. Community streets have striped or shared bikeways. These facilities also serve as secondary freight routes and may include loading facilities within the street design, where appropriate. Loading facilities should occur on side streets, where feasible.

Roads

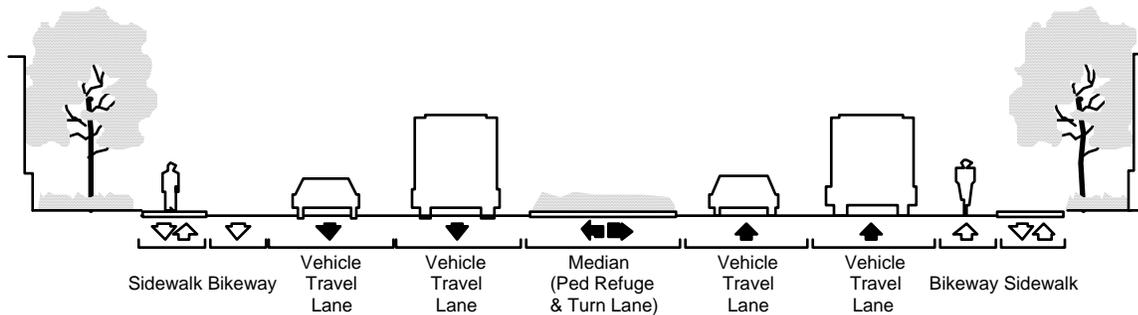
Roads are traffic-oriented designs that provide motor vehicle mobility in the 2040 Growth Concept land-use components they serve and accommodate a minimal amount of pedestrian and public transportation travel. These facilities may benefit from access management and ATMS techniques. Roads serve the travel needs of the region's lower density industrial and employment areas as well as rural areas located outside the urban growth boundary. Roads are, therefore, divided into urban and rural designs.

Urban roads

These facilities are designed to carry significant motor vehicle traffic while providing for some public transportation, bicycle and pedestrian travel. Urban roads serve industrial areas, intermodal facilities and employment centers where buildings are less oriented toward the street. These facilities also serve new urban areas (UGB additions) where plans for urban land use and infrastructure are not complete. Urban roads are designed to accommodate moderate vehicle speeds and usually include four motor vehicle lanes, although additional lanes may be appropriate in some situations. These designs have some street connections, but few driveways. Urban roads rarely include on-street parking, and a center median primarily serves to optimize motor vehicle travel and to allow for left-turn movements at intersections.

Urban roads serve as primary freight routes and often include special design treatments to improve freight mobility. These facilities are designed for transit through-service, with limited amenities at transit stops. Sidewalks are included in urban road designs, although buffering is optional. Pedestrian crossings are included at intersections. Urban roads have striped bikeways. Figure 1.10 illustrates a typical cross-section of an urban road.

Figure 1.11
Urban Road Design Elements

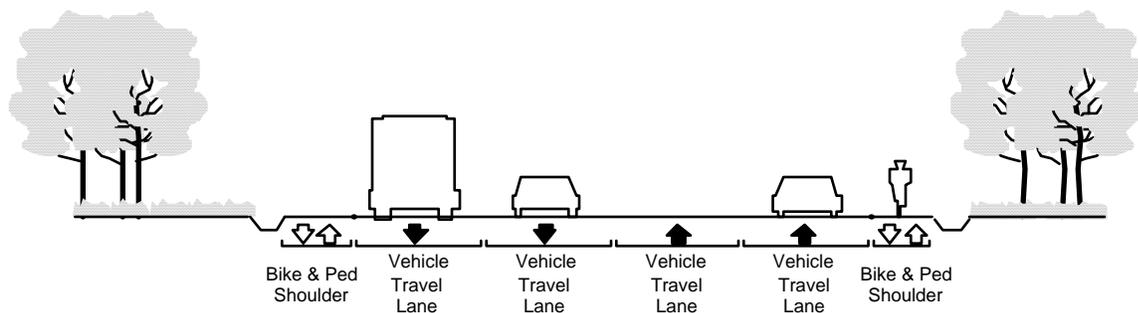


Source: Metro

Rural roads

Rural roads are designed to carry rural traffic while accommodating limited public transportation, bicycle and pedestrian travel. In some cases rural roads serve to connect urban traffic to throughways. Rural roads serve urban reserves, rural reserves and green corridors, where development is widely scattered and usually located away from the road. These facilities are designed to allow moderate motor vehicle speeds and usually consist of two to four motor vehicle lanes, with occasional auxiliary lanes appropriate in some situations. Rural roads have some street connections and few driveways. On-street parking occurs on an unimproved shoulder, and is usually discouraged. These facilities may include center turn lanes, where appropriate. Figure 1.11 illustrates a typical cross-section of a rural road.

Figure 1.12
Rural Road Design Elements



Source: Metro

Rural roads serve as primary freight routes and often provide important farm-to-market connections. Special design treatments to improve freight mobility are therefore important in these designs. Rural roads rarely serve public transportation, but may include limited amenities at rural transit stops where transit service does exist. Bicycles and pedestrians share a common striped shoulder on these facilities, and improved pedestrian crossings occur only in unique situations (such as rural schools or commercial districts).

Policy 12.0. Local Street Design

Design local street systems to complement planned land uses and to reduce dependence on major streets for local circulation, consistent with Section 6.4.5 in Chapter 6 of this plan.

Local streets include all facilities not identified on the regional motor vehicle system map in Figure 1.11 of this plan. Local streets serve the immediate travel needs of the region at the neighborhood level. These facilities are multi-modal and are designed to serve most short automobile, bicycle and pedestrian trips. They generally do not carry freight in residential areas, but are important to freight movement in industrial and commercial areas. Local streets may serve as transit routes in some situations. Local street designs include many connections with other streets, and bicycle and pedestrian accessways where topography or existing development patterns prevent full street extensions.

REGIONAL MOTOR VEHICLE SYSTEM POLICIES**Policy 13.0. Regional Motor Vehicle System**

Provide a regional motor vehicle system of arterials and collectors that connect the central city, regional centers, industrial areas and intermodal facilities, and other regional destinations, and provide mobility within and through the region.

- a. Objective: Provide for statewide, national and international connections to and from the region, consistent with the Oregon Transportation Plan.
- b. Objective: Provide a system of principal arterials for long-distance, high-speed, interstate, inter-region and intra-region travel.
- c. Objective: Provide an adequate system of arterials that supports local and regional travel.
- d. Objective: Provide an adequate system of local streets that supports localized travel, thereby reducing dependence on the regional system for local travel.
- e. Objective: Maintain an acceptable level of service on the regional motor vehicle system during peak and off-peak periods of demand, as defined in Table 1.2.
- f. Objective: Minimize the effect of improved regional access outside the urban area.
- g. Objective: Minimize the impact of urban travel on rural land uses. Limit access to and minimize urban development pressure on rural land uses and resource lands by maintaining appropriate levels of access to support rural activities, while discouraging urban traffic.
- h. Objective: Implement a congestion management system to identify and evaluate low cost strategies to mitigate and limit congestion in the region.

These policies and objectives direct the region's planning and investment in the regional motor vehicle system. The regional motor vehicle system is designed to provide access to the central city, regional centers, industrial areas and intermodal facilities with an emphasis on mobility between these destinations. The regional motor vehicle system is shown in Figure 1.12 of this plan.

This plan recognizes the need to accommodate a variety of trip types on the regional motor vehicle system that include personal errands, commuting to work or school, commerce, freight movement and public transportation. In general, this plan recognizes there would be a higher degree of mobility

during the mid-day compared to the peak-hour. Although focused on motor vehicle travel, the system described in this section is multi-modal, with design criteria intended to serve motor vehicle mobility needs while reinforcing the urban form of the 2040 Growth Concept. While the motor vehicle system usually serves bicycle and pedestrian travel, the system is designed to limit impacts of motor vehicles on pedestrian and transit-oriented districts.

Finally, the Regional Transportation Plan must demonstrate that it defines an adequate transportation system to serve planned land uses. The motor vehicle performance measures identified in Table 1.2 serve as the basis for making this determination. In areas of special concern, substitute performance measures identified in Chapter 6 will be used to make a determination of whether the transportation system is adequate to serve planned land uses. Areas with this designation are planned for mixed used development, but are also characterized by physical, environmental or other constraints that limit the range of acceptable transportation solutions for addressing a level-of-service need, but where alternative routes for regional through-traffic are provided. Figure 1.13 in this chapter defines areas where this designation applies. In these areas, substitute performance measures are allowed by OAR.660.012.0060 (1)(d). Provisions for determining the alternative performance measures are included in Section 6.7.7 of this plan. Adopted performance measures for these areas are detailed in Appendix 3.6.

Figure 1.13
Regional Motor Vehicle System Map

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Table 1.2

Regional Motor Vehicle Performance Measures
Deficiency Thresholds and Operating Standards¹

Location	Mid-Day One-Hour Peak			A.M./P.M. Two-Hour Peak					
	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold	Preferred Operating Standard		Acceptable Operating Standard		Exceeds Deficiency Threshold	
				1st Hour	2nd Hour	1st Hour	2nd Hour	1st Hour	2nd Hour
Central City Regional Centers Town Centers Main Streets Station Communities	C	E	F	E	E	F	E	F	F
Corridors Regionally Significant Industrial Areas Local Industrial Areas Intermodal Facilities Employment Areas Inner Neighborhoods Outer Neighborhoods	C	D	E	E	D	E	E	F	E
Banfield Freeway¹ <i>(from I-5 to I-205)</i>	C	E	F	E	E	F	E	F	F
I-5 North* <i>(from Marquam Bridge to Interstate Bridge)</i>	C	E	F	E	E	F	E	F	F
Highway 99E¹ <i>(from the Central City to Highway 224 interchange)</i>	C	E	F	E	E	F	E	F	F
Sunset Highway¹ <i>(from I-405 to Sylvan interchange)</i>	C	E	F	E	E	F	E	F	F
Stadium Freeway¹ <i>(I-5 South to I-5 North)</i>	C	E	F	E	E	F	E	F	F
Other Principal Arterial Routes	C	D	E	E	D	E	E	F	E
Areas of Special Concern	Areas with this designation are planned for mixed used development, but are also characterized by physical, environmental or other constraints that limit the range of acceptable transportation solutions for addressing a level-of-service need, but where alternative routes for regional through-traffic are provided. Figures 1.13.a-e in this chapter define areas where this designation applies. In these areas, substitute performance measures are allowed by OAR.660.012.0060 (1)(d). Provisions for determining the alternative performance measures are included in Section 6.7.7 of this plan. Adopted performance measures for these areas are detailed in Appendix 3.3.								

Level-of-service is determined by using either the latest edition of the Highway Capacity Manual (Transportation Research Board) or through volume to capacity ratio equivalencies as follows: LOS C = .8 or better; LOS D = .8 to .9; LOS E = .9 to 1.0; and LOS F = 1.0 to 1.1. A copy of the level of service tables from the Highway Capacity Manual is shown in Appendix 1.6.

¹ Thresholds shown are for interim purposes only; refinement plans for these corridors are required in Chapter 6 of this plan, and will include a recommended motor vehicle performance policy for each corridor.

Source: Metro

Figure 1.14.a
Portland Central City
Area of Special Concern



The Portland central city area east of the Willamette River and generally within the I-405 freeway ring has an extensive grid of well-connected arterial, collector and local streets. The Willamette River bridges are a key part of the transportation system, connecting the central city and adjacent neighborhoods to the region. The hilly topography has constrained much of the transportation system in the Northwest and Southwest portions of the central city. Despite these limitations, this area is expected to continue to be served by high-quality transit and be conducive to bicycle and pedestrian travel. Refer to Appendix 3.3 for detail on alternative performance measures identified for this area of special concern.

Figure 1.14.b
Gateway Regional Center
Area of Special Concern



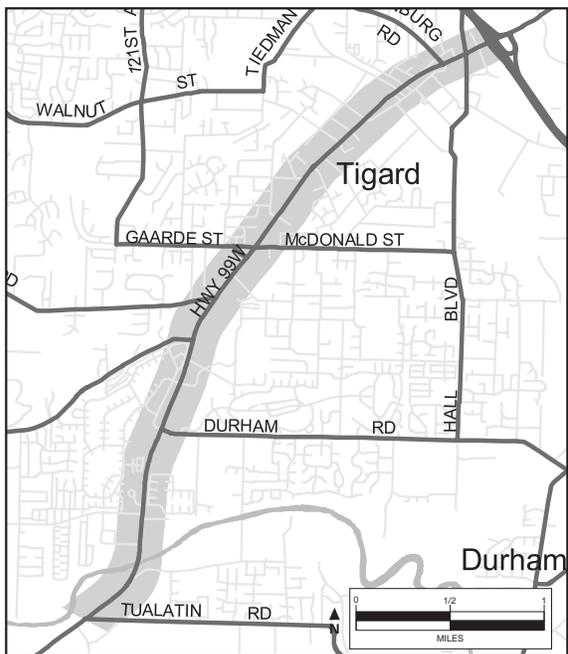
Gateway regional center is defined as a major crossroads of transportation that is impacted by through traffic that is not destined for the regional center such and which presents barriers to local circulation where congested through-streets isolate some parts of the regional center. Refer to Appendix 3.3 for detail on alternative performance measures identified for this area of special concern.

Figure 1.14.c
Beaverton Regional Center
Area of Special Concern



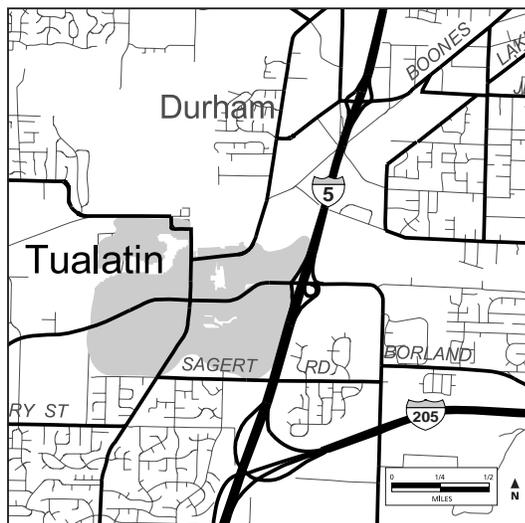
Beaverton has historically been defined as a crossroads of transportation, with both the advantages and limitations that heavy through traffic brings. While the level of access has helped make the Beaverton regional center a focus of commerce in Washington County, it also presents barriers to local circulation where congested through-streets isolate some parts of the area. Refer to Appendix 3.3 for detail on alternative performance measures identified for this area of special concern.

Figure 1.14.d
Highway 99W
Area of Special Concern



The Highway 99W corridor between Highway 217 and Tualatin Road is designated as a mixed-use corridor in the 2040 Growth Concept and connects the Tigard and Tualatin town centers. This corridor is also designated as an area of special concern due to existing development patterns and economic constraints that limit adding capacity to address heavy travel demand in this corridor. Local planning studies have found that approximately 50 percent of the traffic using this corridor is local. The Regional Transportation Plan establishes the proposed I-5 to 99W connector as the principal route connecting the Metro region to the 99W corridor outside of the region as an alternative to 99W. Refer to Chapter 6 for detail on refinement planning identified for this area of special concern.

Figure 1.14.e
Tualatin Town Center
Area of Special Concern



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. Refer to Chapter 6 for detail on refinement planning identified for this area of special concern.

Regional Motor Vehicle Functional Classification System

The regional motor vehicle system includes principal arterials, major and minor arterials, rural arterials and collectors of regional significance. These routes are designated on the motor vehicle system map, Figure 1.12. Local comprehensive plans also include additional minor arterials, collectors and local streets. Figure 1.14 provides a chart of the regional motor vehicle functional classifications and their relationship to the regional street design classifications. The most appropriate street design classification for roadways that serve a given functional classification is indicated with a solid circle(s). Following Figure 1.14 is a detailed description of the regional motor vehicle functional classification categories.

Figure 1.15

Relationship Between Regional Street Design and Motor Vehicle Classifications

		Regional Street Design Classifications				
		Throughways	Boulevards	Streets	Roads	Local Streets
		Freeway Highway	Regional Boulevard Community Boulevard	Regional Street Community Street	Urban Road Rural Road	Local Street Design
Regional Motor Vehicle Functional Classifications	Principal Arterial	● ●			● ●	
	Major Arterial		●	●	● ●	
	Minor Arterial			●	● ●	
	Collector		●	●	● ●	●
	Local Street					●

● Most appropriate street design classification

Source: Metro

The following are the regional functional classification categories:

Principal arterials: These facilities form the backbone of the motor vehicle network. Motor vehicle trips entering and leaving the urban area follow these routes, as well as those destined for the central city, regional centers, industrial areas or intermodal facilities. These routes also form the primary connection between neighbor cities and the urban area. Principal arterials serve as major freight routes, with an emphasis on mobility. These routes fall within regional freeway, highway and road designs, as defined in the regional street design concepts.

Principal arterial system design criteria:

- Principal arterials should provide an integrated system that is continuous throughout the urbanized area and should also provide for statewide continuity of the rural arterial system.
- The principal arterial system should serve the central city, regional centers, industrial areas and intermodal facilities, and should connect key freight routes within the region to points outside the region.

- A principal arterial should provide direct service: from each entry point to each exit point or from each entry point to the central city. If more than one route is available, the most direct route will be designated as the principal arterial when it supports the planned urban form.

Major arterials: These facilities serve as primary links to the principal arterial system. Major arterials, in combination with principal arterials, are intended to provide general mobility for travel within the region. Motor vehicle trips between the central city, regional centers, industrial areas and intermodal facilities should occur on these routes. Major arterials serve as freight routes, with an emphasis on mobility. These routes fall within regional boulevard, regional street, urban road and rural road designs, as defined in the regional street design concepts.

Major arterial system design criteria:

- Major arterials should provide motor vehicle connections between the central city, regional centers, industrial areas and intermodal facilities and connect to the principal arterial system. If more than one route is available, the more direct route will be designated when it supports the planned urban form.
- Major arterials should serve as primary connections to principal arterials, and should also connect to other arterials, collectors and local streets, where appropriate.
- Freight movement should not be restricted on the principal arterial network.
- The principal and major arterial systems in total should comprise 5-10 percent of the motor vehicle system and carry 40-65 percent of the total vehicle miles traveled.

Minor arterials: The minor arterial system complements and supports the principal and major arterial systems, but is primarily oriented toward motor vehicle travel at the community level connecting town centers, corridors, main streets and neighborhoods. As such, minor arterials usually serve shorter trips than principal and major arterials, and therefore must balance mobility and accessibility demands. Minor arterials may serve as freight routes, providing both access and mobility. These routes fall within community boulevard, community street, urban road and rural road designs, as defined in the regional street design concepts.

Minor arterial system design criteria:

- Minor arterials generally connect town centers, corridors, main streets and neighborhoods to the nearby regional centers or other major destinations.
- Minor arterials should connect to major arterials, collectors, local streets and some principal arterials, where appropriate.
- The principal, major and minor arterial system should comprise 15-25 percent of the motor vehicle system and carry 65-80 percent of the total vehicle miles traveled.

Rural arterials: The rural arterial system serves urban reserve areas, rural reserve areas and green corridors. There are two functional categories of rural arterial – urban-to-urban and farm-to-market. Urban-to-urban rural arterials provide key connections to the regional motor vehicle system and 2040 land-use components inside the urban growth boundary. While principal arterials provide primary connections from the Metro region to neighboring cities, urban-to-urban rural arterials also function as secondary connections to neighboring cities. Farm-to-market rural arterials provide farm-to-market access between urban and rural areas.

Collectors: While some collectors are of regional significance, most of the collector system operates at the community level to provide local connections to the minor and major arterial systems. As such,

collectors carry fewer motor vehicles than arterials, with reduced travel speeds. However, an adequate collector system is needed to serve these local motor vehicle travel needs. Collectors may serve as freight access routes, providing local connections to the arterial network. Collectors fall within the plan's local street design principles.

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

Collector system design criteria:

- Collectors should connect neighborhoods to nearby centers, corridors, station areas, main streets and other nearby destinations.
- Collectors should connect to minor and major arterials and other collectors, as well as local streets.
- The collector system should comprise 5-10 percent of the motor vehicle system and carry 5-10 percent of the total vehicle miles traveled.

Local streets: The local street system is used throughout the region to provide for local circulation and access. However, arterials in the region's newest neighborhoods are often the most congested due to a lack of local street connections. The lack of local street connections forces local auto trips onto the principal and major arterial network, resulting in significant congestion on many suburban arterials. These routes fall within the plan's local street design principles.

Local Street System Design Criteria:

- Local streets should connect neighborhoods, provide local circulation and give access to adjacent centers, corridors, station areas and main streets.
- The local street system should be designed to serve local, low-speed motor vehicle travel with closely interconnected local streets intersecting at no more than 530-foot intervals. Closed local street systems are appropriate only where topography, environmental or infill limitations exist. Local streets should connect to major and minor arterials and collectors at a density of 10 to 16 street intersections per mile.
- Local streets should comprise 65-80 percent of the motor vehicle system and carry 10-30 percent of the total vehicle miles traveled.

REGIONAL PUBLIC TRANSPORTATION POLICIES

Policy 14.0. Regional Public Transportation System

Provide an appropriate level, quality and range of public transportation options to serve this region and support implementation of the 2040 Growth Concept, consistent with Figures 1.15 and 1.16.

- a. Objective: Serve this region with appropriate public transportation service as defined in Figures 1.15 and 1.16.
- b. Objective: Continue to work with local jurisdictions and TriMet to implement TriMet's Transit Choices for Livability community transit plan.
- c. Objective: Provide transit service that is accessible to the mobility impaired and provide para-transit to the portions of the region without adequate fixed-route service to comply with the Americans with Disabilities Act of 1990.
- d. Objective: Develop a long-term strategy for potential use of freight railroad lines for passenger use and work with jurisdictions inside and outside of the Metro area to explore other commuter rail opportunities.

Policy 14.1. Public Transportation Awareness and Education

Expand the amount of information available about public transportation to allow more people to use the system.

- a. Objective: Increase awareness of public transportation and how to use it through expanded education and public information media and easy to understand schedule information and format.
- b. Objective: Improve mechanisms for receiving and responding to feedback from public transportation users.
- c. Objective: Explore new technologies to improve the availability of schedule, route, transfer and other service information.

Policy 14.2. Public Transportation Safety and Environmental Impacts

Continue efforts to make public transportation an environmentally friendly and safe form of motorized transportation.

- a. Objective: Continue to reduce the amount of air pollutants and noise generated by public transportation vehicles.
- b. Objective: Support efforts by the region's transit providers to improve the existing level of passenger safety and security on public transportation and reduce the number of avoidable accidents involving transit vehicles.

Policy 14.3. Regional Public Transportation Performance

Provide transit service that is fast, reliable and has competitive travel times compared to the automobile.

- a. Objective: Transit travel time (in-vehicle) for trips on light rail transit and rapid bus routes during the peak hours of service should be no slower than 150 percent of the auto travel time during the off-peak hours. Exceeding this threshold would result in considering preferential treatment to the road system for transit and express operation.
- b. Objective: Total transit travel time (in-vehicle + non-weighted wait time) for trips on regional bus routes should be no slower than 200 percent of the total auto travel time.

Policy 14.4. Special Needs Public Transportation

Provide an appropriate level, quality and range of public transportation options to serve the variety of special needs individuals in this region and support the implementation of the 2040 Growth Concept.

- a. Objective: Continue to work with TriMet, SMART, special needs providers, and local jurisdictions to meet the adopted minimum standards for service levels established for the Metro area.
- b. Objective: Ensure public transportation that serves the special needs population is sensitive to and balances the cultural, functional or age related needs of the elderly and disabled individuals with the need to utilize resources in a cost-effective manner.
- c. Objective: Improve the accountability of the special needs transportation network by enhancing customer input and feedback opportunities.
- d. Objective: Support informal (family, neighbors, self) and formal (paid and volunteer special needs transportation options by establishing training and information services.

14.4 Special Needs Public Transportation

Provide a seamless and coordinated public transportation system for the special needs population.

- a. Objective: Continue to work with TriMet, SMART special needs providers, and local jurisdictions to provide a customer information system that improves community familiarity with, access to and understanding of the elderly and disabled transportation network.
- b. Objective: Employ technology to create a seamless, coordinated and single point of entry system for the user's ease that maximizes efficiency of operation, planning and administrative functions.

14.7 Special Needs Public Transportation

Encourage the location of elderly and disabled facilities in areas with existing transportation services and pedestrian amenities.

- a. Objective: Encourage new and existing development to create and enhance pedestrian facilities near elderly and disabled developments, including sidewalks, crosswalks, audible signals, etc. and provide incentives for the future pedestrian orientation in areas serving elderly and disabled individuals.
- b. Objective: Incorporate elderly and disabled housing into mixed use developments that includes public facilities such as senior centers, libraries and other public services as well as commercial and retail services such as stores, medical offices and other retail services.
- c. Objective: Provide for audible signals, curb cut tactile strips and appropriately timed signalized crosswalks at major retail centers or near bus stops for arterial street, high volume neighborhood circulators or other major roadways near elderly or disabled facilities or in neighborhoods with significant elderly or disabled populations.

These policies and objectives direct the region's planning and investment in the regional public transportation system. Public transportation has been an increasingly important component of our region's transportation system during the past 25 years. In the next 20 years, public transportation will play a critical role in linking people to activity centers throughout the region and getting them around their local communities. On an average weekday in 1998, approximately 186,000 riders used the bus and rail systems in this region. By 2020 that number is expected to increase to 500,000 riders as a result of expected growth and transit improvements identified in this plan.

Figure 1.16

Relationship Between 2040 Growth Concept and Public Transportation System

Service Type		Primary Components					Secondary Components				Other Urban Components		
		Central City	Regional Centers	Industrial Areas	Intermodal Facilities		Station Communities	Town Centers	Main Streets	Corridors	Employment Areas	Inner Neighborhood	Outer Neighborhood
					PDX	Union Station							
Regional Transit Network	LRT	●	●		○	○	●	○					
	Commuter Rail	●	●			●		○					
	Rapid Bus	●	●			○	○			○			
	Streetcar & Frequent Bus	●	●				○	○	●	○		○	
	Regional Bus	●	●	○		○	○	●	○	●	○	○	
Community Transit Network	Community Bus	○	○	●	●		○	○	○	○	●	●	○
	Mini-Bus	○	○	○			○	○	○	○	●	○	●
	Paratransit	○	○	○			○	○	○	○	○	○	○
	Park-and-Ride		●				○	○		○		○	●
Inter-Urban Transit	Inter-urban Rail	●	○			●		○					
	Inter-city Bus	●	●		○	●		○					

- Best public transportation mode(s) designed to serve growth concept land use components
- Additional public transportation mode(s) that may serve growth concept land use components

Figure 1.15 provides a hierarchy of public transportation service for 2040 Growth Concept land-use components. "Core service" is defined as the most efficient level of public transportation service planned for a given land use and is indicated with a solid circle(s). A description of each type of core service follows the public transportation policies.

Source: Metro

Figure 1.17
Regional Public Transportation System Map

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Regional public transportation system components

Metro's role is to establish a 20-year plan for regional transit improvements, such as major bus or rail service, through the Regional Transportation Plan. TriMet is the primary public transportation provider for the metropolitan region and is committed to providing the appropriate level of transit service to achieve regional 2040 Growth Concept objectives. TriMet implements transit improvements identified in the Regional Transportation Plan through annual updates and expansions to their service plan. In addition, TriMet plans for improvements to community-level transit service, such as local bus lines or lift services. Annual growth trends, ridership and traffic congestion are all considerations in where expanded transit service is most needed each year.

However, this plan recognizes that providers other than TriMet are needed to serve special transportation needs. Other public transit operators in region include SMART, which serves the Wilsonville area, and C-Tran, which serves Clark County and includes bus service to points in Portland. Metro works with these operators, as well, to ensure that planned transit service is adequate to meet our 20-year needs. While this is not required in this plan, Metro is committed to helping coordinate agreements to address special needs as they arise. Such special needs may be served by private service providers, public/private partnerships, or public actions, as appropriate.

Public transportation should serve the entire urban area, and the hierarchy of service types described in this section defines what level and type of service is appropriate for specific areas of the region. The public transportation system is divided in three categories based on frequency of service and the areas of the region each network serves – the regional transit network, or RTN; the community transit network, or CTN; and interurban public transportation. The regional public transportation system map, Figure 1.16, depicts the regional transit network and interurban public transportation components.

The following section describes:

- the types of transit service each network provides;
- the principal 2040 Growth Concept land-use components (primary and secondary) served by each service type; and
- facility design guidelines to provide an appropriate operating environment and level of pedestrian and bicycle accessibility.

Regional transit network

The regional transit network is a fast and frequent transit system designed to serve the primary land-use components identified in the 2040 Growth Concept, including central city, regional centers, industrial areas and intermodal facilities such as the Portland International Airport. This system serves as the framework for consistency among plans of local jurisdictions and TriMet and consists of six major transit modes that operate at frequencies of 15 minutes or less all day. The six primary transit modes included in this plan are light rail transit, commuter rail, rapid bus, streetcar, frequent bus and regional bus service. The regional transit network is designed to provide convenient transit access and improve connections between transit modes. Any transit trip between two points located in a primary or secondary 2040 Growth Concept land-use component could be completed on the regional transit network. This includes the central city, regional centers, town centers, main streets,

stations areas or corridors. The following is a description of the functional and operational characteristics of the regional transit network's major transit modes.

Light rail transit. Light rail transit (LRT) is a frequent and high-capacity service that operates on a fixed guideway within an exclusive right-of-way to the extent possible, connecting the central city with regional centers. LRT also serves existing regional public attractions such as Civic Stadium, the Oregon Convention Center and the Rose Garden, and station communities. LRT service runs at least every 10 minutes during the weekday and weekend midday base periods with limited stops and operates at higher speed outside of downtown Portland. A high level of passenger amenities are provided at transit stations and station communities including schedule information, ticket machines, special lighting, benches, shelters, bicycle parking and commercial services. The speed and schedule reliability of LRT can be maintained by the provision of signal preemption at-grade crossings and/or intersections.

Commuter rail. Commuter rail is the use of existing freight railroad tracks either exclusively or shared with freight use, for passenger service. The service is typically focused on peak commute periods but can be offered other times of the day when demand exists and where rail capacity is available. The stations are typically located one or more miles apart, depending on the overall route length. Stations offer basic amenities for passengers, bus and LRT transfer opportunities and parking if supported by adjacent land uses.

Rapid bus. Regional rapid bus service emulates LRT service in speed, frequency and comfort, serving major transit routes with limited stops. This service runs at least every 15 minutes during the weekday and weekend mid-day base periods. Passenger amenities are concentrated at transit centers. Regional rapid bus passenger amenities include schedule information, ticket machines, special lighting, benches, covered bus shelters and bicycle parking.

Street cars. Street cars provide fixed-route transit service for more locally oriented trips in higher density mixed-use centers. This service runs at least every 15 minutes and includes transit preferential treatments such as signal preemption and enhanced passenger amenities along the corridor such as covered bus shelters, curb extensions and special lighting.

Frequent bus. Frequent bus service provides slightly slower, but more frequent, local bus service than rapid bus along selected transit corridors. This service runs at least every 10 minutes and includes transit preferential treatments such as reserved bus lanes and signal preemption and enhanced passenger amenities along the corridor and at major bus stops such as covered bus shelters, curb extensions, special lighting and median stations.

Regional bus. Regional bus service is provided on most major urban streets. This type of bus service operates with maximum frequencies of 15 minutes with conventional stop spacing along the route. Transit preferential treatments and passenger amenities such as covered bus shelters, special lighting, signal preemption and curb extensions are appropriate at high ridership locations.

Major transit stops. Major transit stops are intended to provide a high degree of transit passenger comfort and access. Major transit stops are located at stops on light rail, commuter rail, rapid bus, frequent bus or streetcar lines in the central city, regional and town centers, main streets and corridors. Major transit stops may also be located where bus lines intersect or serve intermodal facilities, major hospitals, colleges and universities. Major transit stops shall provide schedule

information, lighting, benches, shelters and trash cans. Other features may include real time information, special lighting or shelter design, public art and bicycle parking.

Pedestrian district. A pedestrian district is a comprehensive plan designation or implementing land use regulations designed to provide safe and convenient pedestrian circulation, with a mix of uses, density, and design that support high levels of pedestrian activity and transit use. The pedestrian district can be a concentrated area of pedestrian activity or a corridor. Pedestrian districts can be designated within the 2040 Design types of Central City, Regional and Town Centers, Corridors and Main Streets, as designated in local plans. Pedestrian districts emphasize a safe and convenient pedestrian environment, and facilities to support and integrate efficient use of several modes within one area (e.g., pedestrian, auto, transit, and bike).

Community transit network (CTN)

Underlying the primary transit network of fast and frequent service is a community network of transit service that provides more locally-oriented public transportation. TriMet and local jurisdictions will develop specific elements of the community transit network. The community transit network is comprised of community bus, mini-bus, para-transit and park-and-ride service. This service is focused more on accessibility, frequency of service along the route and coverage to a wide range of land use options rather than on speed between two points. Community transit is designed as an alternative to the single-occupant vehicle by providing frequent reliable service. Community bus service generally is designed to serve travel with one trip end occurring within a secondary land use component, including town centers, main streets, station communities and corridors.

Community bus. Community bus lines provide coverage and access to primary and secondary land-use components. Community bus service runs as often as every 30 minutes on weekdays. Weekend service is provided as demand warrants.

Mini-bus. Mini-bus service provides coverage in lower density areas by providing transit connections to primary and secondary land-use components. Mini-bus services, which may range from fixed route to purely demand responsive including dial-a-ride, employer shuttles and bus pools, provide at least a 60-minute response time on weekdays. Weekend service is provided as demand warrants.

Para-transit. Para-transit service is defined as non-fixed route service that serves special transit markets, including “ADA” service throughout the greater metro region.

Park-and-ride. Park-and-ride facilities provide convenient auto access to regional trunk route service for areas not directly served by transit. Bicycle and pedestrian access as well as parking and storage accommodations for bicyclists are considered in the siting process of new park-and-ride facilities. In addition, the need for a complementary relationship between park-and-ride facilities and regional and local land use goals exists and requires periodic evaluation over time for continued appropriateness.

Interurban public transportation

The federal ISTEA has identified interurban travel and passenger “intermodal” facilities (e.g., bus and train stations) as a new element of regional transportation planning. The following interurban components are important to the regional transportation system:

Passenger rail. Inter-city high-speed rail (up to 79 miles per hour) is part of the state transportation system and extends from the Willamette Valley north to British Columbia. Amtrak already provides service south to California, east to the rest of the continental United States and north to Canada. These systems should be integrated with other public transportation services within the metropolitan region with connections to passenger intermodal facilities. High-speed rail needs to be complemented by urban transit systems within the region.

Inter-city bus. Inter-city bus connects points within the region to nearby destinations, including neighboring cities, recreational activities and tourist destinations. Several private inter-city bus services are currently provided in the region.

Passenger intermodal facilities. Passenger intermodal facilities serve as the hub for various passenger modes and the transfer point between modes. These facilities are closely interconnected with urban public transportation service and highly accessible by all modes. They include Portland International Airport, Union Station and inter-city bus stations.

REGIONAL FREIGHT SYSTEM POLICIES

Policy 15.0. Regional Freight System

Provide efficient, cost-effective and safe movement of freight in and through the region.

- a. Objective: Provide high-quality access between freight transportation corridors and the region's freight intermodal facilities and industrial sanctuaries.
- b. Objective: Maintain a reasonable and reliable travel time for moving freight through the region in freight transportation corridors that enhances the region's economic competitive advantage.
 - Freight operation (such as weigh-in-motion, automated truck counts, enhanced signal timing on freight connectors).
 - Where appropriate, consider improvements that are dedicated to freight travel only.
- c. Objective: Consider the movement of freight when conducting multi-modal transportation studies.
- d. Objective: Work with the private sector, local jurisdictions, ODOT and other public agencies to:
 - develop the regional Intermodal Management System (IMS) and Congestion Management System (CMS)
 - monitor the efficiency of freight movements on the regional transportation network
 - identify existing and future freight mobility problems and opportunities
 - reduce inefficiencies or conflicts on the freight network
 - maximize use of ship, rail, air and truck for a multi-modal freight system
 - address safety concerns related to freight.
- e. Objective: Coordinate public policies to reduce or eliminate conflicts between current and future land uses, transportation uses and freight mobility needs, including those relating to:
 - land use changes/encroachments on industrial lands; and
 - transportation and/or land use actions or policies that reduce accessibility to terminal facilities or reduce the efficiency of the freight system.
- f. Objective: Ensure that jurisdictions develop local strategies that provide adequate freight loading and parking strategies in the central city, regional centers, town centers and main streets.
- g. Objective: Develop improved measures of freight movement as defined in the 2040 Growth Concept.
- h. Objective: Correct existing safety deficiencies on the freight network relating to:
 - roadway geometry and traffic controls;
 - bridges and overpasses;
 - at-grade railroad crossings;
 - truck infiltration in neighborhoods; and
 - congestion on interchanges and hill climbs.

Policy 15.1. Regional Freight System Investments

Protect and enhance public and private investments in the freight network.

- a. Objective: Improve opportunities for partnerships between the private freight transportation industry and public agencies to improve and maintain the region's integrated multi-modal freight network:
 - work with the private transportation industry, Oregon Economic Development Department, Portland Development Commission, Port of Portland and others to identify and realize investment opportunities that enhance freight mobility and support the state and regional economy
- b. Objective: Analyze market demand and linkages in estimating and expanding the life of public investments in the freight network.
- c. Objective: Encourage efforts to provide flexible public funding for freight mobility investments.

These policies and objectives direct the region's planning and investment in the regional freight system. Freight mobility is the movement of goods and services. National and international freight movement contributes significantly to our regional economy, and will likely play an even larger role in the future. The region's relative number of jobs in transportation and wholesale trade exceeds the national average. The regional economy has historically, and continues to be, closely tied to the transportation and distribution sectors. This trend is projected to continue. A study of goods movement in the region, the 2040 Commodity Flow analysis, predicts freight volume to more than double by 2040 – a rate higher than projected population growth.

The significant growth in freight projected by the 2040 Commodity Flow Analysis indicates the need to make available adequate land for expansion of intermodal facilities, manufacturing, wholesale and distribution activities, and to continue maintaining and enhancing the freight transportation network. The 2040 Growth Concept identifies industrial sanctuaries for distribution and manufacturing activities. Figure 1.17 identifies the transportation infrastructure and intermodal facilities that serve these land uses and commodities that flow through the region to national and international markets.

Regional freight system functional classification system

The following definitions reflect the regional freight system functional classification categories shown in Figure 1.17.

- **Main roadway route.** Main roadway routes connect major activity centers in the region to other areas in Oregon or other states throughout the U.S., Mexico and Canada.
- **Road connectors.** A road that connects freight facilities or freight generation areas to the main roadway route.
- **Main railroad line.** Class I rail lines (e.g., Union Pacific and Burlington Northern/Sante Fe).
- **Branch railroad lines.** Non-Class I rail lines, including shortline or branch lines.
- **Marine facility.** A facility where freight is transferred between water-based and land-based modes.
- **Reload facility.** A facility that serves as the primary gateway for freight entering and leaving the region by truck.
- **Air cargo facility.** A facility that has direct access to an airport runway and transfers commodities between airplanes and land-based modes.
- **Distribution facility.** A facility where freight is reloaded from one land-based mode to another for further distribution.
- **Truck terminal.** A facility that serves as a primary gateway for commodities entering/leaving the region by truck. A truck terminal operates only truck to truck transfers of commodities.
- **Intermodal facility.** An intermodal facility is a transportation element that accommodates and interconnects different modes of transportation and serves the statewide, interstate and international movement of people and goods.
- **Intermodal railyard.** An intermodal railyard is a railyard that facilitates the transfer of containers or trailers between truck and rail.

Figure 1.18
Regional Freight System Map

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REGIONAL BICYCLE SYSTEM POLICIES

Policy 16.0. Regional Bicycle System Connectivity

Provide a continuous regional network of safe and convenient bikeways connected to other transportation modes and local bikeway systems, consistent with regional street design guidelines.

- a. Objective: Integrate the efforts of the state, counties and cities in the region to develop a convenient, safe, accessible and appealing regional system of bikeways.
- b. Objective: Design the regional bikeway system to function as part of the overall transportation system and include appropriate bicycle facilities in all transportation projects.
- c. Objective: Integrate multi-use paths with on-street bikeways, consistent with established design standards.
- d. Objective: Work with local jurisdictions, ODOT and other public agencies to identify high-frequency bicycle-related crash locations and improvements to address safety concerns in these locations.

Policy 16.1. Regional Bicycle System Mode Share and Accessibility

Increase the bicycle mode share throughout the region and improve bicycle access to the region's public transportation system.

- a. Objective: Promote increased bicycle use for all travel purposes.
- b. Objective: Coordinate with TriMet to improve bicycle access and parking facilities at existing and future light rail stations, transit centers and park-and-ride locations.
- c. Objective: Work with local jurisdictions, ODOT and other public agencies to provide appropriate short and long-term bicycle parking and other end-of-trip facilities at regional activity centers through the use of established design standards.
- d. Objective: Develop travel-demand forecasting for bicycle use and integrate with regional transportation planning efforts.

These policies and objectives direct the region's planning and investment in the regional bicycle system. The bicycle is an important component in the region's strategy to provide a multi-modal transportation system. The 2040 Growth Concept focuses growth in the central city and regional centers, station communities, town centers and main streets. One way to meet the region's travel needs is to provide more opportunities to use bicycles for shorter trips.

The regional bikeway system identifies a network of bikeways throughout the region that provide for bicyclist mobility between and accessibility to and within the central city, regional centers and town centers. A complementary system of on-street and off-street regional bikeway corridors, regional multi-use trails and local bikeways is proposed to provide a continuous network. In addition to major bikeway corridors that create a network of regional through-routes, the system provides accessibility to and within regional and town centers.

Regional bicycle functional classification system

The following are the regional bicycle system functional classification categories as identified in Figure 1.18. These classifications, including regional access bikeways, regional corridor bikeways and community connector bikeways, are on-street bikeways that would be designed using a flexible "toolbox" of bikeway designs, including bike lanes, shoulder bikeways, bicycle boulevards and shared roadway/wide outside lanes. The appropriateness of each design is based on adjacent motor vehicle speeds and volumes. The most appropriate bikeway design is defined in the regional street

design concepts and in *Creating Livable Streets: Street Design Guidelines for 2040*. Regional streets provide the primary network for bicycle travel in the region, and require features that support bicycle traffic. Bicycle lanes are the preferred bikeway design for throughway (highway), boulevard, street and road design classification concepts.

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

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

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

Multi-use paths with bicycle transportation function: Multi-use paths with a bicycle transportation function are connections that are likely to be used by people bicycling to work or school, to access transit or to travel to a store, library or other local destination. Multi-use paths that support both utilitarian and recreational bicycle functions are included as part of the bicycle transportation system. Bicycle/pedestrian sidewalks on bridges are also included in this functional classification. In terms of design, multi-use paths are physically separated from motor vehicle traffic by open space or a barrier, and are either within the highway right-of-way or within an independent right-of-way. In addition to bicyclists, pedestrians, joggers, skaters and other non-motorized travelers use multi-use paths.

Figure 1.19
Regional Bicycle System Map

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REGIONAL PEDESTRIAN SYSTEM POLICIES

Policy 17.0. Regional Pedestrian System

Design the pedestrian environment to be safe, direct, convenient, attractive and accessible for all users.

- a. Objective: Work with local, regional and state jurisdictions to complete pedestrian facilities (i.e., sidewalks, street crossings, curb ramps) needed to provide safe, direct and convenient pedestrian access to and within the central city, regional centers, town centers, main streets, corridors and to the region's public transportation system.
- b. Objective: Work with local, regional and state jurisdictions to provide landscaping, pedestrian-scale street lighting, benches and shelters affecting the pedestrian and transit user near and within the central city, regional centers, town centers, main streets, corridors and along the regional transit network.

Policy 17.1. Regional Pedestrian Mode Share

Increase walking for short trips and improve pedestrian access to the region's public transportation system through pedestrian improvements and changes in land use patterns, designs and densities.

- a. Objective: Increase the walk mode share for short trips, including walking to public transportation, near and within the central city, regional centers, town centers, main streets, corridors and LRT station communities.
- b. Objective: Work with local, regional and state jurisdictions to improve walkway networks serving transit centers, stations and stops.

Policy 17.2. Regional Pedestrian Access and Connectivity

Provide direct pedestrian access, appropriate to existing and planned land uses, street design classification and public transportation, as a part of all transportation projects.

- a. Objective: Among regional pedestrian projects, give funding priority to those projects which are most likely to increase pedestrian travel, improve the quality of the pedestrian system and help complete pedestrian networks near and within the central city, regional centers, town centers, main streets, corridors and LRT station communities.
- b. Objective: Integrate pedestrian access needs into planning, programming, design and construction of all transportation projects.

These policies and objectives direct the region's planning and investment in the regional pedestrian system as defined in Figure 1.19. By providing dedicated space for those on foot or using mobility devices, pedestrian facilities are recognized as an important incentive that promotes walking as a mode of travel. Throughout this plan, the term "walking" should be interpreted to include traveling on foot as well as those pedestrians using mobility aids, such as wheelchairs. Walking for short distances is an attractive option for most people when safe and convenient pedestrian facilities are available. Combined with adequate sidewalks and curb ramps, pedestrian elements such as benches, curb extensions, marked street crossings, landscaping and wide planting strips make walking an attractive, convenient and safe mode of travel. The focus of the regional pedestrian system is identifying areas of high, or potentially high, pedestrian activity in order to target infrastructure improvements that can be made with regional funds.

A well-connected high-quality pedestrian environment facilitates walking trips by providing safe and convenient access to pedestrian destinations within a short distance. Public transportation use is enhanced by pedestrian improvements, especially those facilities that connect stations or bus stops to surrounding areas or that provide safe and attractive waiting areas. Improving walkway connections

between office and commercial districts and surrounding neighborhoods provides opportunities for residents to walk to work, shopping or to run personal errands. This reduces the need to bring an automobile to work and enhances public transportation and carpooling as commute options.

Regional pedestrian system functional classification

An integrated pedestrian system supports and links every other element of the regional transportation system and complements the region's land-use goals. The following definitions reflect the regional pedestrian system functional classification categories shown in Figure 1.19.

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

Transit/mixed-use corridor: Transit/mixed-use corridors (referred to only as corridors in the 2040 Growth Concept) are also priority areas for pedestrian improvements. They are located along good-quality transit lines and will be redeveloped at densities that are somewhat more than today. These corridors will generate substantial pedestrian traffic near neighborhood-oriented retail development, schools, parks and bus stops. These corridors should be designed to promote pedestrian travel with such features as wide sidewalks with buffering from adjacent motor vehicle traffic, street crossings at least every 530 feet (unless there are no intersections, bus stops or other pedestrian attractions), special crossing amenities at some locations, special lighting, benches, bus shelters, awnings and street trees. This designation includes multi-modal bridges.

Multi-use path with pedestrian transportation function: These paths are paved off-street regional facilities that accommodate pedestrian and bicycle travel and meet the requirements of the Americans with Disabilities Act. Multi-use paths with a pedestrian transportation function are connections that are likely to be used by people walking to work or school, to access transit or to travel to a store or library. These paths are generally located near or in residential areas or near mixed-use centers. Paths that support purely recreational uses are not considered part of this transportation network, although they are important components of the regional parks and greenspaces map. Pedestrian/bicycle-only bridges also are included in this designation.

Figure 1.20
Regional Pedestrian System Map

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1.3.6 Managing the Transportation System

Programs that allow the region to better use the existing transportation system benefit all uses of it. System management strategies are divided into two categories – transportation system management (TSM) and transportation demand management (TDM). Each category emphasizes different strategies.

TSM strategies manage the flow of traffic on existing freeways and arterial streets through ramp metering, signal timing, access management, transit priority treatments and other operational-oriented strategies without adding major new infrastructure that is often much more costly. In contrast, TDM strategies manage the flow of traffic on and extend the life cycle of existing facilities by reducing and reshaping the demand for use of these facilities. Most TDM strategies are designed to influence travel choices by providing alternatives to driving alone. Other TDM strategies are designed to eliminate the need for certain trips and still others enable people to time their trips outside of peak travel periods. Implementation of TSM and TDM strategies helps limit the amount of congestion, improve the safety and efficiency of transportation facilities during all times of day and delay the need for major road expansion projects. The following policies and objectives guide regional investments in system management strategies.

REGIONAL TRANSPORTATION SYSTEM MANAGEMENT POLICIES

Policy 18.0. Transportation System Management

Use transportation system management techniques to optimize performance of the region's transportation systems. Mobility will be emphasized on corridor segments between 2040 Growth Concept primary land-use components. Access and livability will be emphasized within such designations. Selection of appropriate transportation system techniques will be according to the functional classification of corridor segments.

- a. Objective: Provide for through travel on major routes that connect central city, regional centers, industrial areas and intermodal facilities.
- b. Objective: Implement an integrated, regional advanced traffic management system program that addresses:
 - Freeway management (such as ramp meters and automated incident detection or rapid response)
 - Arterial signal coordination (such as comprehensive adjustment of signal timing to minimize stop-and-go travel, consistent with adjacent land use, street design type and function, and which coordinates with freeway and interchange operations)
 - Transit operation (such as expanded reliance on TriMet's computer-aided fleet location and dispatch system and its integration with freeway and arterial management systems, with special emphasis on relaying incident detection data to allow rerouting of buses)
 - Multi-modal traveler information services (such as broadcast radio and television; highway advisory radio; variable message signs; on-line road reports and transit service reports; real-time transit arrival and departure monitors; and on-board navigation aids)
- c. Objective: Work with local, regional and state jurisdictions to develop access management plans for urban areas that are consistent with regional street design concepts. For rural areas, access management should be consistent with rural reserve and green corridor land-use objectives.
- d. Objective: Integrate traffic calming elements into new street design as appropriate consistent with regional street design guidelines, and as a method to optimize regional street system operation without creating excessive local travel on the regional system.
- e. Objective: Continue to restripe and/or fund minor reconstruction of existing transportation facilities consistent with regional street design concepts to address roadway safety and operations.

Transportation System Management

These policies and objectives direct the region's planning and investment in transportation system management strategies. Transportation system management techniques are divided into four categories:

Facility design. Facility design techniques address roadway safety and operations with minor roadway reconstruction. Projects might include re-stripping travel lane widths, realigning roadways to enhance sight distances and geometry at intersection approaches, channeling of turning movements (e.g., stripping or roadway widening to provide left-turn pockets, right-turn lanes, bus pullouts, etc.), improved signage of cross streets and activity centers and signalization control and phasing adjustment.

Access management. Access management techniques reduce opportunities for conflict between through-movements and vehicles turning off and onto the roadway. They also reduce conflict between motor vehicles, pedestrians and bicycles. Examples include closing and/or consolidating commercial driveways, minimizing connection of local streets to regionally significant arterial streets consistent with regional street design policies and selectively prohibiting left turn and U-turn movements at and between intersections.

Traffic calming. Traditionally, traffic calming techniques have been applied to existing neighborhood streets and collectors to protect them from intrusion of through-traffic seeking to avoid congested major facilities during peak periods and high-speed traffic at all hours. These "retrofit" techniques include speed bumps, traffic-rounds and traffic barriers, and have not been typically used on larger regional facilities. They are, however, critical design elements that address secondary local effects of the regional system and operational policies promoted in this plan.

Other traffic calming techniques are reflected in the design of streets serving pedestrian-oriented land uses. These include narrowed travel lanes, wider sidewalks, curb extensions, planted median strips and other features designed to unobtrusively reduce motor vehicle speeds and buffer pedestrians from the myriad effects of adjacent motor vehicle movements.

Advanced traffic management system (ATMS). ATMS refers to proven traffic management techniques that use computer processing and communications technologies to optimize performance of multi-modal roadway and public transportation systems. A mature ATMS system will integrate freeway, arterial and public transportation management systems. A blueprint of the region's planned ATMS system is described in the ODOT/FHWA-sponsored Portland-area ATMS plan published in 1993. The ATMS Plan recognizes the relationship between high-speed, limited access through-routes and the parallel system of regional and local minor arterials and collectors, and how they interact with one another. ATMS provides techniques and management systems to facilitate region-wide auto, truck and transit vehicle mobility (i.e., ATMS prioritizes longer trips on freeway and arterial through-routes). ATMS systems also manage "short-trip" facilities that emphasize access to commercial/residential uses. Most important, the ATMS plan emphasizes the importance of fully integrating through-route and local-system traffic management for optimum performance of the region's roadways.

REGIONAL TRANSPORTATION DEMAND MANAGEMENT POLICIES

Policy 19.0. Regional Transportation Demand Management

Enhance mobility and support the use of alternative transportation modes by improving regional accessibility to public transportation, carpooling, telecommuting, bicycling and walking options.

- a. Objective: Promote programs that reduce the number of people driving alone and dependence on the automobile.
- b. Objective: Promote transit-supportive design and infrastructure in 2040 Growth Concept land-use components, including the central city, regional centers, town centers, station communities, main streets and along designated transit corridors.
- c. Objective: Establish a non-single occupancy vehicle modal target for each 2040 Design Type, consistent with Table 1.3.
- d. Objective: Promote, establish and support transportation management associations (TMAs) in the central city, regional centers, industrial areas and intermodal facilities, town centers and employment centers.
- e. Objectives: Promote private and public sector programs and services that encourage employees to use non-SOV modes or change commuting patterns, such as telecommuting, flexible work hours and/or compressed work weeks.
- f. Objective: Investigate the use of HOV lanes to improve system reliability and reduce roadway congestion.
- g. Objective: Promote end-of-trip facilities that support alternative transportation modes, such as showers and lockers at employment centers.
- h. Objective: Investigate the use of market-based strategies that reflect the full costs of transportation to encourage more efficient use of resources.

Policy 19.1. Regional Parking Management

Manage and optimize the efficient use of public and commercial parking in the central city, regional centers, town centers, main streets and employment centers to support the 2040 Growth Concept and related RTP policies and objectives.

- a. Objective: Establish minimum and maximum parking ratios to help the region manage the number of off-street parking spaces in the region.
- b. Objective: Support local adoption of parking management plans within the central city, regional centers, town centers, main streets and employment centers.
- c. Objective: Promote the use and development of shared parking spaces for commercial and retail land uses.
- d. Objective: Implement appropriate parking ratios and investigate implementation of other measures throughout the region that reduce the demand for parking or lead to more efficient parking design options.
- e. Objective: Encourage the designation of preferential parking stalls for carpool, vanpool, motorcycle, bicycle and motorized bicycle parking at major retail centers, institutions and employment centers.
- f. Objective: Conduct further study of market-based strategies such as parking pricing and employer-based parking-cash outs and restructuring parking rates.

Policy 19.2 Peak Period Pricing

Manage and optimize the use of highways in the region to reduce congestion, improve mobility and maintain accessibility within limited financial resources.

- a. Objective: Apply peak period pricing appropriately to manage congestion. In addition, peak period pricing may generate revenues to help with needed transportation improvements.
- b. Objective: Consider peak period pricing as a feasible option when major, new highway capacity is being added to the regional motor vehicle system using the criteria used in *Working Paper 9* of the Traffic Relief Options study. Do not price existing roadways at this time. Circumstances where peak period pricing may be appropriate are:
 - when one or more lanes are being added to a currently congested highway, peak period pricing for a stretch of several miles should be considered
 - where a major new highway facility is being constructed where none exists now to provide congestion relief in the corridor, peak period pricing of all lanes should be considered
 - where a major facility (bridge or highway) is undergoing reconstruction and significant capacity is being added, pricing of one or all lanes should be considered.
- c. Objective: Identify at least one specific project for which peak period pricing is appropriate to serve as a pilot within two years.
- d. Objective: Pursue Value Pricing Pilot Program funds from FHWA for development of detailed implementation plans and/or administration of pilot projects.

Transportation demand management

These policies and objectives direct the region's planning and investment in the regional transportation demand management program (TDM) and support investment in the regional bicycle, pedestrian and public transportation systems. The regional TDM program is operated by TriMet with oversight by Metro through the TDM subcommittee, a TPAC subcommittee. The regional TDM program combines regional and local efforts and works cooperatively with employers, community-based groups and other organizations in the region to provide alternatives to driving alone. The transportation demand management policies and objectives respond to the federal Clean Air Act requirements of 1990, the state Transportation Planning Rule and the state Employee Commute Options Rule.

Regional transportation demand management program. The regional TDM program includes strategies that promote shared ride and the use of transit, walking, biking, work schedule changes and telecommuting, especially during the most congested times of the day. Providing options to driving alone allow people to eliminate trips or switch to another mode of travel that maximizes the efficiency of our transportation system and can result in improved air quality. This benefits all residents of this region by allowing the region to be more strategic in the timing and extent of expansion of the regional motor vehicle system.

Alternative mode share targets established in Table 1.3 are intended to be goals for cities and counties to work toward as they implement the 2040 Growth Concept at the local level. They may also serve as performance measures in Areas of Special Concern. Improvement in non-single-occupancy vehicle mode share will be used to demonstrate compliance with per capita travel reductions required by the state Transportation Planning Rule. The most urbanized areas of the region will achieve higher non-single-occupancy vehicle mode shares than less developed areas closer to the urban growth boundary. See Section 6.4.6 in Chapter 6 of this plan for more detail.

Table 1.3

2040 Regional Non-SOV Modal Targets¹

2040 Design Type	Non-SOV Modal Target
Central city	60-70%
Regional centers	
Town centers	
Main streets	45-55%
Station communities	
Corridors	
Industrial areas	
Intermodal facilities	
Employment areas	40-45%
Inner neighborhoods	
Outer neighborhoods	

¹ The targets apply to trips *to and within* each 2040 Design Type. The targets reflect conditions appropriate for the year 2040 and are needed to comply with Oregon Transportation Planning Rule objectives to reduce reliance on single-occupancy vehicles.

Source: Metro

Parking management. Policies and objectives related to parking management are intended to assist local jurisdictions with implementation of the state Department of Environmental Quality’s voluntary parking ratio program contained in the region’s ozone maintenance plan. As non-auto modes of travel are used more for work and non-work trips, the demand for parking decreases. The reduction in demand for parking will allow the region to use our land supply more efficiently, reduce impervious surfaces and provide opportunities to redevelop existing parking into other more important uses.

Peak period pricing. Policies and objectives related to peak period pricing are intended to guide the evaluation of peak period pricing as an option to consider when major, new highway capacity is added to the regional motor vehicle system. Peak period pricing involves the application of market pricing (through variable tolls) to use of congested roadways at times of peak usage. Peak period pricing has been successful in other parts of the US and internationally at managing peak use on limited roadway infrastructure by providing an incentive for drivers to select other modes, routes, destinations or times of day. Those drivers who choose to pay the toll can benefit from significant time savings. Peak period pricing is the only demand management tool that is location and time of day specific, making it uniquely effective in reducing congestion and improving mobility while limiting vehicle miles traveled and the need for new roads. In addition, peak period pricing may generate revenues to help with needed transportation improvements. The Traffic Relief Options study, completed in 1999 by Metro and ODOT, examined the potential of various types of roadway pricing to meet regional transportation, environmental and land use goals.

The study, undertaken with guidance from a citizen task force, found that pricing of existing lanes would generate the most revenue. It could also result in the most significant reduction in vehicle miles of travel and air pollution. However, due to the negative public reaction and possible deleterious effects on adjacent areas and accessibility, the citizen's task force did not recommend pricing of existing roadways.

1.3.7 Implementing the Transportation System

While the primary mission of this plan is to implement the 2040 Growth Concept, the plan must also address other important transportation needs that may not directly assist in implementing the growth concept. This plan must also protect the region's existing transportation investments by placing a high priority on projects or programs that maintain or preserve our existing infrastructure. The purpose of this section is to establish key issues as the most important criteria when selecting transportation projects and programs. The following policies and objectives identify these issues.

REGIONAL TRANSPORTATION FUNDING POLICIES

Policy 20.0. Transportation Funding

Ensure that the allocation of fiscal resources is driven by both land use and transportation benefits.

- a. Objective: Maintain and preserve the existing transportation infrastructure.
- b. Objective: Improve the efficiency of the existing transportation system.
- c. Objective: Consider a full range of costs and benefits in the allocation of transportation funds.
- d. Objective: Use funding flexibility to the degree necessary to implement the adopted Regional Transportation Plan.
- e. Objective: Establish a set of criteria for project selection based on the full range of policies in this plan and fund projects in accordance with those selection criteria.
- f. Objective: Develop a transportation system necessary to implement planned land uses, consistent with the regional performance measures.

Policy 20.1. 2040 Growth Concept Implementation

Implement a regional transportation system that supports the 2040 Growth Concept through the selection of complementary transportation projects and programs.

- a. Objective: Place the highest priority on projects and programs that best serve the transportation needs of the central city, regional centers, intermodal facilities and industrial areas.
- b. Objective: Place a high priority on projects and programs that best serve the transportation needs of station communities, town centers, main streets and corridors.
- c. Objective: Place less priority on transportation projects and programs that serve the remaining components of the 2040 Growth Concept.
- d. Objective: Emphasize projects and programs that provide or help promote a wider range of transportation choices.

Policy 20.2. Transportation System Maintenance and Preservation

Emphasize the maintenance, preservation and effective use of transportation infrastructure in the selection of the RTP projects and programs.

- a. Objective: Place the highest priority on projects and programs that preserve or maintain the region's transportation infrastructure and retrofit or remove culverts identified in the region's fish passage program.
- b. Objective: Place a high priority on projects and programs that preserve or maintain the region's transportation infrastructure.
- c. Objective: Place less priority on projects and programs that modernize or expand the region's transportation infrastructure.

Policy 20.3. Transportation Safety

Anticipate and address system deficiencies that threaten the safety of the traveling public in the implementation of the RTP.

- a. Objective: Place the highest priority on projects and programs that address safety-related deficiencies in the region's transportation infrastructure.
- b. Objective: Place less priority on projects and programs that address other deficiencies in the region's transportation infrastructure.

These policies and objectives direct the region's planning and investment in the regional transportation system. The 2040 Growth Concept has established a broad regional vision that will guide all future comprehensive planning at the local and regional levels, including development of the Regional Transportation Plan. The 2040 Growth Concept contains a series of land-use building blocks that establish basic design types for the region. Of these, the central city, regional center and industrial area/intermodal facility components are most critical in terms of regional significance and their role in supporting implementation of the other growth concept design types. Substantial public and private investment will be needed in these areas over the long-term to realize the 2040 Growth Concept vision. These areas provide the best opportunity for public policy to shape development, and are, therefore, the best candidates for more immediate transportation system improvements.

During the past several years, the region has experienced unprecedented growth – a trend that is predicted to continue in the 2020 population and employment forecast. Subsequently, a significant amount of urbanization is likely to occur while local jurisdictions are in the process of adopting local ordinances that implement the 2040 Growth Concept. Therefore, the phasing of RTP projects and programs will reflect this period of transition, with project identification and selection increasingly tied to implementation of the 2040 Growth Concept.

The RTP includes three implementation scenarios based on varying financial assumptions. The financially constrained system (Chapter 5) responds to federal planning requirements, and is based on a financial forecast of limited funding over the 20-year plan period. The "priority" system (Chapter 5) includes a mix of regional projects and programs that represents the minimum set of actions needed to adequately keep pace with expected growth during the next 20 years. The priority system identifies more improvements than the region can afford, given expected revenue for the plan period, and thus establishes a target for additional funding. The "preferred" system (Chapter 3) includes an optimal package of regional transportation projects and programs that best addresses the region's needs during the 20-year plan period.