



Chapter 5

Growth and the Strategic System

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5.0 Introduction

The financial analysis in Chapter 4 shows a dramatic shortfall in our ability to fund the 2020 Preferred system, with needed improvements costing four times our current revenue projections. The shortfall has profound implications for the region's ability to keep pace with growth, and begin implementing the 2040 Growth Concept. The shortfall is not limited to gas tax revenue, and could affect all aspects of the Preferred transportation system, including expanded roadways, transit service and improvements to the pedestrian, bicycle and freight systems.

For the purpose of evaluating the impact of funding limitations on our ability to provide needed improvements, this chapter includes an Existing Resources analysis. In this scenario, the scale of the system is limited to approximately \$970 million, the current 20-year capital projection. The analysis of this Existing Resource network shows an unacceptable level of congestion, with accompanying impacts on the ability to focus growth in centers and maintain access to intermodal facilities and industrial areas.

This chapter is an attempt to balance these current funding limitations against expected transportation needs. As a result, the 2020 Strategic System was developed. The purpose of the 2020 Strategic System is to identify the most critical improvements needed to implement the 2040 Growth Concept. It is not intended to fully meet the region's 20-year needs, but is adequate given funding limitations. However, the "strategic" system of projects described in this chapter would still require a major increase in transportation funding. The resulting strategic system would serve most of our transportation needs during the next 20 years, but many needs would be unmet, particularly in developing areas near the urban fringe and on minor routes.

Therefore, while the 2020 Preferred System is a full statement of need, the 2020 Strategic System is a statement of the highest priority need, given current transportation funding constraints. Section 5.4 of this chapter describes three possible revenue strategies to address the funding needs of the 2020 Strategic System. The accompanying subarea maps show the proposed strategic system projects and programs in detail. A comparison of the Preferred and Strategic system projects is shown in Appendix 1.1. The Strategic System analysis in this chapter evaluates the impact of withdrawing "preferred" improvements from the planned 2020 network on access to centers, industrial areas and intermodal facilities.

This chapter is organized as follows:

Effects of Growth on the Existing Resources System: This section evaluates the performance of the regional transportation system and the corresponding impact on implementation of the 2040 Growth Concept, assuming no new revenue sources during the 20-year plan period. For RTP Analysis purposes, the existing resource system was defined to provide a benchmark transportation scenario to compare with the 2020 Preferred and Strategic systems.

Proposed Strategic System Improvements for 2020: This section provides an overview of the process and principles used to identify the 2020 Strategic System and generally describes the types of projects and programs included in that system.

2020 Strategic System Analysis: This section evaluates the performance of the 2020 Strategic System on a regional and sub-region basis, emphasizing major corridors that performed differently when compared to performance of the 2020 Preferred System.

Possible Revenue Strategies for 2020: This section describes three possible revenue strategies to address the funding needs of the 2020 Strategic System. One strategy focuses on increasing traditional sources of revenue. A second strategy focuses on growth-related sources of revenue, and emphasizes increasing development-based revenues to pay for transportation needs. The third strategy reflects a combination of the first two strategies and other sources of revenue.

5.1 Effects of Growth on an Existing Resource System

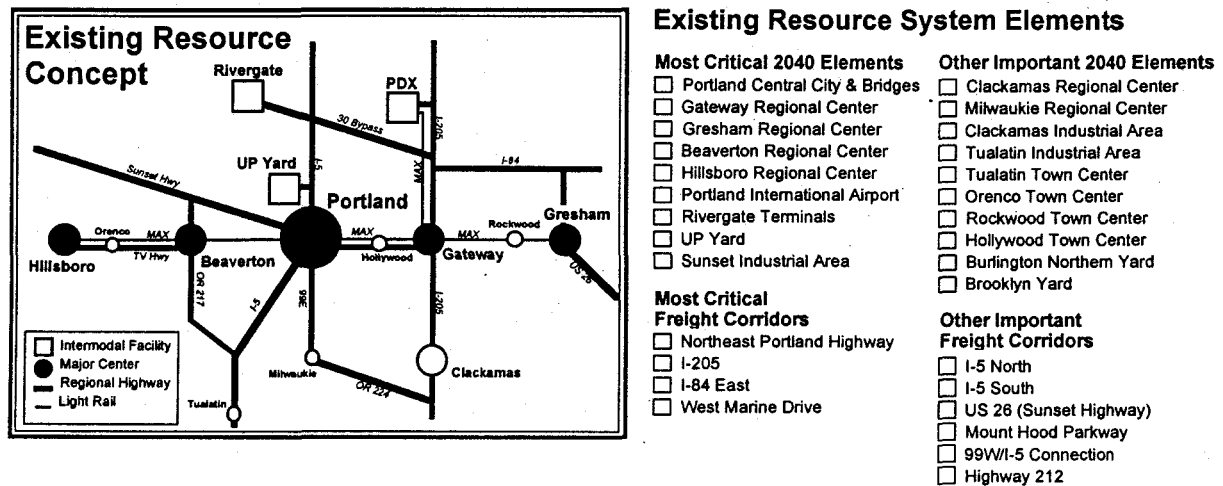
5.1.1 Existing Resource System Defined

The existing resource system is a 20-year transportation scenario that assumes no new sources or major increases in revenue. The purpose of defining an existing resource system is to provide a benchmark transportation scenario that will be compared with the 2020 Strategic and Preferred systems as part of the RTP analysis. This system represents just one example of how limited revenues might be spent in this region for the purposes of analyzing the impact of no new revenue on operation of the regional transportation system over the next 20 years. It is important to note that the existing resource scenario is not intended to represent a regional policy statement of where transportation improvements should be directed if no new revenue sources are identified. Likewise, this scenario does not reflect local discussions of local priorities and should not be used to make a determination of local priorities. This scenario is one example of how limited transportation revenue would affect implementation of the 2040 Growth Concept.

During the 20-year plan period, approximately \$970 million in forecasted revenue was allocated for road-related capital improvements.¹ Because this amount represents a major shortfall compared to identified long-term needs, the system does not attempt to address all current deficiencies – in effect, allocating 20 years of revenue toward immediate needs. Instead, this existing resource system attempts to focus this revenue in areas that already have substantial transportation infrastructure in anticipation that future growth will be best accommodated in these places. These are generally areas with excellent freeway and arterial street access and major transit investments. Figure 5.1 shows the areas of the region targeted with limited transportation investments as part of this analysis.

¹ See Chapter 4, Section 4.1 for more detail on existing revenue sources.

Figure 5.1
Existing Resources System



Source: Metro

As shown in Figure 5.1, this area is defined as the east/west corridor stretching from Hillsboro to Gresham. The schematic identifies a number of centers, industrial areas and intermodal facilities within this area that will be critical to accommodating compact growth while minimizing the expansion of the urban area. In this corridor, regional centers and the central city are already served by light rail, and most centers have good highway access. Most of the region's industry and intermodal facilities are also located in this corridor, and are equally well served by existing transportation infrastructure. The existing resource system includes projects and programs that would support the ability of these areas to absorb continued growth and maintain their economic vitality.

However, focusing limited resources in this east/west corridor comes at the expense of other growing areas in the region. The implication of focused spending is that other areas will be less able to accommodate compact growth, and existing transportation facilities in these other areas will be heavily impacted by increased travel demand.²

5.1.2 Regional Performance³

Though the Existing Resource System was developed with an emphasis on projects in areas where existing infrastructure is most able to absorb future growth, the travel demand in these areas still exceeded the ability of proposed motor vehicle and transit improvements to accommodate growth. The east/west motor vehicle system is very congested during the evening two-hour peak period, exceeding regional motor vehicle performance standards on most principal arterial routes, including the Banfield Freeway, Sunset Highway, Highway 217,

² See Appendix 1.5 for more detail on projects and programs assumed in the Existing Resource System.

³ Based on System Performance Measures for Intra-UGB Trips, dated 11/1/99.

Interstate 5 and Interstate 205. Many major arterial routes are also expected to experience significant congestion during the evening two-hour peak period, limiting access to the Gresham, Gateway, Beaverton and Hillsboro regional centers. Though the constrained transit system carries heavy volumes in the Eastside and Westside light rail corridors, congestion on many arterial routes would significantly impact bus service during the evening two-hour peak period. Overall, the existing resources system is expected to result in more vehicle miles traveled than the preferred system, as shown in Table 5.1.

Table 5.1
2020 Preferred and Existing Resources Systems
Vehicle Miles of Travel (intra-Metro UGB*)

	1994	2020 Preferred System	2020 Existing Resources System	Difference Preferred and Existing Resources
Average weekday vehicle miles traveled	16,112,462	24,061,990	24,263,742	+1%
Average weekday vehicle miles traveled per person	14.10	14.44	14.56	+1%
Average weekday vehicle miles traveled per employee	20.36	18.12	18.27	+1%

* Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

Motor Vehicle System Performance

Like the preferred system, delay on the region's freeway and arterial street networks also is also expected to increase between 1994 and 2020, with the greatest amount of delay predicted to occur on the arterial street network. Assuming implementation of the existing resource system, nearly 22 percent of the region's arterial streets are expected to experience congestion, or 687 miles, during the evening two-hour peak period. In comparison, in the preferred system, slightly more than 14 percent of the region's arterial streets are expected to experience congestion, or 464 miles, during the evening two-hour peak period.

If the existing resources system is implemented, the proportion of the region's freeway network experiencing congestion during the evening two-hour peak period is expected to increase from 1.05 percent to 2.45 percent between 1994 and 2020. This represents an increase from 32 miles to 77 miles of the freeway network experiencing congestion, and translates to _____ miles of the freeway network not meeting the motor vehicle performance measures defined in Table 1.1 in Chapter 1 of this plan. In contrast, assuming implementation of the preferred system, the proportion of the region's freeway network experiencing congestion during the evening two-hour peak period is expected to be lower, at 2.19 percent.

Freeways the existing resources system are expected to experience slightly more than 1.5 times the amount of motor vehicle hours delay as freeways in the preferred system. Likewise, arterial

streets in the existing resources system are expected to experience almost twice as much motor vehicle hours of delay as arterial streets in the preferred system.

As a result of the significant increase in trip-making region-wide, average motor vehicle speeds are expected to decrease from 25 mph in 1994 to 19 mph in 2020 during the evening two-hour peak periods, assuming implementation of existing resources system improvements. Average motor vehicle speeds are expected to be 22 mph in the 2020 Preferred System during the evening two-hour peak period. Table 5.2 compares the preferred and existing resources systems, summarizing the differences in the amount and extent of congestion within the Metro urban growth boundary.

Table 5.2
2020 Preferred and Strategic Systems
Motor Vehicle System Performance* (intra-Metro UGB)**

	1994	2020 Preferred System	2020 Existing Resources System
Average motor vehicle speed	25 mph	22 mph	19 mph
Average motor vehicle travel time	11 minutes	13 minutes	14 minutes
Percent of freeway experiencing congestion (v/c > 0.9)	1.05%	2.19%	2.45%
Percent of arterial streets experiencing congestion (v/c > 0.9)	5.5%	14.1%	21.9%
Total motor vehicle hours of delay (v/c > 0.9)	7,509	34,280	59,011
Motor vehicle hours of delay on freeway (% of total)	2,441 (1.91%)	10,182 (4.4%)	15,480 (5.8%)
Motor vehicle hours delay on arterial streets (% of total)	5,068 (3.97%)	24,098 (10.4%)	43,531 (16.4%)

* Based on evening two-hour peak period.

** Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

Alternative Mode Performance

Drive-alone trips as a percentage of all person trips are expected to decrease by less than one percent between 1994 and 2020, assuming implementation of the existing resources system. By comparison, bicycle and pedestrian travel are expected to increase between 1994 and 2020. In 1994, bicycling or walking (not including walk trips to transit) represented slightly more than 6 percent of all person trips inside the urban growth boundary. By 2020, bicycle and pedestrian travel is expected to represent almost 8 percent of all person trips made inside the urban growth boundary, similar to the preferred and strategic system.

Transit service hours are expected to almost double, increasing from 4,426 hours in 1994 to more than 8,406 hours in 2020. Transit ridership is expected to increase by 26 percent, representing almost 4.5 percent of all person trips in the region by 2020. The number of average weekday transit trips is expected to increase by 96 percent between 1994 and 2020, increasing from 172,464 to more than 339,000 transit trips. In comparison, ridership in the preferred system is expected to triple as a result of expanded transit service and transit capital improvements. The proportion of

households and jobs within 1/4-mile of transit service is expected to decline by 6 percent and 5 percent respectively between 1994 and 2020, assuming implementation of the existing resources system. In contrast, with the preferred system the proportion of households and jobs within 1/4-mile of transit service is expected to increase by 7 percent and 3 percent respectively between 1994 and 2020. Table 5.3 compares alternative mode performance between the preferred and existing resources systems within the Metro urban growth boundary.

Table 5.3
2020 Strategic System
Alternative Mode Performance (intra-Metro UGB*)

	1994	2020 Preferred System	2020 Existing Resources System
Walk trips (as a percent of total person trips)	5.18%	6.81%	6.79%
Bike trips (as a percent of total person trips)	.97%	1.25%	1.17%
Transit trips (as a percent of total person trips)	3.55%	7.32%	4.47%
Average weekday transit trips (originating rides)	172,464	551,757	339,205
Average weekday transit revenue hours	4,400	13,836	8,406
Percent of households within 1/4-mile of transit	78%	83%	73%
Percent of jobs within 1/4-mile of transit	86%	88%	81%

* Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

Freight System Performance

Trucks are a critical part of moving goods within the Portland metropolitan region. Of the total goods moving into, out of and within the region, 62 percent complete all or part of the trip by truck. Other modes that move goods are barge, rail and air. In 1994, the region handled more than 17,000 truck trips daily. This number is expected to grow by nearly 18,000 truck trips daily, representing an increase of 32 percent between 1994 and 2020. Truck hours of delay are expected to increase by more than eight-fold during the evening two-hour peak period between 1994 and 2020, assuming implementation of the existing resources system. This represents a change from 4 percent of truck hours experiencing delay in 1994 to more than 18 percent of truck hours experiencing delay during the evening two-hour peak period.

In contrast, assuming implementation of the preferred system, truck hours of delay are expected to increase by more than five-fold during the evening two-hour peak period between 1994 and 2020. This represents a change from 4 percent of truck hours experiencing delay in 1994 to nearly 13 percent of truck hours experiencing delay during the evening two-hour peak period. Table 5.4 summarizes key freight system statistics, assuming implementation of the existing resources system, and compares performance of the existing resources system with the preferred system.

Table 5.4
2020 Strategic System
Freight System Performance (total region*)
(Metro's regional truck travel forecasting model)

	1994	2020 Preferred System	2020 Existing Resources System
AWD total truck trips	54,598	72,118	72,118
AWD truck average trip length (miles)	22.64	23.90	23.96
Two-hour peak period truck vehicle hours of delay	130	732	1,142
Two-hour peak period average truck travel time	36.53	43.28	47.33

* Includes Clark, Clackamas, Multnomah and Washington counties.

Source: Metro

5.2 Proposed Strategic System Improvements for 2020

5.2.1 Process to Identify System Needs and Projects

While the primary mission of the 2020 Regional Transportation Plan is to implement the 2040 Growth Concept, the plan must also address other state and federal transportation planning requirements that may not directly assist in implementing the growth concept. Chapter 1 of this plan identifies specific transportation needs for each 2040 Growth Concept land-use component and policies for defining a balanced regional transportation system, including mode share targets and regional performance measures. Specific principles for identifying 2020 Strategic System needs and projects to meet those needs are summarized in Table 5.5.

Table 5.5
2020 Strategic System
Principles for Identifying Needs and Projects

Vision for consistency with the 2040 Growth Concept

- Implements the most significant primary land-use components transportation needs
- Addresses many secondary land-use components transportation needs
- Addresses some needs for other 2040 Growth Concept land-use components
- Substantially preserves "Regional Highways" function

Structure for consistency with the 2040 Growth Concept

- Central city and most regional centers served by light rail transit have direct access to regional highway system and contain a mix of arterial street, pedestrian and bicycle systems improvements
- Most industrial areas have strong connections to regional highway system and intermodal facilities
- Most town centers, corridors and main streets served by regional transit and contain a mix of arterial street, pedestrian and bicycle systems improvements
- Many neighborhoods and employment areas served by community transit, arterial capacity improvements and some improvements to the pedestrian and bicycle systems

2020 Strategic System Performance

- Meets many Chapter 1 modal targets (*from Chapter 1*)
- Meets most regional motor vehicle performance measures (*from Chapter 1*)
- Meets intent of Oregon Transportation Planning Rule requirements (*from Chapter 6*)
- Serves as policy determination of "adequate" transportation system (*from Chapter 6*)
- Maintains current regional operations, maintenance and preservation needs
- Meets many 20-year benchmarks for 2040 Growth Concept implementation (*from Chapter 6*)

Source: Metro

5.2.2 Sources of Strategic System Projects

Similar to the 2020 Preferred System, the list of strategic system projects was generated during the last two years, based on extensive input from the residents of this region and our state, regional and local government partners. The initial list of transportation projects and programs were identified at technical workshops held with local jurisdiction staff in September 1997, a citizen advisory committee workshop in October 1997 and a series of public workshops held throughout the region in November 1997. Since November 1997, the list has continued to be refined to reflect local planning decisions. See Chapter 3, Table 3.2 for more detail on project sources.

5.2.3 Scale and Scope of 2020 Strategic System Projects

While the Preferred System represents a statement of need, the Strategic System represents a statement of the highest priority need. More than 820 projects have been identified for the preferred system. The 2020 Strategic System represents a scaled back 2020 Preferred System and is made up of the 615 most critical preferred system projects and programs that are needed to keep pace with expected growth in this region. The transportation investments included in the strategic system address key bottlenecks throughout the region and focus on leveraging the most important 2040 land-use components, including the central city, industrial areas and intermodal facilities, regional centers, town centers and major transit corridors. The 2020 Strategic System meets Chapter 1 mode share targets in most areas, most regional performance measures, intent of the Oregon transportation planning rule requirements and maintains current regional system operations, maintenance and preservation needs. The 2020 strategic system relies on all currently identified revenue sources and assumes some new unspecified revenue sources at the local, regional, state or federal level.

5.2.4 Overview of Key 2020 Strategic System Projects

The improvements and programs described on the following pages represent the region's commitment to establishing an adequate transportation system for the next 20 years. Table 5.6 provides a general overview of the strategic system. Figure 5.2 graphs the number of road-related projects proposed in the strategic system by mode. (Note: Throughout the document, cost estimates referring to "road-related" improvements include the full modal mix reflected in Figure 5.2). The number of proposed transit capital projects are not included in Figure 5.2.

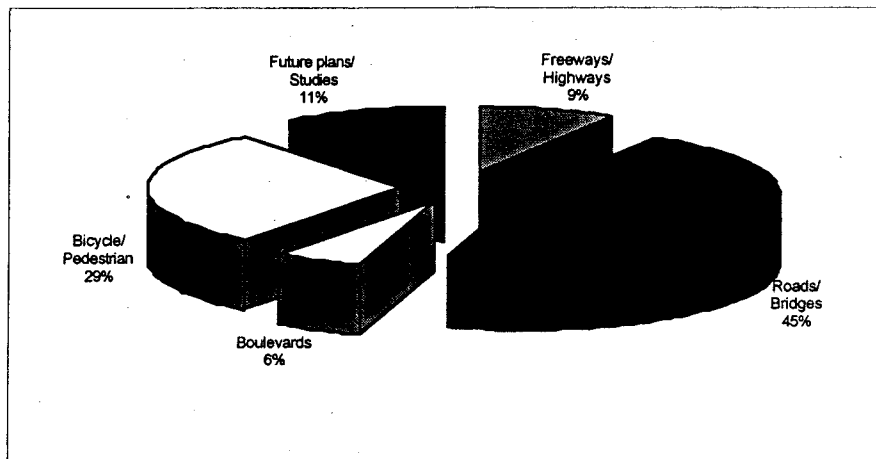
Table 5.6
General Overview of the
2020 Strategic System (intra-Metro UGB*)
(in lane/route miles)

	1994	2020	Percent Change
Freeway lane miles	570	667	+17%
Arterial lane miles	3,231	3,696	+14%
Freight network miles**	623	647	+4%
Light rail miles			
Rapid/Frequent bus route miles			
Local bus route miles			
Bicycle lane miles			
Pedestrian lane miles			

* Within Metro urban growth boundary, excludes Clark County, Wash.
** Also accounted for in freeway and arterial streets.

Source: Metro

Figure 5.2
2020 Strategic System
Road-Related Projects



Source: Metro

Similar, to the preferred system, examples of the types of projects included in Figure 5.2 include:

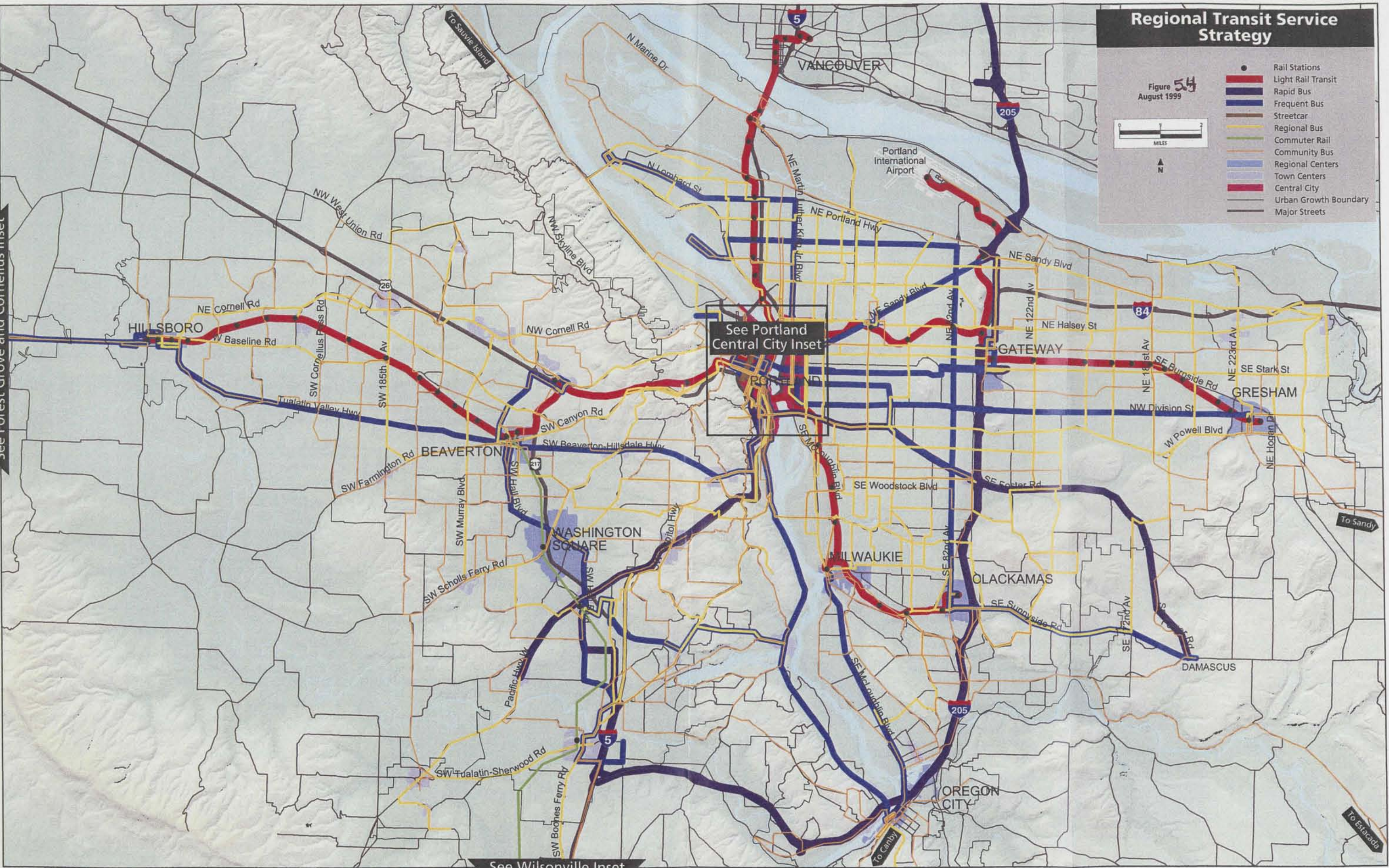
- *Willamette River Bridges preservation.* Adequate preservation and maintenance of the Willamette River Bridges, including sidewalk/multi-use path repair, deck replacement, painting and lift span repair, and improved bicycle and pedestrian bridge access.
- *Expanded regional trails network.* Critical bike and pedestrian connections to the regional trails network and construction of many new multi-use paths throughout the region.
- *Freight improvements.* Key rail and road expansions to maintain access for national and international rail, air and marine freight to reach its destination with limited delay.
- *Highway expansion.* Major highway expansions to maintain regional mobility and access to industrial areas and facilities where goods move from one transportation mode to another.
- *Arterial street expansion.* Most critical arterial street expansions needed to maintain access to the regional highway system and maintain circulation and access between the central city, regional centers and town centers.
- *New street connections.* New street connections across and parallel to regional highways to slow increases in traffic congestion and provide alternate routes and within regional and town centers to improve access by all modes of travel.
- *Retrofit of major streets for walking, biking and transit.* Wider sidewalks, safer street crossings, landscaped buffers, improved bus stops and bikeways along major streets that serve the central city and regional centers, most town centers, corridors and main streets and some neighborhoods and employment areas.

- *Transportation system management.* System management strategies where full improvements would be too costly. Examples of these strategies include ramp metering, signal timing and access management, to better manage the flow of traffic on existing freeways and arterial streets to achieve maximum efficiency of the current road system without adding major new infrastructure. Improve transit service reliability through the use of transit preferential treatments and service adjustments such as reserved bus lanes, signal preemption, modified stop spacing and more direct routes.
- *Transportation Demand Management.* Demand management strategies to eliminate or delay the need for some improvements. Examples of these strategies include transportation management associations (TMAs) in the central city, regional centers and some town centers and employment areas. TMAs and other demand management strategies attempt to increase transit ridership, vehicle occupancy, walking and biking and reduce the length of some trips, move some trips to off-peak travel periods or eliminate some trips altogether.
- *Future studies.* Town center plans to define long-term transportation needs for all modes of travel in these areas. Corridor refinement plans to develop phased strategies for implementing proposed improvements in a particular corridor. Regional highway corridor studies to identify phased road and transit improvements to maintain regional mobility and address travel demand in the corridor.

Other projects that are included in the strategic system, but are not identified in Figure 5.2 include:

- *State and local road maintenance.* Adequate maintenance and preservation of the existing road system without the current pavement condition level slipping from approximately 77 percent of regionally significant roads in fair or better condition.
- *Expanded transit service.* A 3.8 percent increase per year in transit service hours, with an emphasis on light rail transit to the central city and regional centers, commuter rail between Wilsonville and Beaverton and streetcar service in downtown Portland. Faster and more direct transit connections to regional and town centers, corridors and main streets, minimizing the need to go to downtown Portland to transfer. New community and local routes to better serve neighborhoods and employment areas. Figure 5.4 shows the regional transit service strategy assumed for the 2020 Strategic System.
- *Transit capital improvements to enhance expanded transit service.* Provide new park-and-ride facilities, low-floor air-conditioned buses, transit station upgrades that include ticket machines and bicycle parking and better passenger amenities at bus stops, including maps, phones, electronic displays showing actual bus locations and arrival times, covered shelters, curb extensions, special lighting and benches.

See Forest Grove and Cornelius Inset



Regional Transit Service Strategy

Figure 54
August 1999

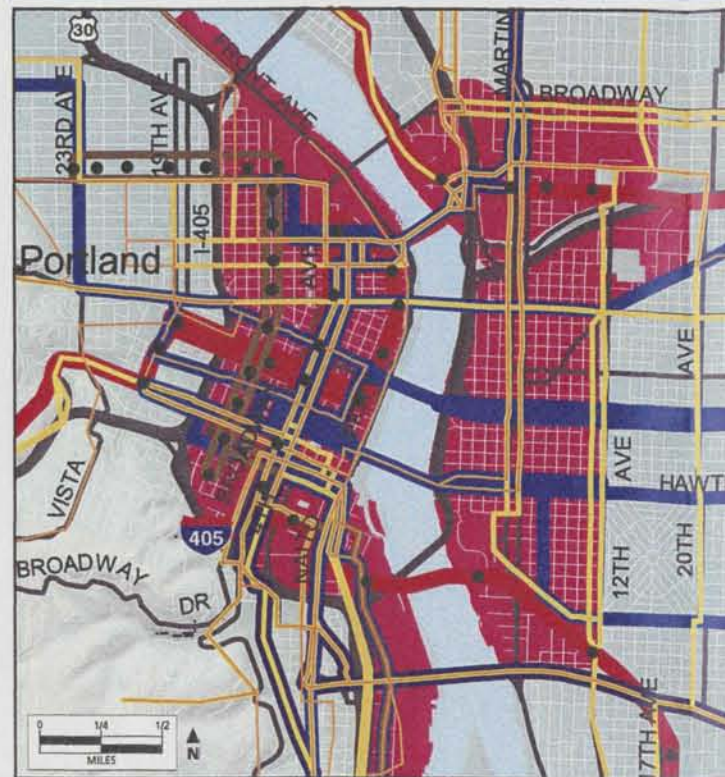
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- Rail Stations
- Light Rail Transit
- Rapid Bus
- Frequent Bus
- Streetcar
- Regional Bus
- Commuter Rail
- Community Bus
- Regional Centers
- Town Centers
- Central City
- Urban Growth Boundary
- Major Streets

See Wilsonville Inset

Regional transit strategy



Portland central city and neighborhoods

The grid network of transit lines in Portland will be expanded and strengthened by the transit projects and programs identified to serve this area during the next 20 years. Transit investments would be tied to planned land uses and street classifications. The following service improvements are most critical in serving expected growth in this area during the next 20 years:

- For the short-term, add new light rail transit service from North Portland to the Expo Center via Interstate Avenue, with a future possible extension to Vancouver, Wash. More frequent rush-hour service on eastside, westside and airport light rail would be added to meet increases in demand.

- For the long-term, add new light rail transit service from downtown Portland to the Clackamas regional center, also serving Southeast Portland neighborhoods. Interim bus transit service improvements in

the McLoughlin Boulevard/Highway 224 corridor from the Clackamas regional center to the Portland central city would be provided until light rail transit service is funded and constructed.

- Expand transit service to include new rapid bus service along Barbur Boulevard/Highway 99W from Portland central city to King City, I-205 from Vancouver Mall to the Oregon City regional center via Gateway and Clackamas regional centers, and along Powell Boulevard/Foster Road from the Portland central city to Damascus. A corridor study of Barbur Boulevard would determine the feasibility and timing for high-capacity transit service (including light rail transit) along this route.

- Expand transit service to include frequent bus service along N. Lombard, NE Sandy, NE Martin Luther King Jr. Boulevard, NE/SE 82nd Avenue, SE Hawthorne Boulevard, NW 23rd Avenue, NE Broadway and SW Beaverton-Hillsdale Highway.

- Add cross-town regional bus lines to run on NE Prescott, SE 92nd Avenue and SE 20th/28th avenues.

- Extend new streetcar service from the North Macadam redevelopment area through the Portland central city to Northwest Portland.

- Improve frequency of buses and longer service days on most regional bus lines so that buses come at least every 15 minutes during the daytime, seven days a week.

- Extend hours of operation on light rail transit and frequent bus lines.

- Develop transportation management associations in key employment areas such as the Swan Island, Hollywood and Lents town centers in addition to existing associations in the Lloyd District and Marquam Hill.

- Improve service to non-office employment areas in cooperation with business associations and transportation management associations.

- Improve service reliability through use of transit preferential treatments and service adjustments such as special lanes, signals, modified stop spacing and more direct routes.

- Enhance passenger waiting areas with shelters, paving, lighting and customer information.

- Create new and improved community transit service that offers access to developing and under-served residential and employment areas.

West Columbia corridor

Access to jobs is an important need to be met by the transit improvements for this area. The

following service improvements are most critical in serving expected growth in this area during the next 20 years:

- Expand transit coverage and shuttle service to provide connections to airport light rail and regional bus lines. Enhance and expand demand management programs, including incentives for transit, carpool and vanpool use as a key element in the overall strategy.

- For the short-term, add new light rail transit service from North Portland to the Expo Center via Interstate Avenue, with a future possible extension to Vancouver, Wash. More frequent rush-hour service on eastside, westside and airport light rail would be added to meet increases in demand.

- Initiate new express bus, taxi service and shuttle service to the corridor in conjunction with the Columbia Corridor Association.

East Multnomah County

The following service improvements are most critical in serving expected growth in this area during the next 20 years:

- Expand the network of regional transit routes in this

area to provide east-west and north-south bus service running every 15 minutes during the daytime. This would improve local travel options in East Multnomah County and provide direct access to eastside light rail transit stations and rapid bus stations along I-205.

- Expand Gateway transit service to include rapid bus service from Oregon City along I-205, light rail transit to Portland International Airport and improved Banfield light rail frequencies.

- Expand Gresham transit service to include frequent bus service from downtown Portland along Division Street, frequent bus service from the Clackamas regional center to Pleasant Valley and regional bus service on all other transit corridors.

- Implement a transportation management association with employers in the Gresham and Gateway regional centers.

- Develop a regional strategy to evaluate the need for expanding park-and-ride facilities in and near Gateway, where such facilities do not conflict with planned land uses.

- Establish new primary bus service along NE Halsey, SE

Stark, NE 181st, NE 162nd and NE 148th avenues and frequent or rapid bus service along Division Street between Gresham and Portland.

- Create new and improved community transit service that offers access to developing and under-served residential and employment areas.

North Washington County

The following service improvements are most critical in serving expected growth in this area during the next 20 years:

- Expand the network of regional transit routes in this area to provide east-west and north-south bus service running every 15 minutes during the daytime. This would improve local travel options, improve access to town centers and regional centers, and provide direct access to westside light rail transit.

- Provide new and expanded service to areas under-served today and emerging employment and residential areas. In addition, regional connections via rapid bus, commuter rail and frequent bus lines would connect North Washington County more directly with other parts of the region.

- Expand transit service to Beaverton to include commuter rail service from Wilsonville, increased frequencies on westside light rail and frequent bus service on Beaverton-Hillsdale Highway and Tualatin Valley Highway.

- Add rapid or frequent bus service along Tualatin Valley Highway between Beaverton and Forest Grove, along Hall Boulevard between Tigard and Washington Square and rapid bus service between Tualatin and Oregon City.

- Help create and support a Hillsboro regional center transportation management association.



- Create new and improved community transit service that offers access to developing and under-served residential and employment areas.

South Washington County

The following service improvements are most critical in serving expected growth in this area during the next 20 years:

- Improve coverage and frequency of transit service to provide more direct north-south as well as east-west connections that make transit more useful for suburban trips.

- Add rapid bus service along SW Barbur Boulevard/Highway 99W to connect King City, Tigard and Portland.

- Add frequent bus service along Hall Boulevard from Tualatin to Beaverton, along Kruse Way between Lake Oswego and Tigard transit centers, along Tualatin Valley Highway from Beaverton to Forest Grove, and along SW Beaverton-Hillsdale Highway between Southwest Portland and Beaverton.

- Add commuter rail service with peak-hour service between

Wilsonville and Beaverton. Study the potential for all-day service and commuter rail service to Salem and between Union Station and Wilsonville via Lake Oswego and Milwaukie

- Help create and support a Washington Square regional center transportation management association.

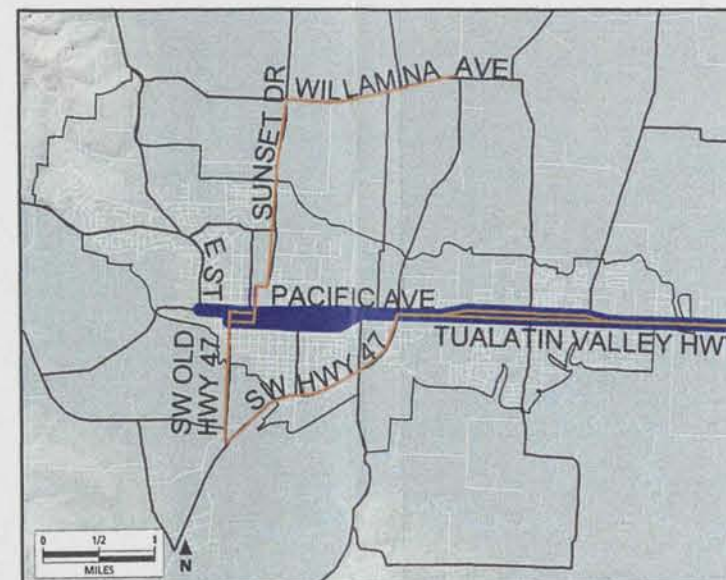
- Offer new and improved community transit service to developing and under-served residential and employment areas.

Urban Clackamas County

The following service improvements are most critical in serving expected growth in this area during the next 20 years:

- Expand frequency and hours of service on existing transit lines, expand service to areas with no service today and improve regional connections to East Portland across the Willamette River to Tualatin, Lake Oswego and Southwest Portland.

- Expand transit service to include rapid bus service along I-205 connecting the Oregon



Under construction in the central city, new streetcar service will better link the Portland State University area with the rapidly growing Pearl and River districts.



City, Clackamas and Gateway regional centers. Extend light rail service from the Clackamas regional center to the Portland central city, then potentially to Vancouver, Wash., and from Oregon City to Milwaukie. Provide excursion rail and frequent bus service between Portland and Lake Oswego.

- Define interim transit service improvements in the McLoughlin Boulevard/ Highway 224 corridor from the Clackamas regional center to the central city.
- Conduct a study to examine rail transit opportunities in the Lake Oswego area, including the Macadam/Highway 43 corridor to Portland and potential use of existing freight rail connections from Lake

Oswego to Milwaukie and Tualatin.

- Help create and support a transportation management association with employers in the Clackamas, Oregon City and Milwaukie regional centers. Consider a TMA and other demand management strategies to address congestion in the vicinity of the Clackamas industrial area.

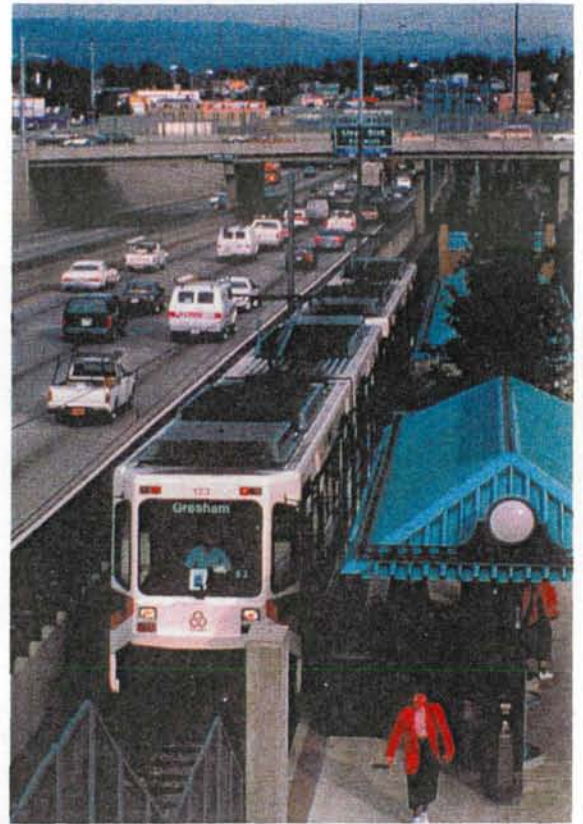
- Offer new and improved community transit service to developing and under-served residential and employment areas.

Pleasant Valley and Damascus

The following service improvements are most critical in serving expected growth in this emerging area during the next 20 years:

- Expand transit service to provide more coverage in the urban reserve areas and to connect the areas to the Clackamas and Gresham regional centers and the grid of regional transit lines in Southeast Portland.
- Add new rapid bus service along Powell Boulevard and Foster Road to downtown Portland.

Light rail transit will continue to serve as the backbone of the region's transit system, linking regional centers and the central city, and giving commuters an alternative to congested freeways.



- Add new frequent bus service from Damascus to the Clackamas regional center along Sunnyside Road.
- Add new community bus service connecting the Damascus and Pleasant Valley town centers to the Gresham regional center.
- Add new regional bus service connecting the Gresham regional center to the Clackamas regional center via the Pleasant Valley town center.
- Offer new and improved community transit service to developing and under-served residential and employment areas.

Special service will continue to expand, providing door-to-door transit access to disabled and elderly passengers. Small buses will also be used to provide door-to-door service to major employment centers and industrial areas.

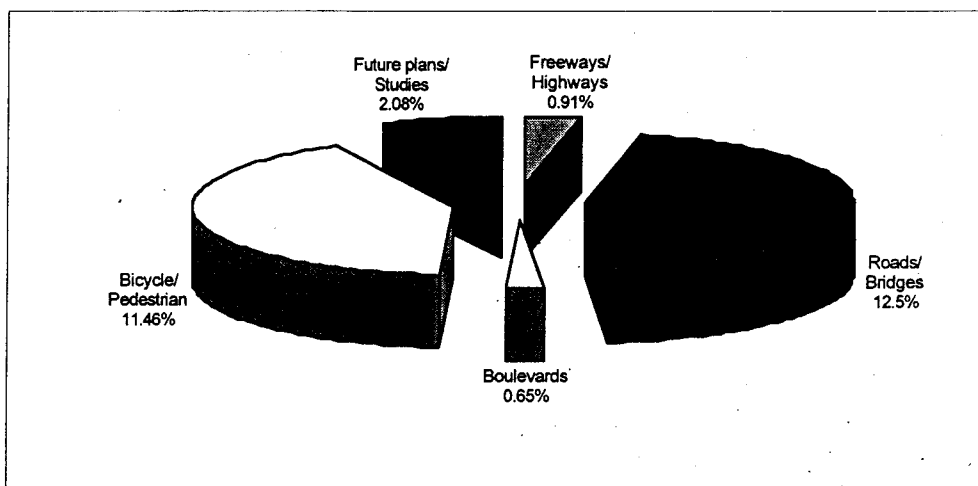


The future transit system won't end at the bus door. Major improvements are needed at bus stops to make transit riders more comfortable and safe.

5.2.5 Overview of Projects Not Included in the 2020 Strategic System

Figure 5.5 shows the breakdown of road-related projects not included in the 2020 Strategic System as a proportion of the preferred system. Approximately 26 percent of projects identified in the preferred system were not included in the strategic system. The types of projects not included in the strategic system were primarily arterial street expansions and bicycle and pedestrian improvements. Figure 5.5 does not include transit capital improvements.

Figure 5.5
Road-Related Projects Not Included in the
2020 Strategic System
(as a percentage of the preferred system)



Source: Metro

5.3 2020 Strategic System Analysis

The 2020 strategic system is intended to meet the state Transportation Planning Rule (TPR) definition of an "adequate" system. This definition means that while the 2020 strategic system does not address all identified transportation needs, it adequately addresses the region's 20-year transportation needs, given current funding limitations. As such, the 2020 strategic system is designed to fully serve the most significant land-use components of the 2040 Growth Concept first, including the central city, regional centers and industrial areas and intermodal facilities. Many transportation needs are also addressed in secondary 2040 Growth Concept components, including town centers, station communities, main streets and corridors. Some transportation needs are addressed in other areas, such as neighborhoods and employment areas. The overall land-use strategy of the strategic system is to meet 20-year implementation benchmarks established for the 2040 Growth Concept.

The 2020 strategic system maximizes transportation system efficiency by careful phasing of needed improvements, and the use of system management and demand management strategies to better use the existing system and delay the need for some major road expansion projects. As a

result, the strategic system outperforms the preferred system by a number of measures, including less growth in VMT per capita, less single-occupancy vehicle travel and shorter average vehicle trips. This performance results from an increased emphasis on transit, pedestrian, bicycle and demand and system management projects in the 2020 Strategic System, where more costly road capacity improvements could not be funded. However, like the other systems studied, there will still be congestion in some places following implementation of the strategic system. See Chapter 6 for more detail on proposals for addressing, or in some cases, tolerating that congestion.

5.3.1 Regional Performance⁴

Population and employment is expected to increase by 46 percent and 68 percent respectively between 1994 and 2020 within the urban growth boundary. Growth in population and employment is expected to result in a corresponding increase in travel demand during the same time period. When compared to the 2020 Preferred System, performance of the 2020 Strategic System is expected to vary little. Between 1994 and 2020, the number of person trips beginning and ending within the urban growth boundary is expected to increase by 55 percent, to more than 7.5 million trips per day.

Since employment in the region is expected to increase faster than population, the number of trips devoted to work is expected to increase faster than trips for non-work purposes such as shopping and recreation. The number of work trips is expected to grow by nearly 65 percent between 1994 and 2020, while non-work trips is expected to increase by 54 percent. The significant increase in the number of trips to work is expected to have a significant impact on the performance of the transportation system. The additional work trips generally compete for space on the highway and transit systems when it is least available – during the morning and evening peak hours.

Table 5.7 compares the preferred and strategic systems with 1994, highlighting expected changes in trips made in the region between the two systems. Table 5.8 compares the preferred and strategic systems with 1994, highlighting changes in vehicle miles traveled between the two systems and comparing the preferred and strategic systems performance with 1994.

Table 5.7
2020 Preferred and Strategic Systems
Average Weekday Trips (intra-Metro UGB*)

	1994	2020 Preferred System	2020 Strategic System	Difference 1994-2020 Strategic
Average weekday person trips	4,864,738	7,534,953	7,548,706	+55%
Average weekday work trips	939,578	1,547,213	1,549,214	+65%
Average weekday non-work trips	3,925,162	6,036,811	6,046,674	+54%
Average home-based work trip length	6.45 miles	6.62 miles	6.52 miles	+3 %

* Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

⁴ Based on System Performance Measures for Intra-UGB Trips, dated November 1, 1999.

Although the strategic system is expected to result in more person trips than the preferred system overall, the strategic system is expected to result in fewer vehicle miles traveled than the preferred system, as evidenced in Table 5.8.

Table 5.8
2020 Preferred and Strategic Systems
Vehicle Miles of Travel (intra-Metro UGB*)

	1994	2020 Preferred System	2020 Strategic System	Difference 1994-2020 Strategic
Average weekday vehicle miles traveled	16,112,462	24,061,990	23,929,850	+48.5%
Average weekday vehicle miles traveled per person	14.10	14.44	14.36	+1.8%
Average weekday vehicle miles traveled per employee	20.36	18.12	18.02	-11.5 %

* Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

Motor Vehicle System Performance

In the strategic system, the proportion of the region's arterial streets experiencing congestion is expected to nearly triple, increasing from 5.5 percent in 1994 to slightly more than 15 percent in 2020. This represents an increase from 169 miles to 491 miles of the arterial street network experiencing congestion during the evening two-hour peak period. This translates to ____ miles of the arterial street network not meeting the motor vehicle performance measures defined in Table 1.1 in Chapter 1 of this plan. In the preferred system, slightly more than 14 percent of the region's arterial streets are expected to experience congestion, or 464 miles, during the evening two-hour peak period. Delay on the region's freeway and arterial street networks also is also expected to increase between 1994 and 2020, with the greatest amount of delay predicted to occur on the arterial street network.

Table 5.9 compares the preferred and strategic systems, summarizing the differences in the amount and extent of congestion within the Metro urban growth boundary.

Table 5.9
2020 Preferred and Strategic Systems
Motor Vehicle System Performance* (intra-Metro UGB**)

	1994	2020 Preferred System	2020 Strategic System
Average motor vehicle speed	25 mph	22 mph	21 mph
Average motor vehicle travel time	11 minutes	13 minutes	13 minutes
Percent of freeway experiencing congestion (v/c > 0.9)	1.05%	2.19%	1.97%
Percent of arterial streets experiencing congestion (v/c > 0.9)	5.5%	14.1%	15.1%
Total motor vehicle hours of delay (v/c > 0.9)	7,509	34,280	37,690
Motor vehicle hours of delay on freeway (% of total)	2,441 (1.91%)	10,182 (4.4%)	10,984 (4.7%)
Motor vehicle hours delay on arterial streets (% of total)	5,068 (3.97%)	24,098 (10.4%)	26,706 (11.4%)

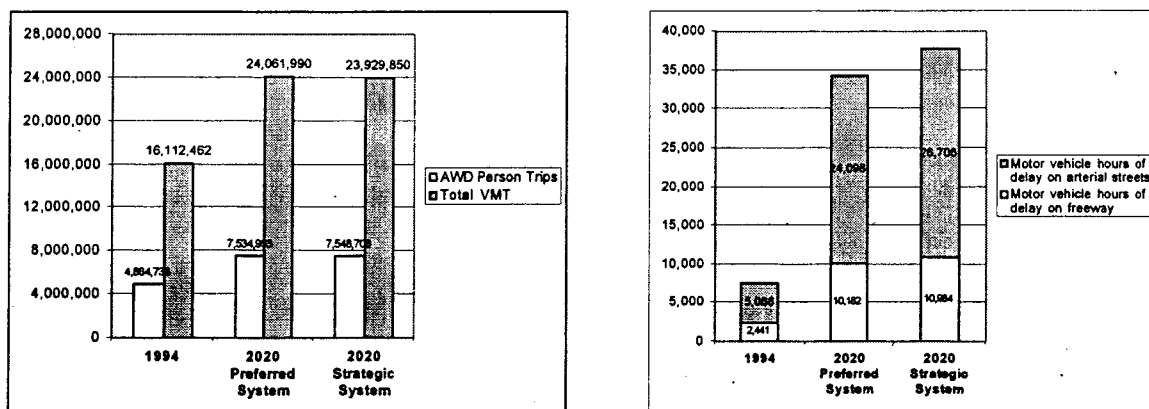
* Based on evening two-hour peak period.

** Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

Figure 5.6 graphs data listed in Tables 5.7, 5.8 and 5.9, comparing expected increases in person trips, vehicle miles of travel and motor vehicle hours of delay on the region's freeway and arterial street network from 1994 for both the 2020 preferred and strategic systems.

Figure 5.6
Comparison of Travel and Delay (intra-Metro UGB*)



* Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

As a result of the significant increase in trip-making region-wide, average motor vehicle speeds are expected to decrease from 25 mph in 1994 to 21 mph in 2020 during the evening two-hour peak periods, assuming implementation of strategic system improvements. Average motor vehicle speeds are expected to be 21 mph in the 2020 Preferred System during the evening two-hour peak periods. Assuming the strategic system is implemented, the proportion of the region's freeway network experiencing congestion during the evening two-hour peak period is expected to increase from 1.05 percent in 1994 to 1.97 percent in 2020, representing an increase from 32 miles to 64 miles of the freeway network experiencing congestion. This translates to _____ miles of the freeway network not meeting the motor vehicle performance measures defined in Table 1.1 in Chapter 1 of this plan. In contrast, assuming implementation of the preferred system, the proportion of the region's freeway network experiencing congestion during the evening two-hour peak period is expected to be slightly higher, at 2.19 percent.

Alternative Mode Performance

Similar to the preferred system, drive-alone trips as a percentage of all person trips decrease by 4 percent between 1994 and 2020, from nearly 62 percent to 59 percent. By comparison, bicycle and pedestrian travel are expected to increase between 1994 and 2020. In 1994, bicycling or walking (not including walk trips to transit) represented slightly more than 6 percent of all person trips inside the urban growth boundary. By 2020, bicycle and pedestrian travel is expected to represent about 8 percent of all person trips made inside the urban growth boundary. Transit service hours are expected to more than double, increasing from 4,426 hours in 1994 to more than 12,000 in 2020. Transit ridership is expected to increase by 89 percent, representing almost 7 percent of all person trips in the region by 2020. The number of average weekday transit trips is expected to triple between 1994 and 2020, increasing from 172,464 to more than 522,000 transit trips. Increased transit ridership largely results from the expanded transit service and transit capital improvements assumed in the strategic system. Table 5.10 summarizes alternative mode performance.

Table 5.10
2020 Strategic System
Alternative Mode Performance (intra-Metro UGB*)

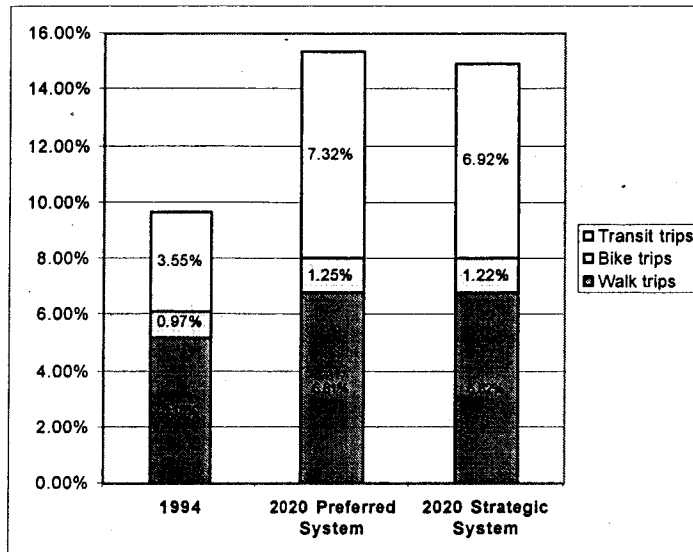
	1994	2020 Preferred System	2020 Strategic System	Difference 1994-2020 Strategic
Walk trips (as a percent of total person trips)	5.18%	6.81%	6.82%	+ 32%
Bike trips (as a percent of total person trips)	.97%	1.25%	1.22%	+ 26%
Transit trips (as a percent of total person trips)	3.55%	7.32%	6.92%	+ 95%
Average weekday transit trips (originating rides)	172,464	551,757	522,700	+ 203%
Average weekday transit revenue hours	4,400	13,836	12,950	+ 194%
Percent of households within 1/4-mile of transit	78%	83%	83%	+ 6.4%
Percent of jobs within 1/4-mile of transit	86%	88%	88%	+ 2.9%

* Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

Figure 5.7 highlights alternative mode performance for 1994 and the 2020 preferred and strategic systems.

Figure 5.7
Alternative Mode Performance (intra-Metro UGB*)



* Within Metro urban growth boundary, excludes Clark County, Wash.

Source: Metro

Freight System Performance

Trucks are a critical part of moving goods within the Portland metropolitan region. Of the total goods moving into, out of and within the region, 62 percent complete all or part of the trip by truck. Other modes that move goods are barge, rail and air. In 1994, the region handled more than 17,000 truck trips daily. This number is expected to grow by nearly 18,000 truck trips daily, representing an increase of 32 percent between 1994 and 2020. Of this total, approximately 11 percent are expected to be on the regional transportation system during the evening two-hour peak period. With the average trip length of 24 miles, the total truck miles traveled during the evening two-hour peak period is 195,000 miles. Of this total, approximately 28 percent are traveling through congestion during the evening two-hour peak period. Truck hours of delay are expected to increase by more than six-fold during the evening two-hour peak period between 1994 and 2020. This represents a change from 4 percent of truck hours experiencing delay in 1994 to 14 percent of truck hours experiencing delay during the evening two-hour peak period. The strategic system 77 more truck hours of delay than the preferred system. Despite the expected increases in delay, the strategic system results in adequate mobility and access for freight movement in the region.

Table 5.11 summarizes key freight system statistics, assuming implementation of the strategic system, and compares performance of the strategic system with 1994 and the preferred system.

Table 5.11
2020 Strategic System
Freight System Performance (total region*)
(Metro's regional truck travel forecasting model)

	1994	2020 Preferred System	2020 Strategic System	Difference 1994-2020 Strategic
AWD total truck trips	54,598	72,118	72,118	+ 32%
AWD truck average trip length (miles)	22.64	23.90	23.91	+ 5%
Two-hour peak period truck vehicle hours of delay	130	732	809	+ 522%
Two-hour peak period average truck travel time	36.53	43.28	43.98	+ 20%

* Includes Clark, Clackamas, Multnomah and Washington counties.

Source: Metro

5.3.2 Major Corridor Performance

Motor vehicle and transit volumes are expected to increase along major corridors throughout the region. Major corridors are defined as those corridors in the region that serve as the primary people and goods moving routes. Tables 5.12 and 5.13 summarize the percent increase in peak direction auto and transit volumes for key corridors in the region. Figure 5.8 and Figure 5.9 highlight auto and transit cut-line results for these major corridors in the region. Further detail on corridors that performed significantly different in the strategic system as compared to the preferred system can be found in Section 5.3.3 of this chapter.

Table 5.12
Comparison of Motor Vehicle Volumes
(peak direction during the evening two-hour peak period)

Corridor*	1994	2020 Preferred System	2020 Strategic System	Difference 1994-2020 Strategic
(A) I-5 North, Martin Luther King Jr. Boulevard, Interstate Avenue and Greeley Avenue	18,799	21,203	20,777	1,978 (+11%)
(B) I-5 North Interstate Bridge	11,504	18,487	17,348	5,844 (+51%)
(C) I-84, Broadway/Weidler, Burnside, Stark, Belmont, Morrison and Hawthorne streets	28,267	29,794	29,698	1,431 (+5%)
(D) Powell, Division and Holgate streets	7,243	8,163	8,226	983 (+14%)
(E) I-5 and Barbur Boulevard	13,716	15,300	15,147	1,431 (+11%)
(F) US 26, Cornell, Burnside and Beaverton-Hillsdale Highway	19,156	20,824	20,834	1,678 (+9%)
(G) Highway 30	3,123	4,026	4,014	891 (+29%)
(H) Macadam/17th/McLoughlin Boulevard	10,215	14,999	15,195	4,980 (+49%)
(I) Sandy Boulevard and I-84	12,365	14,398	14,369	2,004 (+16%)
(J) Halsey, Glisan, Burnside, Stark, Division and Powell streets	15,626	19,803	20,274	4,648 (+30%)
(K) 172nd/Foster Road/190th Avenue	1,783	8,133	8,575	6,792 (+381%)
(L) US 26, 242nd, Orient and Powell Valley roads	6,077	10,026	9,887	3,810 (+63%)
(M) Highway 212, Sunrise Corridor and Sunnyside Road	6,337	18,366	18,956	12,619 (+199%)
(N) Highway 213, Molalla Avenue and 99E	8,615	14,794	14,653	6,038 (+70%)
(O) 181st, 207th, 223rd, 242nd and Hogan roads	8,312	14,766	15,528	7,216 (+87%)
(P) I-205 east of 60th Avenue	7,103	12,168	12,009	4,906 (+69%)
(Q) I-5 South and Boones Ferry Road	15,728	19,635	20,804	5,076 (+32%)
(R) Tualatin-Sherwood Road, 99W and I-5 to 99W connector	4,052	9,320	9,139	5,087 (+126%)
(S) Highway 217, Hall Boulevard, Scholls Ferry and Oleson roads	15,582	18,663	21,016	5,434 (+35%)
(T) Tualatin Valley Highway and Farmington Road	7,184	11,076	11,146	3,962 (55%)
(U) Cornell Road, Beaverton-Hillsdale Highway, Canyon, Walker and Barnes roads	20,611	22,672	22,050	1,439 (+7%)
(V) Tualatin Valley Highway and Baseline and Cornell roads	6,437	9,561	9,710	3,273 (+51%)
(W) I-205, 82nd and 92nd avenues	14,315	21,528	18,752	4,437 (+31%)

* Refer to Figures 5.8 and 5.9 for actual cut-line locations indicated in parenthesis.

Source: Metro

Table 5.13
Comparison of Selected Transit Volumes
(Average weekday peak direction)

Corridor*	1994	2020 Preferred System	2020 Strategic System	Difference 1994-2020 Strategic
(A) LRT, I-5 North, Martin Luther King Jr. Boulevard, Interstate Avenue and Greeley Avenue	1,919	8,138	7,860	5,941 (+310%)
(B) LRT, I-5 North Interstate Bridge	1,227	6,126	5,891	4,664 (+380%)
(C) LRT, I-84, Broadway/Weidler, Burnside, Stark, Belmont, Morrison and Hawthorne streets	4,905	12,493	12,369	7,464 (+152%)
(D) Powell, Division and Holgate streets	1,226	3,721	3,575	2,349 (+192%)
(E) I-5 and Barbur Boulevard	1,043	3,768	3,675	2,632 (+252%)
(F) LRT, US 26, Cornell, Burnside and Beaverton-Hillsdale Highway	2,082	7,682	7,487	5,405 (+260%)
(H) LRT, Macadam/17th/McLoughlin Boulevard	1,186	7,338	7,552	6,366 (+536%)
(J) Halsey, Glisan, Burnside, Stark, Division and Powell streets	1,525	6,777	6,439	4,914 (+322%)
(K) 172nd/Foster Road/190th Avenue	n/a	1,579	1,427	1,427
(S) Highway 217, Hall Boulevard, Scholls Ferry and Oleson roads	305	1,285	1,195	890 (+292%)
(U) LRT, Cornell Road, Beaverton-Hillsdale Highway, Canyon, Walker and Barnes roads	1,447	6,823	6,372	4,925 (+340%)
(W) I-205, 82nd and 92nd avenues	224	919	817	593 (+265%)

* Refer to Figures 5.8 and 5.9 for cut-line locations.

Source: Metro

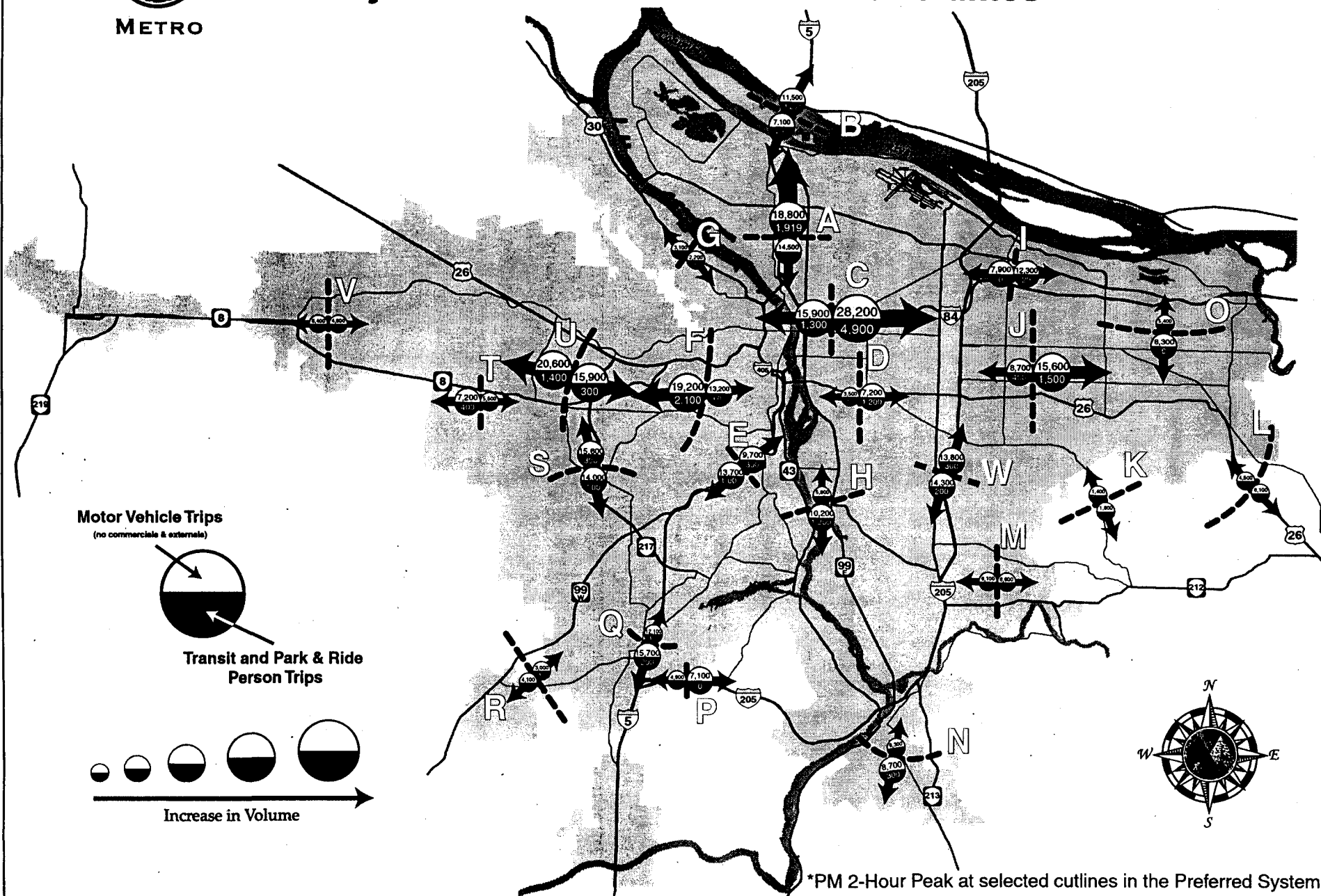


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Figure 5.8

REGIONAL TRANSPORTATION PLAN UPDATE

1994 Major Corridor Auto and Transit Volumes*



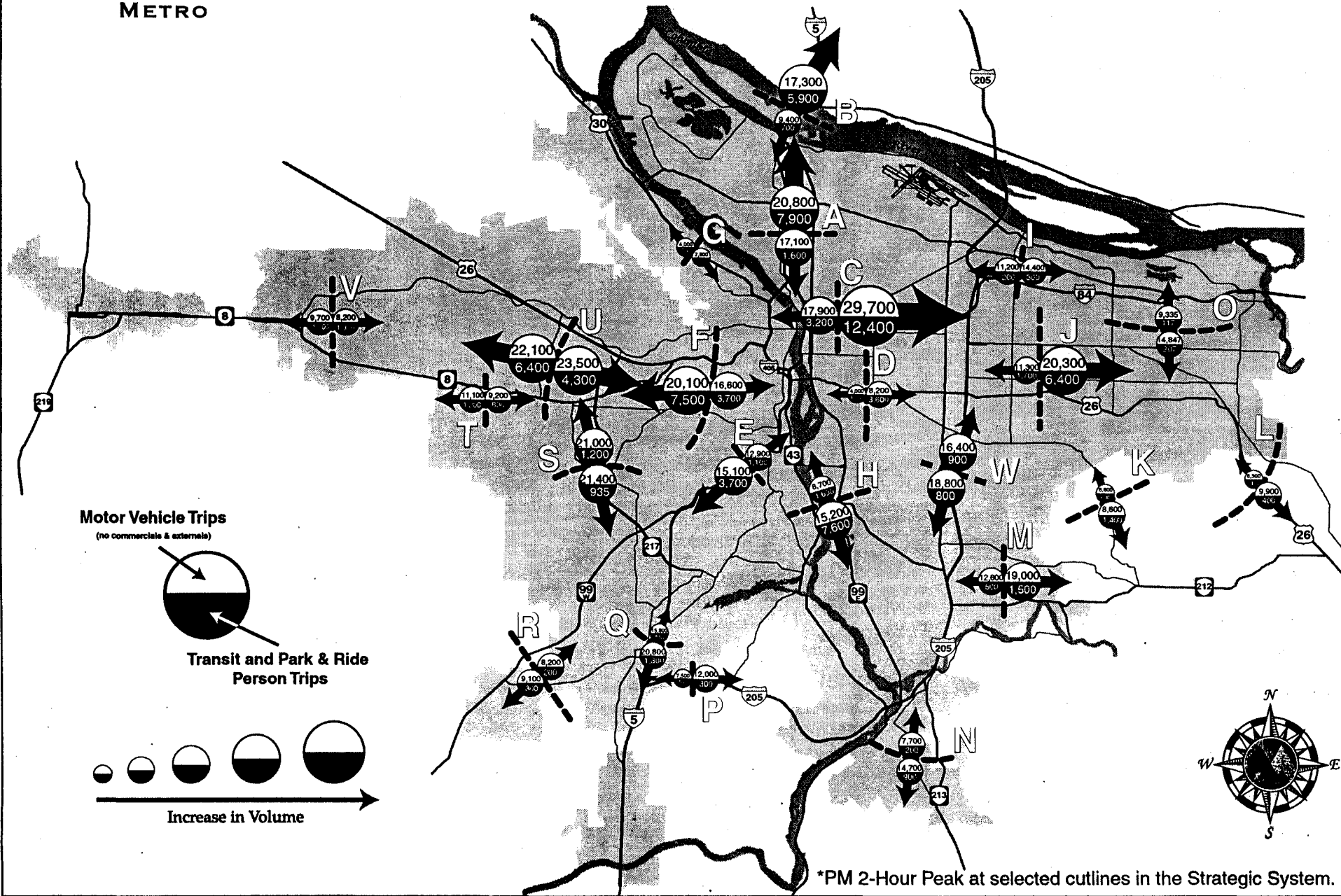


METRO

REGIONAL TRANSPORTATION PLAN UPDATE

Figure 5.9

2020 Major Corridor Auto and Transit Volumes*



5.3.3 Subarea Performance

While, some congestion will remain on the regional transportation system, the 2020 Strategic System adequately meets the overall travel needs of the Portland metropolitan region for the next 20 years. The purpose of the strategic system is to identify the most critical improvements needed to implement the 2040 Growth Concept.

This section summarizes the performance of proposed 2020 Strategic System improvements on the regional transportation system by RTP Subarea. The discussion focuses on differences between the preferred and strategic systems in terms of distinguishing what types of projects were not included in the strategic system and an evaluation of the overall impact of certain improvements on access to the central city, regional centers, industrial areas and intermodal facilities. A map and description of each strategic project is provided for each subarea.

Subarea 1: West Columbia Corridor

Major Differences from the Preferred System

Industrial areas and intermodal facilities represent the majority of land-use types in this subarea. As primary land-use components in the 2040 Growth Concept, these areas in the West Columbia Corridor subarea are a focus of many strategic system improvements, and nearly all preferred system projects are represented in the strategic network. Exceptions include several seismic retrofit projects and an interchange improvement at 33rd Avenue on Northeast Portland Highway. In addition, for the purpose of RTP modeling and analysis, a number of surrogate improvements to I-5 were assumed, but did not relieve the heavy travel demand and corresponding two-hour peak period congestion that is expected to exist between North Lombard and the Interstate Bridges. As a result, assumptions for I-5 north of I-405 and the Interstate Bridge vary between the preferred and strategic systems. The preferred system assumed widening I-5 North to four lanes in each direction from Marine Drive to SR 14 in Clark County, Wash. The strategic system, in contrast, assumed widening I-5 North to three lanes in each direction from Lombard Street to SR 14 in Clark County, Wash, with a reversible HOV lane on the Interstate Bridge. The I-5 Trade Corridor Study will evaluate different capacity and transit improvements for this corridor and will make recommended for inclusion in the Regional Transportation Plan. See Chapter 6 for more detail on the scope of the corridor study.

How the Strategic System Performed

Performance of the strategic system in the West Columbia Corridor subarea varies little from the preferred system, largely because the two systems are nearly identical in terms of the assumptions for this subarea. I-5 North experiences slightly less congestion in the strategic when compared to the preferred system, reflecting lower traffic volumes in that corridor during the evening two-hour peak period.

Other areas of significant congestion are in the vicinity of Portland International Airport, along 82nd Avenue and in the Portland International Center, and Marine Drive and Northeast Portland

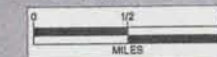
Highway from 33rd Avenue to I-205. A number of new connections and capacity improvements are assumed in the vicinity of the Airport, and are adequate to meet most of the expected travel demand in 2020. Refinement planning for Northeast Portland Highway is identified in Chapter 6, which will define additional improvements to address congestion in this corridor by creating a more stream-lined highway connection from the Rivergate industrial area to I-205 along the Columbia boulevard/Lombard Street/Killingsworth Street corridor.

Transit service in the West Columbia Corridor subarea is mostly limited to bus and light rail service to Portland Airport. Transit coverage in this subarea did not vary from the preferred system, although both bus and light rail service are less frequent. Transit ridership to and from the subarea is expected to be somewhat lower than the preferred system, as a result.

Figure 5.10 shows a map of the subarea that identifies projects and programs included in the strategic system. Following the map is a brief description of each project.

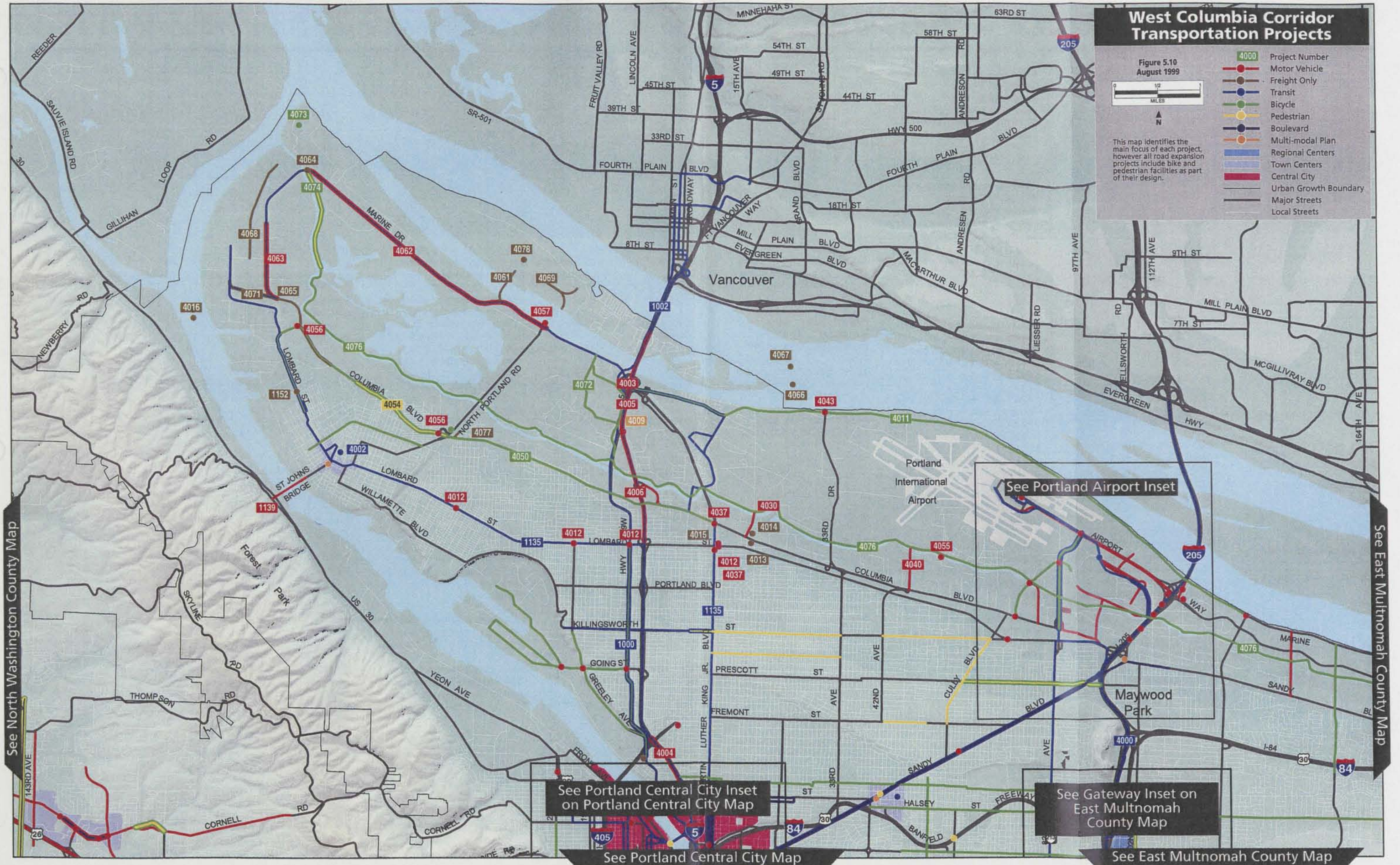
West Columbia Corridor Transportation Projects

Figure 5.10
August 1999



This map identifies the main focus of each project, however all road expansion projects include bike and pedestrian facilities as part of their design.

- 4000 Project Number
- Motor Vehicle
- Freight Only
- Transit
- Bicycle
- Pedestrian
- Boulevard
- Multi-modal Plan
- Regional Centers
- Town Centers
- Central City
- Urban Growth Boundary
- Major Streets
- Local Streets



See North Washington County Map

See East Multnomah County Map

See Portland Airport Inset

See Portland Central City Inset on Portland Central City Map

See Gateway Inset on East Multnomah County Map

See Portland Central City Map

See East Multnomah County Map

Priority projects by area



Columbia Corridor 2000-2005

1139 St. Johns Bridge Restoration

Complete restoration improvements to the bridge.

1152 I-5 Freight Mobility Study

Study to identify improvements to N. Lombard Street to provide better truck access to Rivergate and protect adjacent neighborhoods from freight truck traffic.

4011 NE Marine Drive Bikeway

Retrofit existing street with bike lanes from I-5 to 122nd Avenue to improve access to the Columbia Corridor.

4013 US 30 Bypass – Phase 1 Refinement Study

Study to refine long-term improvements defined in the Columbia Corridor Study, including consideration of additional system and access management strategies.

4014 US 30 Bypass Study – Phase 2

Study to define improvements needed to support US 30 Bypass as a long-term primary freight route from I-5 to I-84.

4015 US 30 Bypass Improvements Study

Study to define improvements needed for better transition of freight movement from Lombard Street to Columbia Boulevard within the US 30 Bypass corridor.

4012 N./NE Lombard/ Killingsworth Traffic Management Improvements

Implement comprehensive traffic management plan in the corridor to improve traffic flow. This project includes better signalization at MLK Boulevard, Interstate Avenue; Greeley Avenue, Portsmouth Avenue and Philadelphia Avenue message signs; fiber optic interconnection and communication with the city of Portland's central management computer.

4016 North Willamette Crossing Study

Future study to determine the need for a new bridge from US 30 to the Rivergate industrial area.

2010-2020

4072 N. Force/Broadacre/ Victory Bikeway

Provide a signed bikeway connection to the I-5 river crossing.

Portland International Airport Industrial Area 2000-2005

4020 Airport Way Improvements, East

Widen Airport Way to three lanes in both directions from 82nd Avenue to I-205.

4022 East End Connector

Construct an at-grade intersection connection from Columbia Boulevard at 82nd Avenue to US 30 Bypass/I-205 interchange and widen I-205 southbound on-ramp at Columbia Boulevard. This project is intended to better distribute traffic between Columbia Boulevard and Lombard Street.

4024 Alderwood Road Extension

Construct a three-lane extension of Alderwood Road to Clark Road.

4025 International Park- way Extension – Phase 1

Construct a three-lane extension of International Parkway to Cascade Avenue.

4026 Cascades Parkway Connection

Construct a two-lane connection between Cascades Parkway and Alderwood Road.

4027 Airport Way/Cascade Grade Separation

Construct a grade-separated crossing at the intersection of Airport Way and Cascade Avenue and widen Airport Way to four lanes in each direction from a new overcrossing to I-205.

4030 NE 11/13th Avenue Connector

Construct a new three-lane roadway and bridge at Columbia Boulevard.

4032 Airport Way Terminal Entrance Roadway Relocation

Relocate and widen Airport Way at the terminal entrance to maintain access and circulation in the terminal area.

4037 Columbia and Lombard Intersection Improvements

Widen turn lanes at the intersection of MLK and Columbia boulevards and MLK Boulevard and Lombard Street.

4038 82nd Avenue/ Alderwood Road Improvement

Modify the traffic signal at the intersection of 82nd Avenue and Alderwood Road and construct a right turn lane on southbound 82nd Avenue and a second right turn lane on westbound Alderwood Road.

4040 47th Avenue Intersection and Roadway Improvements

Widen and reconfigure intersection at 47th Avenue and Columbia Boulevard to better facilitate truck turning movements to the cargo area located within the airport area.

4041 Columbia Boulevard/ Alderwood Improvements

Widen and signalize the intersection at Alderwood Road and Columbia Boulevard to better facilitate truck turning movements to the cargo area located within the airport area.

4042 Cornfoot Road Intersection Improvement

Widen turn lanes and signalize the intersection at Alderwood Road and Cornfoot Road.

4049 NE 82nd Avenue Bikeway

Retrofit the existing street with bike lanes from Columbia Boulevard to Airport Way to improve access to the Columbia Corridor.

4053 Pedestrian and Bicycle Access Improvements

Improve pedestrian and bicycle connections to the airport terminal.

4054 N. Columbia Pedestrian Improvements – Phases 1 and 2

Construct sidewalks and safer pedestrian crossings.

4055 Airtrans/Cornfoot Intersection Improvement

Signalize the intersection and reconfigure traffic flow to provide efficient movement of traffic to adjacent properties.

4057 N./NE Marine Drive Traffic Management Improvements

Implement comprehensive traffic management plan in the corridor to improve traffic flow. This project includes three new traffic signals between N. Portland Road and 185th Avenue, better signalization, message signs, fiber optic interconnection and communication with the city of Portland's central management computer.

4058 NE Airport Way Traffic Management Improvements

Implement comprehensive traffic management plan in the corridor to improve traffic flow. This project includes three new traffic signals between I-205 and 158th Avenue, better signalization, message signs, fiber optic interconnection and communication with the city of Portland's central management computer.

4059 82nd Avenue Pedes- trian Improvements

Construct sidewalks from Airport Way to Alderwood Road.

2006-2010

4021 Airport Way Improvements, West

Widen Airport Way to three lanes in both directions from 82nd Avenue to the airport terminal.

4023 Marx Drive Extension

Construct a two-lane extension of Marx Drive to 82nd Avenue.

4043 33rd/Marine Drive Intersection Improvement

Signalize the intersection at 33rd Avenue and Marine Drive.

This digital rendering shows the proposed new marine cargo complex on West Hayden Island including the new bridge access proposed in the Regional Transportation Plan.

Light rail to the airport is already under construction and will provide passenger service from Gateway to the main terminal (as shown in this rendering.)

4046 NE Alderwood Bikeway

Retrofit the existing street with bike lanes from Columbia Boulevard to Alderwood trail to improve access to the Columbia Corridor industrial and employment areas.

4050 N./NE Columbia Boulevard Bikeway

Retrofit the existing street with bike lanes from Lombard Street east to MLK Boulevard to improve access to the Columbia Corridor industrial and employment areas.

4056 Columbia Boulevard – Traffic Management Improvements

Implement comprehensive traffic management plan in the corridor to improve traffic flow. This project includes better signalization between N. Burgard Street and I-205, message signs, fiber optic interconnection and communication with the city of Portland's central management computer.

2011-2020

4028 Airport Way/82nd Grade Separation

Construct a grade-separated overcrossing at the intersection of Airport Way and 82nd Avenue.

4039 NE 92nd Avenue

Improve the street between Columbia Boulevard and Alderwood Road to better facilitate circulation in the Portland International Center development. Scope of project is not fully defined.

Rivergate Industrial Area 2000-2005

4062 Marine Drive Improvement – Phase 1

Reconstructs Marine Drive to five lanes from the Terminal 6/ Marine Drive intersection to 2.5 miles east, including bike lanes, sidewalks and vegetated buffer of adjacent trail and natural resource area from the Columbia Slough to the N. Marine Drive overpass. This project also signalizes the intersection at the Terminal 6 entrance and Marine Drive to improve safety.

4063 N. Lombard Improvements

Widen Lombard Street to four lanes from Purdy Street to Ramsey Street.



4065 South Rivergate Entry Overpass

Construct an overpass from the intersection at Columbia Boulevard and Lombard Street to South Rivergate entrance to separate rail and vehicular traffic.

4066 Columbia River Channel Deepening Study

Study to determine the feasibility of deepening the Columbia River channel from Astoria to Portland.

4068 Rivergate Rail Expansion

Expand railroad capacity in the Rivergate industrial area to increase bulk capacity for mineral and agricultural products and improve train flows within the industrial area.

2006-2010

4061 West Hayden Crossing

Construct new four-lane bridge from Marine Drive to Hayden Island to serve as the primary access to marine terminals on the island.

4069 Hayden Island Rail Access

Increase rail access to Hayden Island.

4070 Additional Tracks – Kenton Line

Construct additional rail tracks for staging of Pacific Northwest unit trains.

4071 Barnes Yard Expansion

Construct additional unit train trackage between Bonneville and Barnes Yards.

4077 Penn Junction Realignment

Realign track configuration and signaling.

4078 West Hayden Island Rail Yard

Construct seven track rail yard on West Hayden Island.

2011-2020

4064 Marine Drive Improvement – Phase 2

Reroute rail tracks and construct an above-grade rail

crossing at the Rivergate West entrance to improve safety and reduce vehicle and rail traffic conflicts.

4067 Columbia River Channel Deepening

Deepen the Columbia River channel to 43 feet from the mouth of the river in Astoria to Portland to better serve the new class of larger container ships.

Regional Highways 2000-2005

4003 I-5 Interstate Bridge and I-5 Widening

Add capacity to the I-5/Columbia River bridge and widen I-5 from Columbia Boulevard to the Interstate Bridge based on final recommendations from I-5 Trade Corridor Study.

4004 I-5 Reconstruction and Widening

Reconstruct and widen I-5 from I-84 to Greeley Avenue in addition to various bridge and ramp improvements along this section of I-5 to improve access to the Lloyd District and Rose Quarter.

4005 I-5 North Improvements

Widen I-5 to three lanes in each direction from Lombard Street to the Expo Center exit.

4009 I-5 Trade Corridor Study

Study to define an appropriate mix of improvements from I-405 to I-205, including adding capacity and transit service within the corridor.

2006-2010

2068 I-205 Direct Ramp

Redesign the I-205 off-ramp at Airport Way.

4006 I-5/Columbia Boulevard Improvement

Construct a full diamond interchange at I-5 and Columbia Boulevard.

4008 I-205 North Corridor Study

Develop a long-term traffic management plan for I-205 from I-84 to the Columbia River to limit congestion and improve traffic flow.

2011-2020

2069 I-205 Interchange Improvement

Construct a new I-205 northbound on-ramp from Airport Way.

2070 I-205 Interchange Improvement

Widen the existing I-205 southbound on-ramp from Airport Way.

2071 I-205 Auxiliary Lane

Construct new north- and southbound auxiliary lanes from Airport Way to Columbia Boulevard.

2072 I-205 Auxiliary Lane

Construct new north- and southbound auxiliary lanes from I-84 to Columbia Boulevard.

Regional Transit

The projects listed in the Regional Transit section identify major transit capital projects and other improvements that enhance rapid bus and frequent bus service. Capital improvements for rapid bus routes and stations would include transit preferential treatments such as queue-by-pass lanes and signal preemption, park-and-ride facilities, possible off-street station areas and station amenities such as schedule information, ticket machines, lighting, benches, covered shelters and bicycle parking. Capital improvements for frequent bus routes and stations would include transit preferential treatments such as signal preemption and passenger amenities such as schedule information, covered shelters, curb extensions, lighting and benches. (See Transit Service Strategy fact sheet for additional information on transit service.)

2000-2020

1000 and 1002 Light Rail Expansion

Extend light rail service from the Rose Quarter transit center north to the Portland Metropolitan Exposition Center and then potentially to Vancouver, Wash.

4002 Transit Station and Park-and-Ride Lot Upgrades

Construct, expand and/or upgrade transit stations and park-and-ride lots throughout the subarea, including facilities in St. Johns, Linnton, Parkrose and Kenton.

2000-2005

4000 Airport Light Rail

Complete new light rail transit service from Gateway regional center to the Portland International Airport terminal.

4019 Light Rail Station/Track Realignment

Constructs new light rail station in conjunction with development of the Portland International Center.

2006-2010

1135 MLK/Lombard Frequent Bus

Provide capital improvements that enhance new frequent bus service along MLK Boulevard and Lombard Street from downtown Portland to St. Johns.

4001 Killingsworth Frequent Bus

Provide capital improvements that enhance new frequent bus service along Killingsworth Street from Swan Island to the Clackamas regional center.

Regional Trails 2000-2005

4073 Kelley Point Park Access Trail/40 Mile Loop Trail

Construct a multiuse trail for bicycles and pedestrians along the north bank of the Columbia Slough.

4074 Rivergate Bicycle and Pedestrian Trail

Construct a multiuse trail for bicycles and pedestrians along the Columbia Slough in the Rivergate area.

4076 Columbia Slough Greenway Trail Study

Future study to determine the feasibility of constructing a multiuse trail from Kelley Point Park to Blue Lake Regional Park.

Subarea 2: Portland Central City and Neighborhoods

Major Differences from the Preferred System

The Portland central city makes up the bulk of this subarea. As a primary land-use component in the 2040 Growth Concept, the Portland central city is a focus of many strategic system improvements, and nearly all preferred system projects are represented in the strategic network. Examples of projects not included in the strategic system include: Belmont Avenue ramp improvements, some eastside bikeways, several traffic management enhancements, several seismic retrofit projects, pedestrian access-to-transit projects along outer-eastside mainstreets such as Division Street and 82nd Avenue and bikeways connecting southwest Portland neighborhoods to adjacent town centers.

The grid network of transit lines in Portland will be expanded and strengthened by the transit projects and programs proposed to serve this area during the next 20 years. Transit service in this subarea includes frequent and rapid bus service and light rail, extending north to the Portland Metropolitan Exposition (Expo) Center and south to the Clackamas regional center from the Rose Quarter transit center, and then potentially to Clark County, Wash. Recommendations from the South Corridor Transportation Alternatives Study will be incorporated in to the Regional Transportation Plan when adopted. In the interim, light rail to Clackamas regional center is recommended for the strategic with an interim strategy of rapid bus service until light rail service can be provided. The central city street car was not extended to the North Macadam area in the strategic system. Transit coverage in this subarea did not vary from the preferred system, although both bus and light rail service are less frequent.

How the Strategic System Performed

Overall, differences between preferred and strategic system do not significantly affect access to Portland central city or adjacent town centers. System management strategies and transit, bike and pedestrian projects are expected to adequately address the transportation needs of Portland central city and inner southeast Portland neighborhoods, which are designated as Areas of Special Concern in Chapter 1 of this plan. Light rail service in combination with capacity improvements to Highway 99E/224 provides an adequate alternative to congested 99E/Highway 224 corridor, and provides high-quality transit access to central city. Highway 224 experiences slightly more congestion in the vicinity of the Ross Island and Sellwood bridges in the strategic system when compared to the preferred system during the evening two-hour peak period.

Bicycle access to the Portland central city and southwest town centers would likely be affected on major routes like Barbur Boulevard, Macadam Avenue and Powell Boulevard as a result of several southwest Portland bikeways being not included in the strategic system. However, access to the Portland central city via slower, lower-traffic volume routes like Russell Street, Fremont Street or Boones Ferry Road is not expected to be affected.

Figure 5.11 shows a map of the subarea that identifies projects and programs included in the strategic system. Following the map is a brief description of each project.

Figure 5.11
August 1999

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This map identifies the main focus of each project, however all road expansion projects include bike and pedestrian facilities as part of their design.

-
- 1000 Project Number
 - Motor Vehicle
 - Freight Only
 - Transit
 - Bicycle
 - Pedestrian
 - Boulevard
 - Multi-modal Plan
 - Regional Centers
 - Town Centers
 - Central City
 - Urban Growth Boundary
 - Major Streets
 - Local Streets

See Portland
Airport Inset Or
West Columbia
Corridor Map

See West Columbia Corridor Map

See Portland Central City Inset

See Gateway Inset on
East Multnomah
County Map

See Beaverton
Inset on North
Washington
County Map

See Washington
Square Inset on
South Washington
County Map

See South Washington County Map

See East Multnomah County Map

See Pleasant Valley and Damascus Map

See Urban Clackamas County Map

See North Washington County Map

Hillsdale Town Center 2000-2005

1168 Hillsdale Intersection Improvements

Redesign the intersection at Beaverton-Hillsdale Highway, Capitol Highway and Bertha Boulevard to improve safety.

1172 SW Bertha Bikeway Improvements

Widen street from Vermont Street to Beaverton-Hillsdale Highway to construct bicycle lanes.

1174 and 1175 Capitol Highway Pedestrian and Bicycle Improvements

Construct bicycle lanes, sidewalks and better crossings for pedestrian and bicycle safety and improve access to transit.

2006-2010

1177 SW Sunset Pedestrian and Bicycle Improvements

Construct bicycle lanes, sidewalks and crossing improvements for pedestrian and bicycle safety and improve access to transit.

1181 Beaverton-Hillsdale Highway Traffic Management Improvements

Implement comprehensive traffic management plan along Beaverton-Hillsdale Highway to limit traffic congestion and improve traffic flow. This project includes better signalization, message signs, fiber optic interconnection and communication with the city of Portland's central management computer.

2011-2020

1169 SW Vermont Bikeway - Phase 1 and 2

Retrofit existing street with bicycle lanes from Oleson Road to Terwilliger Boulevard to improve access to the town center.

1171 SW 30th Avenue Bikeway

Retrofit existing street from Beaverton-Hillsdale Highway to Vermont Street with bicycle lanes to improve access to the town center.

1176 SW Beaverton-Hillsdale Highway Pedestrian and Bicycle Improvements

Retrofit existing street from Capitol Highway to 65th Avenue to include better sidewalks and crossings, bicycle lanes and other improvements that enhance access to transit such as curb extensions.

Raleigh Hills Town Center 2000-2005

1189 SW 62nd Avenue at Beaverton-Hillsdale Highway

Install a median refuge to make it safer for pedestrians to cross Beaverton-Hillsdale Highway.

2006-2010

1184 Beaverton-Hillsdale Highway/Scholls Redesign

Redesign Beaverton-Hillsdale Highway and Scholls Ferry Road intersection to improve safety for all modes of travel.

1185 Oleson Road Improvements

Upgrade existing street to urban standards from Fanno Creek to Hall Boulevard. This project involves constructing bicycle lanes and sidewalks where they do not currently exist and providing lighting, better crossings, bus shelters, benches and a new traffic signal at 80th Avenue.

2011-2020

1186 Scholls Ferry Bikeway

Retrofit existing street with bicycle lanes from Beaverton-Hillsdale Highway to the Multnomah County line to improve access to the town center.

West Portland Town Center 2000-2005

1193 West Portland Town Center Safety Improvements

Construct safety improvements, including traffic signals at the intersection of Capitol Highway, Taylors Ferry Road, Huber

Street and Barbur Boulevard, and better sidewalks and crossings.

1195 Barbur Boulevard Design

Retrofit existing street from Terwilliger Boulevard to south Portland city limits to include better sidewalks, curb extensions and safer street crossings.

1198 SW Taylors Ferry Bikeway

Retrofit existing street from Capitol Highway to city limits to include bicycle lanes and will involve widening the shoulder and drainage improvements.

1200 Pedestrian Overpass near Markham School

Construct a pedestrian crossing over I-5 connecting SW Alfred Street and 52nd Avenue.

1202 SW Capitol Highway Pedestrian and Bicycle Improvements

Retrofit existing street from Multnomah Boulevard to Taylors Ferry Road to construct bicycle lanes, sidewalks and safer street crossings for pedestrian and bicycle safety and to improve access to transit.

1206 West Portland I-5 Crossings Study

Study to identify possible new connections over I-5 to serve motor vehicle, pedestrian and bicycle travel.

2006-2010

1245 Capitol Highway - Phase 2

Implement West Portland town center study recommendations.

2011-2020

1201 West Portland Town Center Pedestrian District

Retrofit Barbur Boulevard and Capitol Highway and intersecting streets within the town center to include better sidewalks and crossings, curb extensions, bus shelters and benches.

Portland Main Streets 2000-2005

1211 Garden Home/Oleson/Multnomah Improvements

Reconstruct intersection and provide better sidewalks and crossings to improve access to town center from Multnomah Boulevard to 71st Avenue.

1214 Division Street Transit Improvements - Phase 1

Construct improvements that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as traffic signals, better lighting, bus shelters, benches and crossings.

1217 Multnomah Pedestrian District

Construct improvements in Multnomah along Capitol Highway and Multnomah Boulevard that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as traffic signals, better lighting, bus shelters, benches and crossings.

1219 Belmont Pedestrian Improvements

Identify improvements along Belmont from 12th to 43rd Avenue that enhance pedestrian access to transit, improve safety and enhance the street-scape, such as traffic signals, better lighting, bus shelters, benches and crossings.

1220 Fremont Pedestrian Improvements

Identify improvements along Fremont from 42nd Avenue to 52nd Avenue that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as traffic signals, better lighting, bus shelters, benches and crossings.

1221 Killingsworth Pedestrian Improvements

Identify improvements along Killingsworth from Williams to 33rd and 42nd to Cully that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as traffic signals, better lighting, bus shelters, benches and crossings.

1223 NE Alberta Pedestrian Improvements

Construct improvements along Alberta from MLK Boulevard to 33rd Avenue that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as traffic signals, better lighting, bus shelters, benches and crossings.

1224 NE Cully/57th Pedestrian and Bicycle Improvements

Construct improvements that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as traffic signals, better lighting, bus shelters, benches and crossings.

1227 SE Tacoma Main Street TGM Study

TGM study to identify boulevard-type improvements from Sellwood to McLoughlin Boulevard that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as traffic signals, better lighting, bus shelters, benches and crossings.

1229 SE Woodstock Main Street

Study to identify improvements along Woodstock from 39th to 49th Avenue that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as better lighting, bus shelters, benches and crossings.

1239, 1240 and 1242 Traffic Management Improvements

Implement comprehensive traffic management plan along Sandy Boulevard, 82nd Avenue and MLK/Interstate Avenue to limit traffic congestion and improve traffic flow. These projects include traffic count stations, better signalization, message signs, fiber optic interconnection and communication with the city of Portland's central management computer.

1247 SE Holgate Bikeway – Phase 1

Stripe bicycle lanes along street from 42nd Avenue to the Portland city limits.

1253 NE Prescott Pedestrian and Bicycle Improvements

Construct bicycle lanes, sidewalks and crossing improvements for pedestrian and bicycle safety and to improve access to transit.

1264 Ventura Park Pedestrian District

Retrofit existing streets along eastside MAX to include better sidewalks and crossings, curb extensions, bus shelters and benches at major transit stops.

2006-2010

1231 Tacoma Street Traffic Management

Implement comprehensive traffic management along Tacoma Street to limit traffic congestion and improve traffic flow. These projects include better signalization, message signs, fiber optic interconnection and communication with the city of Portland's central management computer.

2011-2020

1222 SE Milwaukie Pedestrian Improvements

Identify improvements along Milwaukie from Yukon Street to Tacoma Street that enhance pedestrian access to transit, improve safety and enhance the streetscape, such as traffic signals, better lighting, bus shelters, benches and crossings.

Banfield Station Communities

2006-2010

1263 Banfield Pedestrian Improvements

Retrofit existing streets along eastside MAX and at intersecting streets to include better sidewalks and crossings, curb extensions, bus shelters and benches.

Willamette River Bridges

2000-2005

1005, 1006 and 1007 Willamette River Bridges Rehabilitation

These projects provide a range

of improvements to the Broadway, Burnside Morrison and Sauvie Island bridges, including sidewalk repair, deck replacement, painting and lift span repair.

1077 Caruthers Bicycle/ Pedestrian Bridge

If a new light rail bridge is constructed across the Willamette River, include bike/ pedestrian facilities to connect to downtown.

1079 Steel Bridge Pedestrian Way (RATS Phase 1)

Construct bicycle and pedestrian overcrossing to improve access to the Steel Bridge and the East Bank esplanade.

2006-2010

1012 Sellwood Bridge

Implement South Willamette River Crossing Study recommendations for the Sellwood Bridge.

1013 Willamette River Bridges Accessibility Project

Relocate light poles at the Sellwood Bridge.

1062 Willamette River Bridges Accessibility Project

Improve bicycle and pedestrian access to the Morrison Bridge.

1075 Willamette River Bridges Accessibility Project

Improve bicycle and pedestrian access to the Burnside Bridge.

1139 St. Johns Bridge Restoration

Complete restoration improvements to the bridge.

Regional Transit

The projects listed in the Regional Transit section identify major transit capital projects and other improvements that enhance rapid bus and frequent bus service. Capital improvements for rapid bus routes and stations would include transit preferential treatments such as queue-by-pass lanes and signal

preemption, park-and-ride facilities, possible off-street station areas and station amenities such as schedule information, ticket machines, lighting, benches, covered shelters and bicycle parking. Capital improvements for frequent bus routes and stations would include transit preferential treatments such as signal preemption, and passenger amenities such as schedule information, covered shelters, curb extensions, lighting and benches. (See Transit Service Strategy fact sheet for additional information.)

2000-2020

1000, 1001 and 1002 Light Rail Expansion

Extend light rail service from the Rose Quarter transit center north to the Portland Metropolitan Exposition Center and south to Clackamas regional center, then potentially to Vancouver, Wash. Provide interim bus service along McLoughlin Boulevard and Highway 224 from Clackamas regional center to the Portland central city until light rail service can be provided in this corridor.

1011 Transit Station and Park-and-Ride Upgrades

Expand and/or upgrade transit stations and park-and-ride lots in various locations, including the River District, St. Johns, Lents, Hollywood, Parkrose, Hillsdale and Barbur transit centers.

2000-2005

1015 Central City Streetcar

Construct streetcar between Portland State University and Good Samaritan Hospital.

1019 Barbur Boulevard Rapid Bus

Provide improvements that enhance rapid bus service along Barbur Boulevard from downtown Portland to Tigard.

1046 Transit Mall Restoration

Provide improvements to transit mall in downtown Portland in conjunction with construction of light rail transit.

**1228 Powell Boulevard/
Foster
Road High-Capacity Transit
Corridor Study** Study the
potential for high-capacity
transit service or other improve-
ments from the Ross Island
Bridge to Damascus town
center to address travel demand
in the corridor.

**1232 NW 23rd/Mt. Tabor
Frequent Bus** Provide
improvements that benefit new
frequent bus service along
Belmont connecting to NW
23rd Avenue.

2006-2010

**1118 Sandy Boulevard
Frequent Bus** Provide capital
improvements that enhance
frequent bus service along
Sandy Boulevard.

**1135 MLK/Lombard
Frequent Bus**
Provide capital improvements
that enhance new frequent bus
service along MLK Boulevard
and Lombard Street from
downtown Portland to St.
Johns.

**1233 Hawthorne Boule-
vard Frequent Bus** Provide
improvements that enhance new
frequent bus service along
Hawthorne Boulevard.

**1241 Grand Avenue/MLK
Boulevard Frequent Bus**
Construct improvements that
enhance frequent bus service,
such as timing of traffic signals
and restriping travel lanes.

**2025 Division Street
Frequent Bus**
Provide capital improvements
that benefit frequent bus service
along Division Street from
downtown Portland to
Gresham.

**7023 Powell/Foster
Corridor Rapid Bus** Provide
improvements that enhance new
rapid bus service along Powell/
Foster corridor from downtown
Portland to Damascus.

Regional Trails
2006-2010

**1009 Springwater Trail
Connection** Construct
multiuse path designed for
bicycle and pedestrian use from
the Sellwood Bridge to the
Springwater Corridor trail.

Subarea 3: East Multnomah County

Major Differences from the Preferred System

The Gresham and Gateway regional centers and the east Columbia Corridor are included in this subarea. As primary land-use components of the 2040 Growth Concept, these areas are the focus of many strategic system improvements, and nearly all preferred system projects are represented in the strategic network. Examples of projects located outside of these areas that were not included in the strategic system include:

- Troutdale interchange improvements on I-84
- Sandy Boulevard overpass at I-84
- reconstruction of Hogan Road from Stark to Burnside streets,
- localized capacity improvements to address bottlenecks on Division Street (east of 257th Avenue), 162nd, 201st, Halsey, Glisan, Palmquist and Orient roads
- bicycle lanes on Glisan Street
- extension of 207th Avenue to Airport Way
- extension of Marine Drive from I-84 to Halsey Street
- pedestrian and bike improvements in the Fairview/Wood Village town center, and along Sandy Boulevard, Columbia River Highway, Troutdale Road and 174th Avenue
- a study to develop Edgefield as an intermodal facility

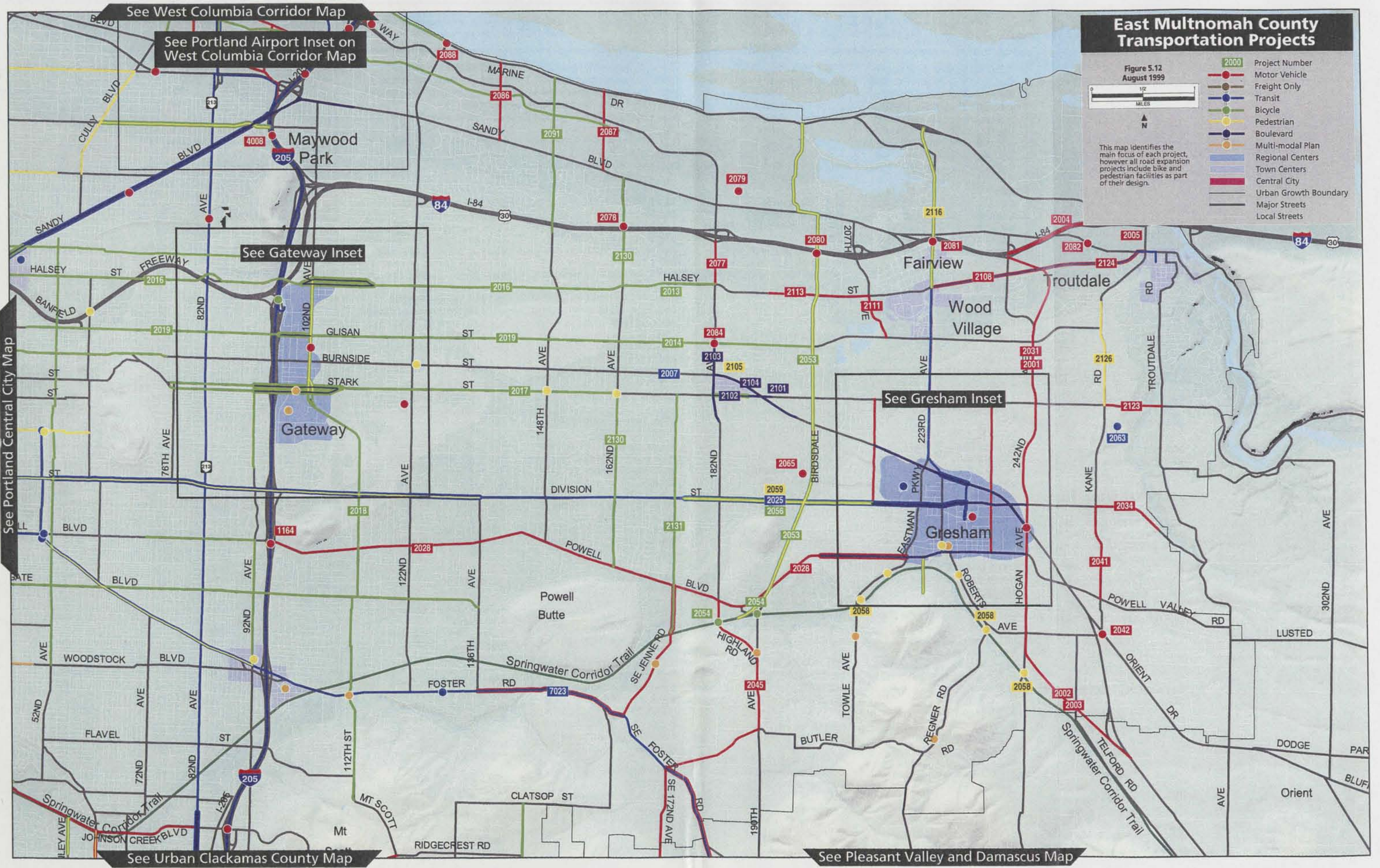
Transit service in the East Multnomah County subarea included frequent bus service and light rail. Transit coverage in this subarea did not vary from the preferred system, although both bus and light rail service are less frequent.

How the Strategic System Performed

Performance of the strategic system in the East Multnomah County subarea varies little from the preferred system, largely because the two systems are nearly identical in terms of the assumptions for this subarea. Overall, differences between the preferred and strategic system do not significantly affect access to the Gresham regional center. Gateway, in contrast, experiences significant spillover traffic from the Banfield Freeway corridor such that a number of east/west corridors in the Gateway area, including Halsey, Glisan, Burnside, Stark and Division streets experience congestion in both the strategic and preferred systems during the two-hour peak period. As a result, the Gateway regional center has been designated as an Area of Special Concern. See Chapter 6 for more detail on needed refinement planning for the Gateway regional center.

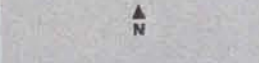
In addition, access to the South Shore industrial areas will likely be affected by not constructing the Marine Drive extension, 207th Extension, Sandy Overpass, I-84/Troutdale interchange, and capacity improvements to 162nd and 201st avenues. As a result, travel demand is expected to shift to routes like 181st and 223rd avenues. Circulation and access to the Troutdale town center does not appear to be limited without the Sandy overpass, Troutdale interchange improvements, capacity improvements to Halsey Street and bicycle and pedestrian upgrades to Columbia River Highway and Troutdale Road.

Figure 5.12 shows a map of the subarea that identifies projects and programs included in the strategic system. Following the map is a brief description of each project.



East Multnomah County Transportation Projects

Figure 5.12
August 1999



This map identifies the main focus of each project, however all road expansion projects include bike and pedestrian facilities as part of their design.

- 2000 Project Number
- Motor Vehicle
- Freight Only
- Transit
- Bicycle
- Pedestrian
- Boulevard
- Multi-modal Plan
- Regional Centers
- Town Centers
- Central City
- Urban Growth Boundary
- Major Streets
- Local Streets

Priority projects by community

Projects to improve traffic circulation and pedestrian crossings are proposed in the heavily traveled Gateway regional center.



Gateway Regional Center 2000-2005

1157 SE 92nd Avenue Bikeway

Retrofit bicycle lanes on existing streets from Stark Street to Lincoln Street and Powell Boulevard to Foster Road.

2012 SE Stark/Washington Improvements

Boulevard retrofit of street from 92nd to 108th Avenue including bike lanes, wider sidewalks, curb extensions and safer street crossings. This project also provides traffic safety improvements and traffic management to limit motorist delays.

2013 Halsey Street Bikeway

Retrofit the existing street with bike lanes from 162nd Avenue to 181st Avenue.

1264 Ventura Park Pedestrian District

Retrofit existing streets along Eastside MAX to include better sidewalks and crossings, curb extensions, bus shelters and benches at major transit stops.

2014 Glisan Street Bikeway

Retrofit the existing street with bike lanes from 162nd Avenue to 202nd Avenue to improve access to the regional center.

2015 NE/SE 102nd/Cherry Blossom Bikeway

Retrofit the existing street with bike lanes from Halsey to Market Street to improve access to the regional center.

2016 NE Halsey/92nd Avenue Bikeway

Retrofit the existing street with bike lanes from 92nd Avenue at Tillamook Street to 102nd Avenue at Halsey Street to Portland city limit to improve access to the regional center.

2017 SE Stark/Washington Bikeway

Retrofit the existing street with bike lanes from 75th Avenue to the Portland city limits (outside of the Gateway regional center) to improve access to the regional center.

2019 NE Glisan Bikeway

Retrofit the existing street with bike lanes from 47th to 162nd Avenue to improve access to the regional center.

2020 Gateway Regional Center Pedestrian District

Retrofit existing streets within the regional center and pedestrian corridors linking to Eastside MAX to include better sidewalks and crossings, lighting, curb extensions, bus shelters and benches.

2021 Gateway Regional Center Transportation Plan

Complete study to identify long-term transportation needs for motor vehicle, truck, bicycle, pedestrian and transit travel in the regional center.

2024 102nd Corridor Safety Project

Provide full signal remodels at Glisan and Halsey streets, minor signal modifications, overhead signing along the corridor and reconfiguring of 102nd at Stark and Washington streets.

2006-2010

2010 Halsey/Weidler Boulevard and Traffic Management Improvements

Boulevard retrofit of these streets within the regional center, including wider sidewalks, curb extensions and crossing improvements, and improving traffic management to limit motorist delays.

2011 Glisan Street Boulevard and Traffic Management Improvements

Boulevard retrofit of the street within the regional center including wider sidewalks, curb extensions and crossing improvements, and improving traffic management to limit motorist delays.

1231 Tacoma Street Traffic Management Improvements

Implement comprehensive traffic management along Tacoma Street to limit traffic congestion and improve traffic flow. These projects include better signalization, message signs, fiber optic interconnection and communication with the city of Portland's central management computer.

2022 Gateway Traffic Management

Implement comprehensive traffic management plan throughout the regional center to reduce cut-through traffic on residential streets and improve traffic flow on regional streets. This project also includes utility improvements.

2023 Gateway Transportation Management Association Startup

Implement a transportation management association program with employers in the regional center.

2011-2020

2018 SE 111th/112th Avenue Bikeway

Retrofit existing streets with bike lanes from Mt. Scott Boulevard to Market Street.

Gresham Regional Center 2000-2005

2041 257th Avenue Improvements

Construct arterial improvements from Division Street to Powell Valley Road including bike lanes, sidewalks, traffic signals, landscaping, lighting and drainage.

2042 257th Avenue Intersection Improvements

Realign the intersection of 257th Avenue/Palmquist Road/US 26 to increase safety for all modes of travel.

2047 Division Street Improvements

Boulevard retrofit of street from Wallula Street to Hogan Road including bike lanes, wider sidewalks, curb extensions and safer street crossings.

2049 Powell Boulevard Improvements

Boulevard retrofit of street from Birdsdale Road to Hogan Road including bike lanes, wider sidewalks, curb extensions and safer street crossings.

2057 Gresham Regional Center Pedestrian and Ped-to-MAX Improvements

Retrofit existing streets within the regional center and pedestrian corridors linking to Eastside MAX to include better sidewalks and crossings, lighting, curb extensions, bus shelters and benches.

2065 Phase 3 Signal Optimization

Implement comprehensive traffic management plan throughout Gresham and Multnomah County to limit traffic congestion and improve traffic flow. This project includes traffic cameras, better signalization, variable message signs, highway advisory radio emitters throughout city and county facilities for detection and management of arterial incidents, especially near I-84.

2006-2010

2028 Powell Boulevard Improvements

Widen the street to five lanes from I-205 to Eastman Parkway including sidewalks and bike lanes.

2035 Cleveland Street Reconstruction

Reconstruct the existing street from Stark Street to Powell Boulevard.

2045 190th/Highland Drive Improvements

Reconstruct and widen the street to five lanes from Butler Road to Powell Boulevard with sidewalks and bike lanes.

2048 Burnside Street Improvements

Complete boulevard retrofit of street from Wallula Street to Hogan Road including bike lanes, wider sidewalks, curb extensions and safer street crossings.

2056 Division Street Bikeway

Retrofit the existing street with bike lanes from 182nd to Wallula Avenue.

2062 Gresham Regional Center Transportation Management Association Startup

Implement a transportation management association program with employers in the regional center.

2011-2020

2031 Hogan Corridor Improvements

Move the regional freight route designation from 181st/Burnside Road to 242nd Avenue from I-84 to US 26 and revise road signs in that corridor.

2032 Burnside/Hogan Intersection Improvement

Improve safety of the intersection by adding a southbound through-lane on Hogan Road.

2036 Wallula Street Reconstruction

Reconstruct the existing street from Division Street to Stark Street.

2059 Division Street Pedestrian-to-Transit Access Improvements

Make street safer for pedestrians and improve access to transit from 175th Avenue to Wallula Avenue with wider sidewalks, lighting, crossings, bus shelters and benches.

Columbia Corridor 2000-2005

2077 181st Avenue Widening

Widen street to three lanes southbound from Halsey Street to eastbound on-ramp at I-84.

2080 202nd Railroad Crossing Improvement

Reconstruct and widen a narrow railroad overcrossing to more safely accommodate motor vehicles, trucks, buses, pedestrians and bicycles.

2081 223rd Railroad Crossing Improvement

Reconstruct and widen a narrow railroad overcrossing to more safely accommodate motor vehicles, trucks, buses, pedestrians and bicycles.



2086 NE 138th Avenue Improvements

Replace the deteriorating timber bridge to improve safety and access to the Columbia Corridor industrial and employment areas.

2087 NE 158th Avenue Improvements

Upgrade the existing street to urban standards from Sandy Boulevard to Marine Drive. This project addresses storm drainage issues and includes constructing bike lanes, sidewalks and a bridge to replace culverts along the Columbia Slough.

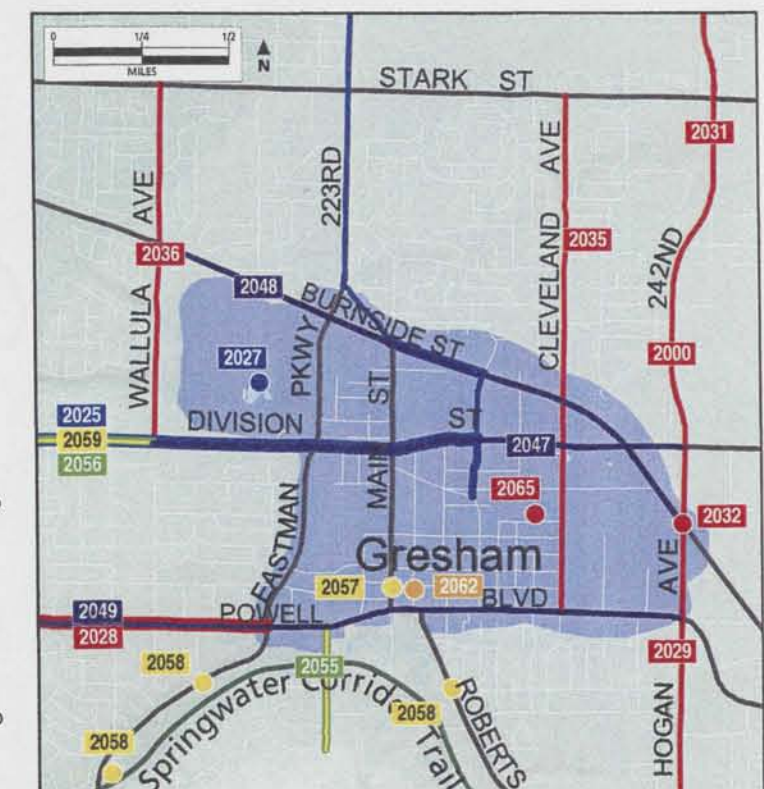
2088 NE Marine Drive/122nd Avenue Improvements

Add a traffic signal to the intersection and widen the dike to install a left turn lane on Marine Drive.

2006-2010

2091 NE/SE 148th Avenue Bikeway

Retrofit the existing street with bike lanes from Marine Drive to I-84 multiuse path.



The Division Street "boulevard" project is designed to link the new Gresham civic neighborhood with the historic downtown district and is the centerpiece of the regional center plan. The first phase of this project received funding in 1999.

2011-2020

2079 185th Railroad Crossing Improvement

Reconstruct and widen a narrow railroad overcrossing to more safely accommodate motor vehicles, trucks, buses, pedestrians and bicycles.

2082 Columbia River Highway Railroad Crossing Improvement

Reconstruct and widen a narrow railroad overcrossing to more safely accommodate motor vehicles, trucks, buses, pedestrians and bicycles.

2084 181st Avenue Intersection Improvement

Improves the intersection of 181st Avenue and Glisan Street.

2085 181st Avenue Intersection Improvement

Improve the intersection of 181st Avenue and Burnside Road.

Rockwood Town Center 2000-2005

2104 Burnside Road Boulevard Improvements

Complete the boulevard retrofit of the street from 181st Avenue to 197th Avenue including bike lanes, wider sidewalks, curb extensions and safer street crossings.

2006-2010

2101 Stark Street Improvements

Complete the boulevard retrofit of the street from 190th Avenue to 197th Avenue including bike lanes, wider sidewalks, curb extensions and crossing improvements.

2102 Stark Street Improvements

Complete the boulevard retrofit of the street from 181st Avenue to 190th Avenue including bike lanes, wider sidewalks, curb



extensions and crossing improvements.

2103 181st Avenue Improvements

Complete the boulevard retrofit of street from Glisan Street to Yamhill Street including bike lanes, wider sidewalks, curb extensions and safer street crossings.

Fairview-Wood Village Town Center 2000-2005

2108 Halsey Street Improvements - Wood Village

Widen the street to three lanes from 223rd Avenue to 238th Avenue including sidewalks and bike lanes.

2111 207th Connector

Complete the project currently under construction along 207th Avenue.

2113 Halsey Street Improvements

Widen the street to three lanes from 190th Avenue to 207th Avenue with sidewalks and bike lanes.

2006-2010

2116 NE 223rd Avenue Bikeway and Pedestrian Improvements

Retrofit the existing street with bike lanes and sidewalks from Halsey Street to Marine Drive.

2011-2020

2105 Rockwood Town Center Pedestrian and Ped-to-MAX Improvements

Retrofit the existing streets within the town center and pedestrian corridors linking to Eastside MAX to include better sidewalks and crossings, lighting, curb extensions, bus shelters and benches.

Troutdale Town Center 2000-2005

2123 Stark Street Improvements

Widen the street to five lanes from 257th Avenue to Troutdale Road including sidewalks and bike lanes.

2126 257th Avenue Pedestrian Improvements

Retrofit existing street from Cherry Park Road to Stark Street to widen sidewalks, move overhead utilities underground and install a raised median, traffic signals, lighting and landscaping.

2006-2010

2124 Halsey Street Improvements

Widen to three lanes with a boulevard design from 238th to 257th Avenue including bike lanes, wider sidewalks, curb extensions and safer street crossings.

Burnside Station Communities 2000-2005

2130 162nd Avenue Bikeway

Retrofit the existing street with bike lanes from Sandy Boulevard to Halsey Street and Stark Street to Powell Boulevard.

Regional Highways 2000-2005

2000 Hogan Corridor Improvements

Widen the street from Stark Street to Palmquist Road and implement access management strategies.

2001 Hogan Corridor Improvements

Construct a new interchange at I-84, extending new interchange connection south to Stark Street.

2002 I-84/US 26 Connector Right-of-Way Preservation

Preserves right-of-way for future construction of a principal arterial connection along the 242nd Avenue corridor from Palmquist Road to US 26.

2006-2010

4008 I-205 North Corridor Study

Develop a long-term traffic management plan for I-205 from I-84 to Columbia River to limit congestion and improve traffic flow.

1164 I-205 Ramp Study

Study possible I-205 ramp improvements at Powell Boulevard and Foster Road.

2011-2020

2003 Hogan Corridor Improvements

Construct a new four-lane principal arterial from Palmquist Road to US 26.

2004 I-84 Widening

Widens I-84 to six lanes from 238th Avenue to the Sandy River Bridge.

Subarea 4: Damascus/Pleasant Valley

Major Differences from the Preferred System

Performance of the strategic system in the Pleasant Valley/Damascus area varies little from the preferred system, largely because the two systems are nearly identical in terms of the assumptions for this subarea. A project to widen 242nd Avenue from Gresham regional center to Highway 212 was not included in the strategic system. In addition, for the purpose of RTP modeling and analysis, a number of surrogate collector and arterial street network improvements to this subarea were assumed, but did not relieve the heavy travel demand and corresponding two-hour peak period congestion that is expected to exist in this area. As a result, assumptions for Foster Road vary between the preferred and strategic systems. The preferred system assumed widening Foster Road to five lanes from 136th Avenue to Highway 212. The strategic system assumed widening Foster Road to three lanes in this corridor.

Transit service in this subarea includes frequent bus service that connects to Clackamas and Gresham regional centers and rapid bus service along the Powell/Foster corridor from the Portland central city to the Damascus town center. Transit coverage in this subarea did not vary from the preferred system, although both bus and light rail service are less frequent.

How the Strategic System Performed

Though the strategic system is nearly identical to the preferred system in the Damascus area, differences in the surrounding Multnomah and Clackamas county networks would affect access to the Damascus and Pleasant Valley areas from the rest of the region. In the strategic system, scaled-back improvements to I-205 would make travel in and out of Clackamas County more difficult, which is compounded by the job/housing imbalance between Clackamas County and adjacent subareas to the north and west. Arterial routes like Foster Road, Sunnyside Road and 182nd Avenue that connect the Damascus-Pleasant Valley area to employment centers outside of Clackamas County are expected to be very congested in the strategic system during the evening two-hour peak period. The level and extent of congestion is expected to have a significant impact on access to jobs from these planned urban reserves.

As a result, the Damascus/Pleasant Valley subarea will be the focus of a future urban reserve planning that will address general connectivity on local streets, potential parallel route improvements and system management strategies. See Chapter 6 for more detail on the corridor study recommended for the Powell/Foster Road corridor and urban reserve planning that will be led by Metro.

Figure 5.13 shows a map of the subarea that identifies projects and programs included in the strategic system. Following the map is a brief description of each project.

Figure 5.13
August 2019

The map shows a network of roads with various project types indicated by colored circles and lines. The legend on the right identifies the symbols:

- Motor Vehicle (Red circle)
- Freight Only (Brown circle)
- Transit (Blue circle)
- Bicycle (Green circle)
- Pedestrian (Yellow circle)
- Boulevard (Dark blue circle)
- Multi-modal Plan (Orange circle)
- Regional Centers (Light blue rectangle)
- Town Centers (Light purple rectangle)
- Central City (Red rectangle)
- Urban Growth Boundary (Thin black line)
- Major Streets (Thick black line)
- Local Streets (Thin grey line)

The map also includes a scale bar (0 to 1 mile) and a north arrow.

This map identifies the main focus of each project, however all road expansion projects include bike and pedestrian facilities as part of their design.

7000 Project Number

Motor Vehicle

Freight Only

Transit

Bicycle

Pedestrian

Boulevard

Multi-modal Plan

Regional Centers

Town Centers

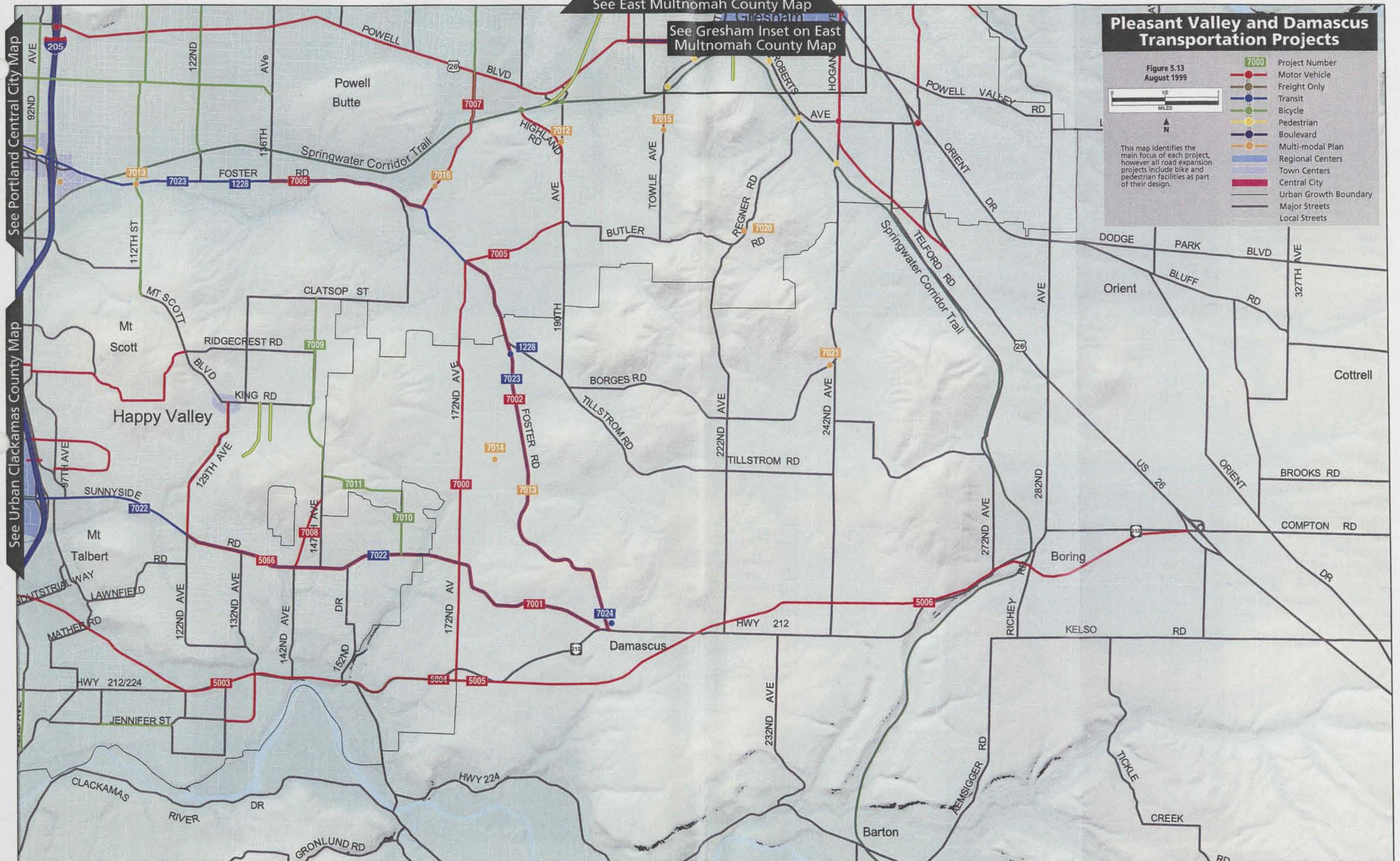
Central City

Urban Growth Boundary

Major Streets

Local Streets

See Gresham Inset on East Multnomah County Map



Priority projects by community

Metro has received a grant to develop a Green Streets handbook that will be used to design transportation projects that will help to protect streams and other natural features in the developing Pleasant Valley and Damascus area.



Pleasant Valley and Damascus Town Centers 2000-2005

7013 Foster Road Corridor Plan

Future study to identify right-of-way and transportation needs along the Foster Road corridor from I-205 to Highway 212 in Damascus.

7014 Damascus/Pleasant Valley Future Street Plan

Develop street plan for Damascus and Pleasant Valley urban reserves to serve planned growth in the area. Throughout the 20-year planning period, implement a multi-modal local and collector street system as development occurs.

2006-2010

5066 West Sunnyside Road Improvements

Widen the street to five lanes from 122nd Avenue to 172nd Avenue.

7001 East Sunnyside Road Improvements

Widen the street to three lanes from 172nd Avenue to Highway 212. This project includes sidewalks and bike lanes.

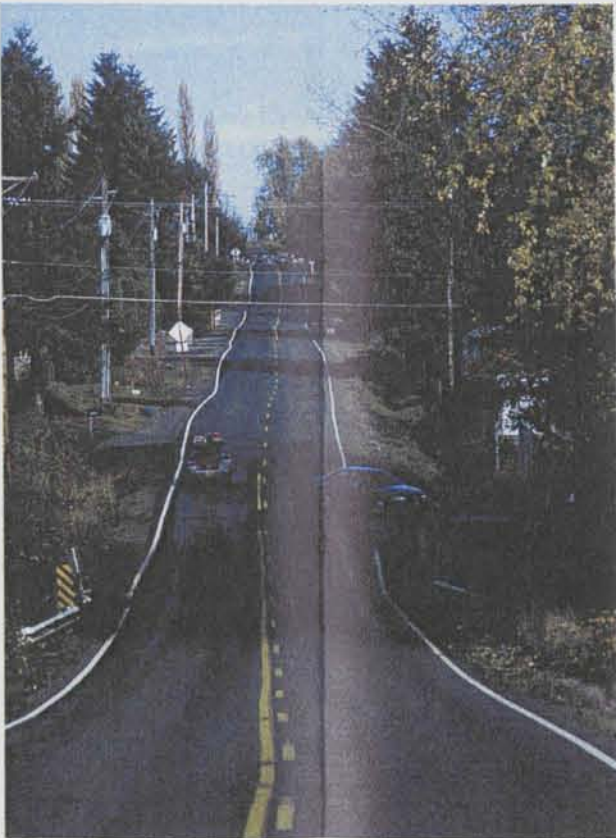
7002 Foster Road Improvements

Widen the street to three lanes from 172nd Avenue to Highway 212. This project includes sidewalks and bike lanes.



Development is already occurring in the Pleasant Valley area. Metro has received a federal grant (see sidebar) to complete a future street plan that provides an adequate street system and does not overburden existing farm roads.

Although only a narrow farm-to-market road today, 172nd Avenue is envisioned to be the major route serving Pleasant Valley and Damascus connecting the area to the proposed Sunrise Highway and Gresham.



A new town center is planned at the historic heart of the Pleasant Valley community. Proposed transportation projects are designed to provide access to this area.

2006-2010

7005 190th Avenue Extension

Construct a new five-lane connection from 190th/Butler Road to 172nd/Foster Road with sidewalks and bike lanes.

7006 SE Foster Improvements

Widen the street to three lanes from 136th Avenue to Jenne Road.

7007 SE Jenne Road Improvements

Widen the street to three lanes from Foster Road to Powell Boulevard.

7008 147th Avenue Improvements

Realign 147th Avenue to 142nd Avenue at Sunnyside Road to provide additional access into town center.

7009 SE 145th/147th Bike Lanes

Widen the street from Clatsop Street to Monner Road to include bike lanes.

7012 Highland Corridor Plan

Study Highland Drive from Powell Boulevard to Foster Road to develop a corridor plan to address north-south access to urban reserves.

7015 Towle/Eastman Corridor Plan

Study Towle Road/Eastman Parkway from Powell Boulevard to 190th Avenue to develop a corridor plan to address north-south access to urban reserves.

7016 Jenne Road Traffic Management Plan

Develop a comprehensive traffic management plan for the street from Powell Boulevard to Foster Road to manage the impacts of planned growth in the urban reserves.

2011-2020

7000 172nd Avenue Improvements

Widen the street to five lanes from Foster Road to Highway 212. This project includes sidewalks and bike lanes.

7010 SE 162nd Avenue Bike Lanes

Widen the street from Monner Road to Sunnyside Road to include bike lanes.

7011 SE Monner Bike Lanes

Widen the street from 147th Avenue to 162nd Avenue to include bike lanes.

7020 Regner/222nd Corridor Plan

Study to develop traffic management plan for the street from Roberts Avenue to Highway 212 to manage the impacts of planned growth in nearby urban reserves and identify an urban-to-urban connector route that serves the corridor.

7021 Hogan/242nd Corridor Plan

Study to develop traffic management plan for the street from Palmquist Road to Highway 212 to manage the impacts of planned growth in nearby urban reserves and identify an urban-to-urban connector route that serves the corridor.

**Regional Highways
2000-2005**

5003 Sunrise Highway

Construct a new four-lane highway from I-205 to Rock Creek/152nd Avenue. This project includes construction of interchanges at 122nd Avenue and 152nd Avenue and modification of I-205 interchange.

5004 Sunrise Highway Right-of-Way Preservation

Preserve right-of-way for future four-lane highway from 152nd Avenue to 242nd Avenue.

2011-2020

5005 Sunrise Highway

Construct a new four-lane highway from Rock Creek/152nd Avenue to 242nd Avenue.

5006 Sunrise Highway

Construct a new four-lane highway from 242nd Avenue to US 26.

Regional Transit

The projects listed in the Regional Transit section identify major transit capital projects and other improvements that enhance rapid bus and frequent bus service. Capital improvements for rapid bus routes and stations would include transit preferential treatments such as queue-by-pass lanes and signal preemption, park-and-ride facilities, possible off-street station areas and station amenities such as schedule

information, ticket machines, lighting, benches, covered shelters and bicycle parking. Capital improvements for frequent bus routes and stations would include transit preferential treatments such as signal preemption and passenger amenities such as schedule information, covered shelters, curb extensions, lighting and benches. (See Transit Service Strategy fact sheet for additional information.)

2000-2005

**1228 Powell Boulevard/
Foster Road
High-Capacity Transit
Corridor Study**

Study the potential for high-capacity transit service or other improvements from the Ross Island Bridge to Damascus town center to address travel demand in the corridor.

2006-2010

7022 Sunnyside Road Frequent Bus

Provide improvements that enhance new frequent bus service along Sunnyside Road from Clackamas regional center to Damascus.

2011-2020

7023 Powell/Foster Corridor Rapid Bus

Provide improvements that enhance new rapid bus service along Powell Boulevard/Foster Road corridor from downtown Portland to Damascus.

7024 Transit station

Construct a new transit station in support of expanded transit service to this area.

Subarea 5: Urban Clackamas County

Major Differences from the Preferred System

The Clackamas and Oregon City regional centers and the Clackamas industrial area are included in this subarea. As primary land-use components in the 2040 Growth Concept, these areas are the focus of many strategic system improvements, and nearly all preferred system projects are represented in the strategic network. However, for the purpose of RTP modeling and analysis, surrogate improvements to I-205 and Highway 213 were assumed. As a result, assumptions for I-205 north of Highway 213 and Highway 213 vary between the preferred and strategic systems. The preferred system assumed widening I-205 north of Highway 213 to include express lanes that could only be accessed via Highway 213, Highway 224 and eastbound I-84. The strategic system did not include additional capacity to I-205 north of Highway 213. In addition, the preferred system assumed at-grade interchanges at the intersections of Highway 213 and Washington and Abernethy Road. In contrast, the strategic system assumed intersection improvements in these locations.

Other examples of projects that were not included in the strategic system include:

- SE 82nd Drive capacity improvements and an extension of Jennifer Street extension in the Clackamas industrial area
- extension of West Sunnyside Road in the Clackamas regional center
- Abernethy Road capacity improvements in the Oregon City regional center
- extensions of King Road; 79th Avenue and Summers Lane
- minor arterial and collector street capacity improvements, including Lake Road, Oatfield Road, Otty Road, Summers Lane, Mather Road and 122nd Avenue
- Bike and/or pedestrian improvements on McLoughlin Boulevard, Harmony Road, Johnson Road, Linwood Road, Lawnfield Road, Mt. Scott Boulevard and Webster Road
- pedestrian improvements and development of an inter-city passenger station in Oregon City
- pedestrian improvements and transit center relocation in Lake Oswego town center

Transit service in this subarea includes frequent and rapid bus service and light rail, from the Rose Quarter transit center to the Clackamas regional center. Recommendations from the South Corridor Transportation Alternatives Study will be incorporated in to the Regional Transportation Plan when adopted. In the interim, light rail to Clackamas regional center is recommended for the strategic with an interim strategy of rapid bus service until light rail service can be provided. A light rail extension from Milwaukie to Oregon City is not included in the strategic system. Transit coverage in this subarea did not vary from the preferred system, although both bus and light rail headways are less frequent.

How the Strategic System Performed

Urban Clackamas County system is already overburdened in the preferred system, due to the heavy concentration of urban reserves adjacent to and within this subarea. Key improvements like Sunrise Highway and high-capacity transit to Clackamas regional are retained in the strategic system. However, supporting improvements to the arterial and collector street network results in congestion on major routes, like Sunnyside Road, 82nd Avenue and McLoughlin Boulevard, which are further compounded by not including I-205 capacity improvements north

of Highway 213 in the strategic system. This has a dramatic effect on both I-205 and parallel routes, since the job/housing imbalance in urban Clackamas County results in a strong north/south demand between this subarea and the employment areas located in the Portland central city and East Multnomah County subareas. Several bottlenecks in the Clackamas industrial area result when improvements to freight access routes like Jennifer Street, 82nd Drive and Highway 213 are not included. These changes affect access to the industrial area from the rest of the region.

Access to the Oregon City regional center also is expected to be limited by extensive congestion along I-205 and the street network south of the Clackamas River and East of the Willamette River, including Highway 213, Molalla Avenue and Beaver Creek Road. Recommendations from the Highway 213 Corridor Study will be included in the Regional Transportation Plan. Oregon City would likely have lower non-SOV mode share without the pedestrian improvements included in the preferred system. Proposed rapid bus service connecting to Clackamas regional center will generate marginal ridership. The Oregon City transportation system plan should address this congestion in conjunction with proposed corridor studies that will focus on I-205 and Highway 213 and developing strategies for meeting future travel demand in this part of the region, identifying the most critical projects for inclusion in the strategic system. Urban reserve areas to the south of Oregon City are also impacting access to the regional center as planned growth in these areas cannot be adequately served by proposed improvements to Highway 213.

Figure 5.14 shows a map of the subarea that identifies projects and programs included in the strategic system. Following the map is a brief description of each project.

See Portland Central City Map

See Portland Central City Inset
on the Portland Central City and
Neighborhoods Map

See Gateway Inset on
East Multnomah
County Map

See Milwaukie
Inset

See Clackamas
Town Center Inset

See Pleasant Valley and Damascus Map

See South Washington County Map

See Oregon City Inset

Urban Clackamas County Transportation Projects

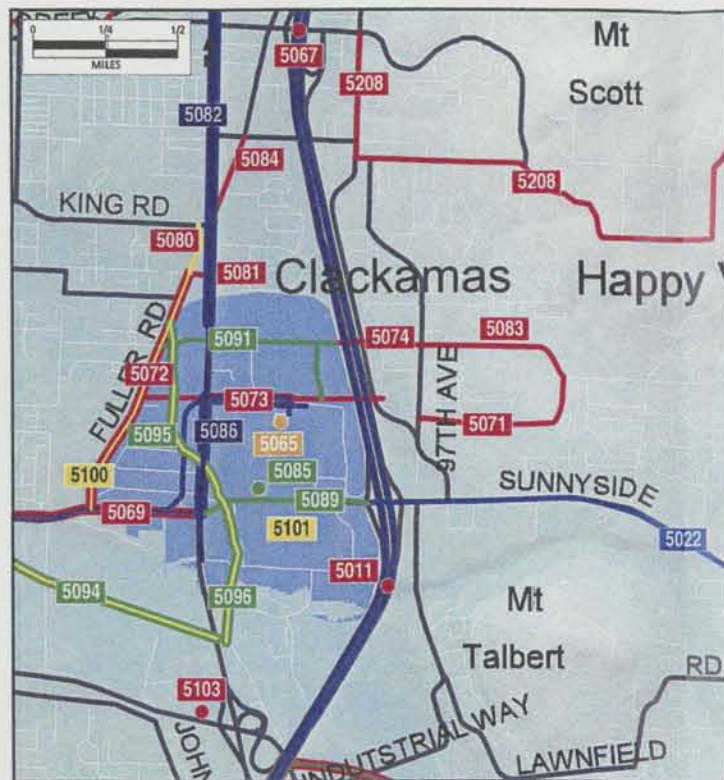
Figure 5.14
August 1999



This map identifies the
main focus of each project,
however all road expansion
projects include bike and
pedestrian facilities as part
of their design.

- 5000 Project Number
- Motor Vehicle
- Freight Only
- Transit
- Bicycle
- Pedestrian
- Boulevard
- Multi-modal Plan
- Regional Centers
- Town Centers
- Central City
- Urban Growth Boundary
- Major Streets
- Local Streets

Priority projects by community



Clackamas Regional Center 2000-2005

5065 Clackamas Regional Center Transportation Management Association Startup

Implement a transportation management association program with employers in the regional center.

5073 Monterey Improvements

Widen street to five lanes from 82nd Avenue to new overcrossing of I-205. This project will include sidewalks and bike lanes.

5086 82nd Avenue Boulevard Design Improvements

Retrofit the street with a boulevard design from Monterey Avenue to Sunnybrook Road including wider sidewalks, curb extensions and safer street crossings.

5100 Fuller Road Pedestrian Improvements

Widen the street from Harmony Road to King Road to construct new curbs and sidewalks.

5103 Clackamas County Transportation Management Improvement Plan

Implement advanced transportation system management and intelligent transportation system plan for county facilities, including signal timing, signal interconnects and traffic control and incident management strategies.

2006-2010

5066 West Sunnyside Road Improvements

Widen the street to five lanes from 122nd Avenue to 172nd Avenue.

5069 Harmony Road Improvements

Widen the street to five lanes from Sunnyside Road to Highway 224.

5072 West Monterey Extension

Construct a two-lane extension of street from 82nd Avenue to Price Fuller Road to improve east-west connections by all modes of travel.

5082 82nd Avenue Multi-Modal Improvements

Widen the street to construct sidewalks and bike lanes, better crossings and street lighting. Project also includes new traffic signals.

5089 Sunnyside Road Bikeway

Retrofit bike lanes to existing street from 82nd Avenue to I-205.

5091 Causey Avenue Bikeway

Retrofit bike lanes to existing street from I-205 to Fuller Road.

5109 82nd Drive Bicycle Improvements

Widen the street from Jennifer Street to the Fred Meyer store to include bike lanes.

2011-2020

5067 Johnson Creek Boulevard Interchange Improvements

Upgrade the interchange at I-205 and Johnson Creek Boulevard to include a loop ramp, new northbound on-ramp and realign the southbound off-ramp.

5068 Johnson Creek Boulevard Improvements

Widen the street to three lanes and widen the bridge over Johnson Creek to improve freight access to I-205.

5071 William Otty Road Extension

Construct a two-lane extension of street from a new frontage road east of I-205 to Valley View Terrace to improve east-west circulation. This project includes sidewalks and bike facilities.

5074 Causey Avenue Extension

Construct a three-lane extension of the street over I-205 to new frontage road east of freeway to improve east-west circulation. This project includes sidewalks and bike facilities.

5080 Fuller Road Improvements

Widen the street to three lanes from Harmony Road to Monroe Road to improve north-south circulation in the regional center area. This project includes removing auto access to King Road.

5081 Boyer Drive Extension

Construct a two-lane extension of street from 82nd Avenue to Fuller Road to improve east-west circulation. This project includes sidewalks and bike facilities.

5083 Causey Avenue Extension

Construct a two-lane extension of the street from the I-205 frontage road to William Otty Road to improve east-west circulation. This project includes sidewalks and bike facilities.

5084 Fuller Road Extension

Construct a two-lane extension of the street from Otty Road to 82nd Avenue at King Road to improve north-south circulation. This project includes sidewalks and bike facilities.

5085 Clackamas Regional Center Bike/Pedestrian Corridors

Construct bicycle and pedestrian facilities as part of new and existing developments in the Clackamas regional center.

5101 Clackamas Regional Center Pedestrian Improvements

Retrofit existing streets within the regional center to include better sidewalks and street crossings, lighting, curb extensions, bus shelters and benches.

Clackamas Industrial Area 2000-2005

5110 Jennifer Street Bicycle Improvements

Construct a shared bicycle and pedestrian path along the south side of street from 106th Avenue to 120th Avenue.



Clackamas Corridor 2000-2005

5097 Hill Road Bike Lanes

Retrofit bike lanes on the existing street from Oatfield Road to Thiessen Road.

5115 Roethe Road Bicycle Improvements

Widen the street from River Road to Highway 99E to include shared bike and pedestrian path. This project also installs curbs and drainage.

5117 Linwood Road Bike Lanes

Widen the street from Monroe Street to Johnson Creek Boulevard to include bike lanes.



Clackamas regional center has emerged as the commercial hub of Clackamas County. Proposed projects will improve traffic circulation and make travel in the area easier for transit riders, bicyclists and pedestrians.



5135 McLoughlin Boulevard Improvements

Boulevard retrofit of the street from River Road to the Southern Pacific railroad tunnel in Oregon City, including bike lanes, wider sidewalks, curb extensions and better crossings.

2011-2020

5150 Oregon City Transportation Management Association Startup Program

Implement a transportation management association program with employers in the regional center.

Oregon City Corridor 2000-2005

5153 Beaver Creek Road Improvements - Phase 2

Widen the street to five lanes from Highway 213 to Clackamas Community College. This project includes access management, a median, bike lanes and sidewalks.

2006-2010

5154 Beaver Creek Road Improvements - Phase 3

Widen the street to four lanes from Clackamas Community

College to Henrici Street. This project includes access management strategies in addition to bike lanes and sidewalks.

5156 Beaver Creek Road Improvements - Phase 1

Widen the street to five lanes from Highway 213 to Molalla Avenue. This project includes access management strategies and a boulevard design with bike lanes, wider sidewalks, lighting and safer street crossings.

2011-2020

5155 Seventh Street Corridor Improvements

Retrofit the street from High Street to Taylor Street to make it safer for bicyclists and pedestrians and to improve access to transit. This project includes bike lanes, better sidewalks and crossings, lighting, curb extensions, bus shelters and benches.

Milwaukie Town Center 2000-2005

5036 King Road Improvements/34th Avenue Extension

Construct a two-lane extension of King Road from 32nd Avenue



to 42nd Avenue to improve local street connectivity for all modes. This project will include sidewalks, bike lanes and new traffic signals at Oak Street, Monroe Street, Harrison Street and 34th Avenue.

5038 Johnson Creek Boulevard Phase 2 Improvements

Reconstruct the street from 32nd Avenue to 45th Avenue. This project will include sidewalks, bike lanes and landscaping along the south side of the street.

5045 Linwood/Harmony/Lake Road Improvements

Modify the intersection to include turn lanes on Harmony and Linwood roads.

5049 McLoughlin Boulevard Improvements

Retrofit the street with a boulevard design from Highway 224 to River Road including wider sidewalks, curb extensions and better crossings.

5050 Harrison Street Bikeway

Retrofit bike lanes on the existing street from Highway 99E to King Road.

5051 Lake Road Bikeway

Retrofit bike lanes on the existing street from 21st Avenue to Oatfield Road.

2006-2010

5040 Railroad Avenue Bike/Pedestrian Improvement

Retrofit bike lanes and sidewalks on the existing street from 37th Avenue to Linwood Road.

5059 King Road Boulevard Improvement

Boulevard retrofit of the street from 42nd Avenue to Linwood Avenue, including bike lanes, wider sidewalks, a median and access management.

2011-2020

5046 Railroad Crossing Improvements

Make railroad crossings at Harrison Street, 37th Avenue and Oak Street safer for all modes of travel.

5062 Milwaukie Transportation Management Association Startup

Implement a transportation management association program with employers in the town center.

Lake Oswego Town Center

5169 Trolley Trestle Repairs

Repair trestles along rail line from Lake Oswego to Portland.

5170 Highway 43 Traffic Management Plan

Study to develop long-term comprehensive traffic management plan for corridor from McVey Road to I-205 to limit traffic congestion, improve traffic flow and address alternative mode needs in the corridor.

2006-2010

5163 A Avenue Reconstruction

Reconstruct the street from State Street to Third Avenue to address

Improvements for transit riders, pedestrians and bicyclists are planned along McLoughlin Boulevard between Milwaukie and Oregon City to reinforce already heavy transit use.

deteriorating pavement conditions and rebuild sidewalks.

5164 A Avenue Bikeway

Retrofit the street from Iron Mountain Road to State Street to include a bicycle facility.

West Linn Town Center

5193 Willamette Falls Drive Improvement

Reconstruct the street from 10th Street to Highway 43 to include sidewalks and bike lanes.

5195 Highway 43 Improvements

Retrofit the street with a boulevard design from West A Street to the Willamette River including wider sidewalks, curb extensions and better crossings.

2011-2020

5192 Highway 43/Willamette Falls Intersection Improvements

Add capacity and make the intersection safer for all modes of travel.

5194 Highway 43 Intersection Improvements

Add capacity and make intersections at Failing Street, Pimlico Drive and Jolie Pointe safer for all modes of travel.

5198 Highway 43 Improvements

Retrofit the street with a boulevard design from Shady Hollow Lane to Robin Wood Main Street including wider sidewalks, curb extensions and safer crossings.

Stafford Urban Reserves

5203 Stafford Road Improvements

Realign the intersection at Borland Road and add a traffic signal and left turn lanes to

improve safety and access within the Stafford urban reserve areas.

2006-2010

5204 Stafford Road

Realign the intersection and construct turn lanes at Rosemont Road. This project will include upgrades to the traffic signal.

Beavercreek Urban Reserves

5215 Beavercreek Future Street Plan

Develop a future street plan for the Beavercreek urban reserves to serve planned growth in the area.

Happy Valley Town Center

5211 Scott Creek Lane Pedestrian Improvements

Construct a pedestrian path from 129th Avenue to Mountain Gate Road including a bridge crossing of Scott Creek.

5212 137th Avenue Bike and Pedestrian Improvements

Construct bicycle and pedestrian facilities along street from King Road to Rolling Meadows.

2011-2020

5208 Idleman Road Improvements

Reconstruct and widen the street to three lanes from Johnson Creek Boulevard to Mt. Scott Boulevard.

5209 122nd/129th Improvements

Widen the street to three lanes from Sunnyside Road to King Road.

Gladstone Town Center

5122 Portland Avenue Bikeway

Retrofit the street with bike facilities from Clackamas Boulevard to Jersey Street. Bikeway design to be determined.

5096 District Park Trail

Construct a multiuse trail for bicyclists and pedestrians from Phillips Creek Trail to Mt. Scott Trail.

2006-2010

5094 Clackamas Town Center Connector

Construct a multiuse path for bicyclists and pedestrians from the North Clackamas Park to Philips Creek.

5165 Willamette Greenway Path

Construct a multiuse path for bicyclists and pedestrians from Roehr Park to George Rogers Park.

Subarea 6: South Washington County

Major Differences from the Preferred System

Washington Square regional center and the Tualatin industrial area are included in this subarea. As primary land-use components in the 2040 Growth Concept, these areas are the focus of many strategic system improvements, and nearly all preferred system projects are represented in the strategic network. Examples of projects located outside of these areas that were not included in the strategic system include:

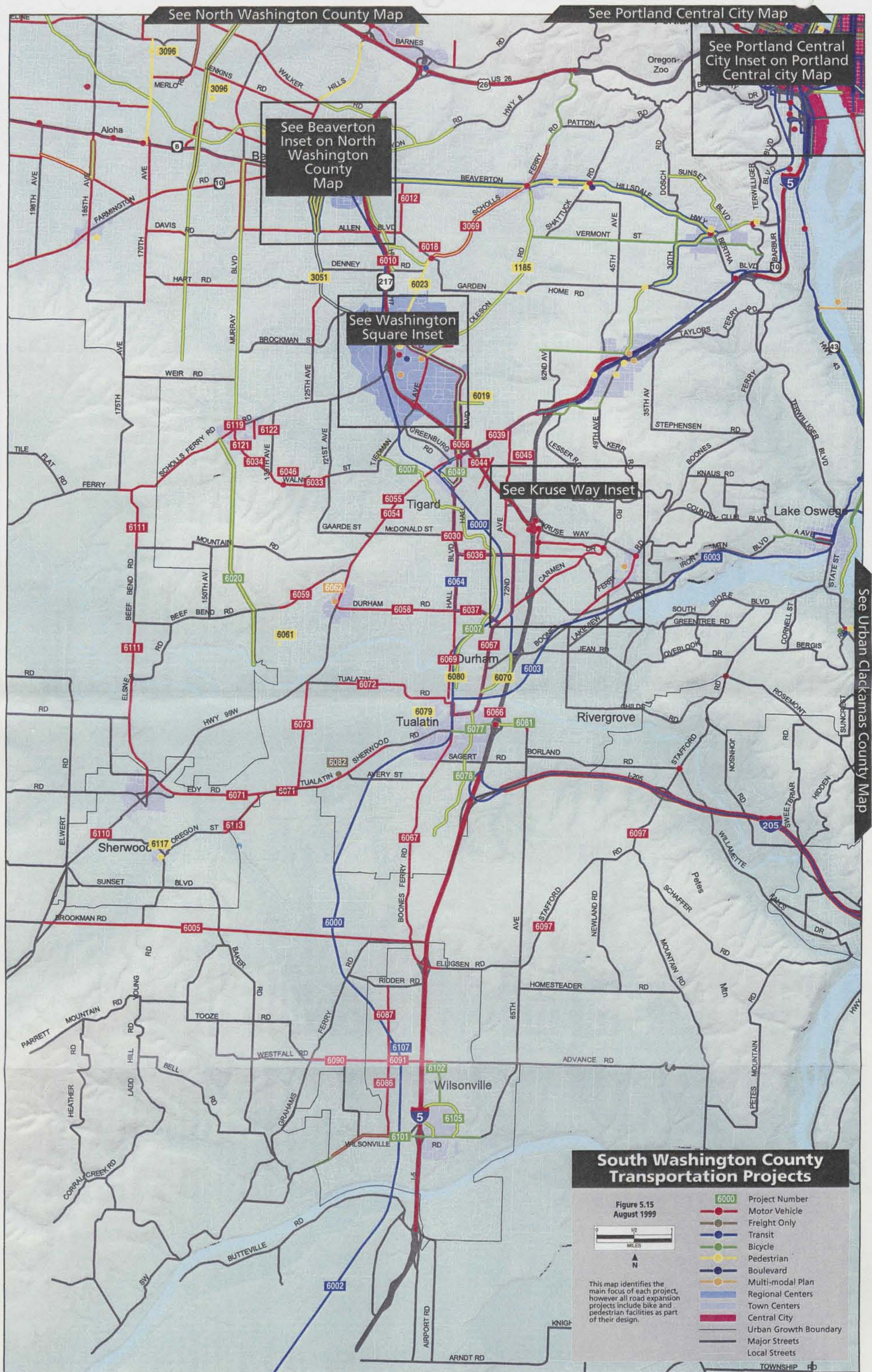
- widening Scholls Ferry Road to seven lanes from Highway 217 to 125th Avenue
- widening Beef Bend Road to four lanes with limited access
- bike and/or pedestrian improvements in Tigard, Sherwood, Wilsonville and King City town centers, Barrows Road,
- collector and minor arterial connectivity improvements in Wilsonville town center

Transit service in this subarea includes inter-city, rapid and frequent bus service and peak-hour only commuter rail service connecting Wilsonville to Beaverton. Transit coverage in this subarea did not vary from the preferred system, although both bus and light rail headways are less frequent.

How the Strategic System Performed

Performance of the strategic system in the South Washington County subarea varies little from the preferred system, largely because the two systems are nearly identical in terms of the assumptions for this subarea. Overall, differences between the preferred and strategic system do not significantly affect access to the Washington Square regional center. Local circulation and access to Tigard town center, in contrast, is limited by significant congestion along 99W in both the strategic and preferred systems during the two-hour peak period. As a result, 99W has been designated as an Area of Special Concern. See Chapter 6 for more detail on recommended refinement planning for this corridor, which could lead to amendments to the Regional Transportation Plan, including project recommendations for the strategic system.

Figure 5.15 shows a map of the subarea that identifies projects and programs included in the strategic system. Following the map is a brief description of each project.



Priority projects by community

Washington Square regional center has become a commercial hub for the southwest part of the region. Proposed projects will improve traffic circulation and make travel in the area easier for transit riders, bicyclists and pedestrians.



Washington Square Regional Center 2000-2005

6012 Western Avenue Corridor Improvements
Implement transportation system management strategies in the corridor between Allen Boulevard and Canyon Road, and extend Western Avenue north to connect to Canyon Road near Walker Road.

6014 Greenburg Road Improvements
Widen the street to five lanes from Washington Square Road to Shady Lane. This project includes a northbound Highway 217 off-ramp improvement and boulevard design treatment of the street, such as wider sidewalks, landscaped buffer, safer street crossings and lighting.

6015 Greenburg Road Improvements, North
Widen the street to five lanes from Hall Boulevard to Washington Square Road. This project includes sidewalks and bike lanes.

6019 Oak Street Improvements
Construct sidewalks and bike lanes along street from Hall Boulevard to 80th Avenue. This project also upgrades a traffic signal.

6024 Washington Square Regional Center Plan
Complete study to refine transportation recommendations and design pedestrian Demand management plan.

6025 Scholls Ferry Road Transportation System Management Improvements
Implement appropriate system management strategies such as signal interconnects, signal re-timing and lane channelization to improve traffic flow from Highway 217 to 125th Avenue.

6026 Washington Square Regional Center Transportation Management Association Startup Program
Implement a transportation management association program with employers in the regional center.

2006-2010

6009 Highway 217 Ramp Improvements
Widen Greenburg Road off-ramps and install ramp meters at interchange on-ramps.

6013 Hall Boulevard Improvements
Widen the street to five lanes from Scholls Ferry Road to Locust Street. This project includes bike lanes and sidewalks.

6018 Scholls Ferry Intersection Improvement
Realign the intersection at Allen Boulevard to improve safety.

6053 Nimbus Drive Extension
Extend the street to connect to Greenburg Road. This project includes sidewalks and bike lanes.

2011-2020

1185 Oleson Road Improvements
Construct bicycle lanes and sidewalks where they do not currently exist and provide lighting, better crossings, bus shelters, benches and a new traffic signal at 80th Avenue from Fanno Creek to Hall Boulevard.

6008 Washington Square Connectivity Improvements
Implement new local street connections based on regional center plan recommendations.

6010 Highway 217 Interchange Improvements
Modify on- and off-ramps at Denney Road to include lights and covered culverts.

6017 Taylors Ferry Road Extension
Construct a three-lane extension of the street from Washington Drive to Oleson Road. This project includes bikeways and sidewalks.

6022 Washington Square Regional Center Pedestrian Improvements

Retrofit streets within the regional center to make them safer and improve access to transit including Palm Boulevard, Scholls Ferry Road, Eliander Road Hall Boulevard, Greenburg Road, Oleson Road, Cascade Avenue and streets within and through the mall area. This project includes better sidewalks and crossings, lighting, curb extensions, bus shelters and benches.

6023 Scholls Ferry Pedestrian Improvements
Make the street safer for pedestrians and improve access to transit from Beaverton-Hillsdale Highway to Hall Boulevard. This project includes better sidewalks and crossings, lighting, curb extensions, bus shelters and benches.

3069 Scholls Ferry Road Improvements
Widen the street to add turn lanes, sidewalks and bike lanes from Hamilton Street to Garden Home Road.

6052 Highway 217 Overcrossing
Construct a two-lane crossing of Highway 217 from Nimbus Drive to the mall area. This project will include sidewalks and bike lanes.

Tigard Town Center 2000-2005

6030 Hall Boulevard Improvements
Widen the street to five lanes from Locust Street to Durham Road. This project includes bike lanes and sidewalks.

6033 Walnut Street Improvements - Phase 1
Install a traffic signal at 121st Avenue.

6040 72nd Avenue Improvements
Widen the street to five lanes from 99W to Hunziker Road. This project includes a median, bike lanes and sidewalks with planter strips.

6046 Walnut Street Improvements - Phase 2
Modifies intersection at Gaarde Street.

6051 Hall Boulevard Bikeway and Pedestrian Improvements
Retrofit the street from Oak Street to 99W to include bike lanes, sidewalks and better street crossings to improve safety.

6054 Highway 99W Access Management Plan
Develop an access management plan for 99W from I-5 to Durham Road.

2006-2010

3051 Hall Boulevard Pedestrian Access to Transit Improvements
Construct wider sidewalks, better crossings, bus shelters and benches to improve pedestrian access to transit from Beaverton to Tigard.

6034 Walnut Street Improvements - Phase 3
Widen the street to three lanes from Gaarde Street to 121st Avenue. This project includes bikeways and sidewalks.

6036 Bonita Road Improvements
Widen the street to four lanes from Hall Boulevard to Bangy Road. This project includes bikeways and sidewalks.

6037 Durham Road Improvements
Widen the street to five lanes from Upper Boones Ferry Road to Hall Boulevard. This project includes bikeways and sidewalks.

6041 72nd Avenue Improvements
Widen the street to five lanes from Hunziker Road to Bonita Road. This project includes center turn lane, bike lanes and sidewalks.

6042 72nd Avenue Improvements
Widen the street to five lanes from Bonita Road to Durham

Road. This project includes bike lanes and sidewalks.

6044 Dartmouth Street Extension
Construct a three-lane extension of the street over Highway 217 to limit congestion on 99W in Tigard.

6045 Dartmouth Street Improvements
Widen the street to four lanes from 72nd Avenue to 68th Avenue. This project includes turn lanes, bike lanes and sidewalks.

6047 Highway 217/72nd Avenue Interchange Improvements
Complete the interchange reconstruction with additional ramps and a two-lane overcrossing extending from Hunziker Road to 72nd Avenue.

6049 Highway 99W Bikeway
Retrofit the street from Hall Boulevard to Greenburg Road to include bike lanes.

6055 Highway 99W System Management
Interconnect traffic signals along 99W from I-5 to Durham Road to limit congestion and improve traffic flow.

6056 Highway 99W Intersection Improvements
Modify the traffic signal and add turn lanes at Hall Boulevard.

2011-2020

6039 99W Improvements
Widen the highway to seven lanes from I-5 to Highway 217 with access management to limit congestion and improve traffic flow.

6043 Upper Boones Ferry Road
Widen the street to five lanes from I-5 to Durham Road.



King City Town Center 2000-2005

6059 Beef Bend Improvements
Widen the street to three lanes from King Arthur to 131st Avenue. This project includes sidewalks.

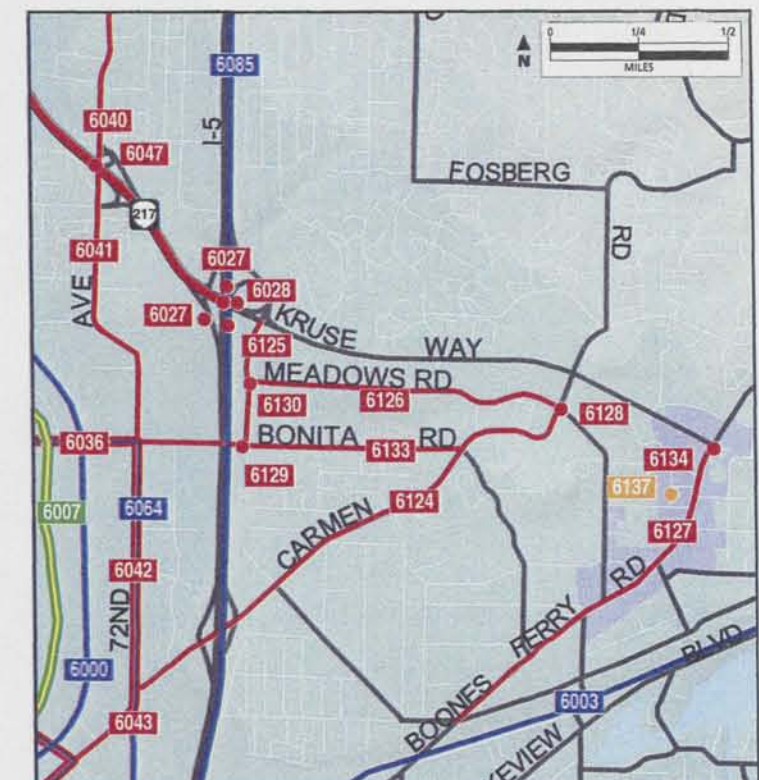
6061 King City Sidewalks
Upgrade the street from 131st Avenue to Fischer Road to include sidewalks.

2006-2010

6062 King City Town Center Plan
Study to identify long-term transportation needs for motor vehicle, truck, bike, pedestrian and transit travel in the town center.

2011-2020

6058 Durham Road Improvements
Widen the street to five lanes from Hall Boulevard to 99W. This project will include sidewalks and bike lanes.



Tualatin Town Center 2000-2005

6066 I-5 Interchange Improvement

Widen the Nyberg Road overcrossing to four lanes and widen the southbound off-ramp from I-5 to Nyberg Road to limit congestion and improve traffic flow. This project includes sidewalks along overcrossing.

6070 Lower Boones Ferry Improvements

Retrofit the street from Boones Ferry Road to Bridgeport to include bike lanes, sidewalks and interconnected traffic signals.

6072 Tualatin Road Improvements

Widen the street from 115th Avenue to Boones Ferry Road to include sidewalks, bike lanes and safer railroad crossings.

6079 Tualatin Town Center Pedestrian Improvements

Retrofit the streets within the town center to include better sidewalks and street crossings, lighting, curb extensions, bus shelters and benches. Streets included in this project are Nyberg Road, Boones Ferry Road, Tualatin Road, Tualatin-Sherwood Road, Sagert Road and intersecting neighborhood streets.

6080 Tualatin River Pedestrian Bridge

Construct a cantilevered pedestrian and bicycle multiuse path on railroad trestle across the Tualatin River from Durham City Park to Tualatin Community Park.

6081 Nyberg Road Pedestrian and Bike Improvements

Retrofit the street from 65th Avenue to I-5 to complete sidewalks and bicycle facilities.

6082 Tualatin Freight Access Plan

Develop an interim freight circulation plan for the Tualatin industrial area to address traffic congestion and freight access issues in the Tualatin-Sherwood Road corridor.

2006-2010

6067 Boones Ferry Road Improvements

Widens street to three lanes from Durham Road to Elligsen Road in Wilsonville. This project includes completion of sidewalks and bikeways.

6071 Tualatin-Sherwood Road Improvements

Widen the street to five lanes from 99W to Teton Avenue. This project includes bike lanes, sidewalks and traffic signal modifications at Oregon and Cipole streets.

6073 124th Avenue Improvements

Construct a new three-lane street from Tualatin Road to Tualatin-Sherwood Road to improve access to the industrial area. This project includes bikeways and sidewalks.

2011-2020

6069 Hall Boulevard Extension

Construct a two-lane extension of the street from Durham to Tualatin Road. This project

crosses the Tualatin River and includes sidewalks and bikeways.

6077 Tualatin-Sherwood Road Bikeway

Retrofit the street from I-5 to Lower Boones Ferry Road to include bike lanes.

6078 Boones Ferry Road-Martinazzi Bike/Ped Path

Construct a new multiuse path for use by bicyclists and pedestrians from Boones Ferry Road to Martinazzi Street.

Wilsonville Town Center 2006-2010

6086 Kinsman Road Extension

Construct a two-lane extension of the street from Kinsman Road to Boeckman Road with sidewalks and bike lanes. This project provides an alternate north-south route parallel to I-5 for local travel needs.

6087 Kinsman Road Extension

Construct a two-lane extension of the street from Boeckman Road to Ridder Road with sidewalks and bike lanes. This project provides an alternate north-south route parallel to I-5 for local travel needs.

6090 Boeckman Road Extension

Construct a three-lane extension of the street from Boeckman Road to Grahams Ferry Road with sidewalks and bike lanes. This project increases east-west street connectivity to serve local travel needs.

6091 Boeckman Road I-5 Overcrossing

Widen the street to five lanes from Parkway Avenue to 100th Avenue. This project includes sidewalks and bike lanes.

6097 Stafford Road Safety Improvements

This project addresses safety

issues from I-205 to Boeckman Road.

6101 Wilsonville Road Bikeway

Retrofit the street from Rose Lane to Willamette Way West to include bike lanes.

6102 Parkway Avenue Bikeway

Provide signs and re-stripe the street from Boeckman Road to Town Center Loop to create wide outside lanes that are shared by bikes and motor vehicles, and a center turn lane.

6105 Town Center Loop Bike and Pedestrian Improvements

Retrofit the street from Parkway Avenue to Wilsonville Road to include bike lanes and sidewalks.

Sherwood Town Center 2000-2005

6110 Highway 99W Circulation Improvements Study

Study to evaluate the potential use of frontage roads along 99W to manage access in the corridor, limit congestion and improve traffic flow.

6111 Beef Bend/Elsner Road Extension

Construct a two-lane realignment of the street from Scholls Ferry Road to 99W. This extension would be designed with limited access.

6113 Oregon Street Improvements

Widen the street to three lanes from the Tualatin-Sherwood Road to Murdock Street. This project includes a new traffic signal at Tualatin-Sherwood Road.

2011-2020

6117 Sherwood Town Center Pedestrian Improvements

Make street safer for pedestrians and improve access to transit along Sherwood Road, Oregon Street, Pacific Street and intersecting streets. This project includes better sidewalks and crossings, lighting, curb



The plan proposes a new connection between I-5 and 99W designed to remove through traffic and related congestion that could hamper growth in Tualatin's town center.

Subarea 7: North Washington County

Major Differences from the Preferred System

Beaverton and Hillsboro regional centers and the Sunset industrial area are included in this subarea. As primary land-use components in the 2040 Growth Concept, these areas are the focus of many strategic system improvements, and nearly all preferred system projects are represented in the strategic network. Examples of projects located outside of these areas that were not included in the strategic system include:

- widening portions of Walker Road, Barnes Road, Cornell Road, West Union Road, Thompson Road
- US 26 interchange at Glencoe Road
- bike and/or pedestrian improvements along Walker Road, Denney Road, Springville Road, Western Avenue, Canyon Road, Baseline Road, Allen Boulevard and Tualatin Valley Highway
- TDM program in the Sunset industrial area

In addition, for the purpose of RTP modeling and analysis, surrogate improvements to Highway 217 were assumed. As a result, assumptions for Highway 217 vary between the preferred and strategic systems. The preferred system assumed widening Highway 217 to include an additional capacity between Beaverton-Hillsdale Highway and 99W. The strategic system assumed widening Highway 217 to include express lanes that could only be accessed via I-5, 99W, Beaverton-Hillsdale Highway and US 26.

Transit service in this subarea includes rapid and frequent bus service, peak-hour only commuter rail service connecting Wilsonville to Beaverton and light rail. Transit coverage in this subarea did not vary from the preferred system, although both bus and light rail headways are less frequent.

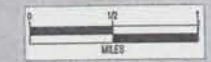
How the Strategic System Performed

Performance of the strategic system in the North Washington County subarea varies little from the preferred system, largely because the two systems are nearly identical in terms of the assumptions for this subarea. Overall, differences between the preferred and strategic system do not significantly affect access to the Beaverton regional center. Farmington Road, Walker Road, portions of Murray Boulevard, Scholls Ferry Road and West Union Road experience congestion in both the preferred and strategic systems during the evening two-hour peak period. Highway 217 performs better in the strategic system with the express lanes when compared to the preferred system's combination of auxiliary and general-purpose lanes, in part due to the amount of local trips using Highway 217 to access the regional centers. The Highway 217 corridor study will evaluate express, HOV or peak period pricing as strategies for adding capacity to this facility in the future. See Chapter 6 for more detail on this corridor study.

Figure 5.16 shows a map of the subarea that identifies projects and programs included in the strategic system. Following the map is a brief description of each project.

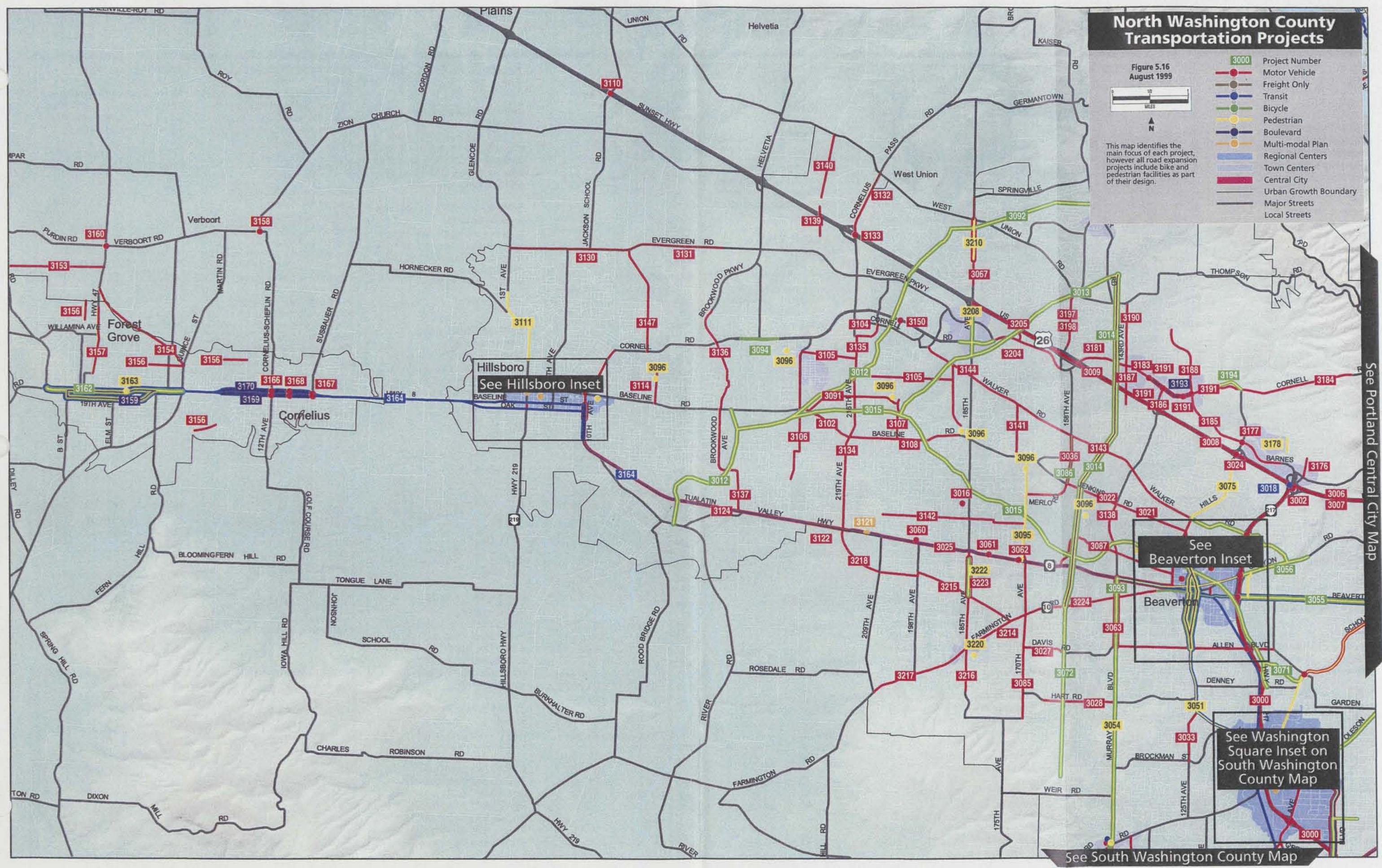
North Washington County Transportation Projects

Figure 5.16
August 1999



This map identifies the main focus of each project, however all road expansion projects include bike and pedestrian facilities as part of their design.

- 3000 Project Number
- Motor Vehicle
- Freight Only
- Transit
- Bicycle
- Pedestrian
- Boulevard
- Multi-modal Plan
- Regional Centers
- Town Centers
- Central City
- Urban Growth Boundary
- Major Streets
- Local Streets



See Portland Central City Map

See Washington Square Inset on South Washington County Map

See South Washington County Map

Priority projects by community

Beaverton Regional Center 2000-2005

3019 Beaverton Connectivity Improvements 1

Complete several downtown Beaverton street connections to improve access and circulation within the regional center by all modes of travel.

3021 Jenkins Road Improvement

Widen the street to three lanes from Cedar Hills Boulevard to Murray Boulevard. Project will also include sidewalks and bike lanes.

3026 Millikan Extension

Construct a new three-lane extension of Millikan Way to connect to Cedar Hills Boulevard at Henry Street with sidewalks and bike lanes.

3027 Davis Improvements

Widen the street to three lanes from 160th Avenue to 170th Avenue, and include sidewalks and bike lanes to improve safety.

3028 Hart Improvements

Widen the street to three lanes from Murray Boulevard to 165th Avenue. Project also will include sidewalks, bike lanes and a traffic signal at 155th Avenue to improve safety.

3029 Lombard Improvements

Realign the street and add turn lanes from Broadway Avenue to Farmington Road to improve access to the regional center. This project also will include sidewalks.

3030 Farmington Road Improvements

Widen the street to five lanes from Hocken Avenue to Murray Boulevard. This project also will include sidewalks, bike lanes, an additional left turn lane at Murray and intersection improvements at Hocken to improve safety.

3033 125th Avenue Extension

Construct a two-lane extension



of the street with turn lanes from Brockman Street to Hall Boulevard. This project also will include sidewalks and bike lanes to improve safety.

3034 Hall Boulevard Extension

Extend Hall Boulevard from Cedar Hills Boulevard to Hocken/Terman Avenue. This project is a three-lane extension that includes sidewalks and bike lanes.

3041 Hall/Watson Improvements

Retrofit the street with a boulevard design from Allen Boulevard to Cedar Hills Boulevard, including wider sidewalks, curb extensions and safer street crossings.

3046 Hall Boulevard Bikeway

Retrofit bike lanes on the existing street from Beaverton-Hillsdale Highway to Cedar Hills Boulevard.

3047 Watson Avenue Bikeway

Retrofit bike lanes on the existing street from Beaverton-

Hillsdale Highway to Hall Boulevard.

3049 Downtown Beaverton Pedestrian Improvements

Make the street safer for pedestrians within the regional center along Hocken Avenue, Cabot Street, 110th Avenue, 113th Avenue and Tualatin Valley Highway. This project includes wider sidewalks, bike lanes, lighting and safer crossings.

3052 110th Avenue Pedestrian Improvements

Complete the sidewalks where they are missing from Beaverton-Hillsdale Highway to Canyon Road.

3053 117th Avenue Pedestrian Improvements

Make the street safer for pedestrians and improve access to light rail at Center Street with wider sidewalks, lighting and safer street crossings.

3063 Murray Boulevard Improvements

Interconnect the traffic signals from Tualatin Valley Highway to Allen Boulevard to limit traffic

congestion and improve traffic flow in the corridor.

2006-2010

3020 Beaverton Connectivity Improvements 2

Complete several downtown Beaverton street connections to improve access and circulation within the regional center by all modes of travel.

3022 Jenkins Road Improvement

Widen the street to five lanes from Murray Boulevard to 158th Avenue. This project also will include sidewalks and bike lanes.

3024 Cedar Hills Interchange Improvement

Install an eastbound US 26 traffic signal and reconfigure roadway to improve traffic flow.

3032 Cedar Hills Boulevard Improvements

Widen the street to five lanes from Farmington Road to Walker Road. This project also will include sidewalks and bike lanes.

3042 Tualatin Valley Highway/Canyon Road Boulevard Improvements

Retrofit the street with a boulevard design from Murray Boulevard to Highway 217, including wider sidewalks, curb extensions, safer street crossings, bus shelters and benches.

3045 Farmington Road Bikeway

Retrofit bike lanes on existing street from Hocken Avenue to Highway 217.

3051 Hall Boulevard/ Watson Pedestrian-to- Transit Improvements

Make the street safer for pedestrians and improve access to transit within the regional center from Cedar Hills Boulevard to Tigard. This project includes wider sidewalks, lighting and better crossings.

2011-2020

3031 Allen Boulevard Improvements

Widen the street to five lanes from Highway 217 to Murray Boulevard. The project will include sidewalks and bike lanes.

3036 158th/Merlo Road Improvements

Widen the street to five lanes from 170th Avenue to Walker Road. The project will include sidewalks and bike lanes.

3038 Center Street Improvements

Widen street to three lanes from Hall Boulevard to 113th Avenue. Project also will include sidewalks and bike lanes.

3054 Murray Boulevard Bike/Pedestrian Improvements

Make the street safer for bicycles and pedestrians from Scholls Ferry Road to Tualatin Valley Highway by constructing pedestrian refuges and better crossings at intersection and filling in gaps in the bicycle network.

3055 Beaverton-Hillsdale Highway Pedestrian and Bicycle Improvements

Make the street safer for bicyclists and pedestrians and improve access to transit from 65th Avenue to Highway 217, with bike lanes, wider sidewalks, better crossings, bus shelters and benches.

3056 Canyon Road/Tualatin Valley Highway Bike and Pedestrian Improvements

Make the street safer for bicyclists and pedestrians from 91st Avenue to Highway 217 with bike lanes, sidewalks and better crossings.

3224 Farmington Road Improvements

Widen the street to seven lanes from 172nd Avenue to Cedar Hills Boulevard. This project includes sidewalks and bike lanes.

Beaverton Corridor 2000-2005

3074 Hall Boulevard Bikeway

Complete the regional bicycle system from Farmington Road to Highway 217 by constructing bike lanes from 12th Avenue to south of Allen Boulevard.

3075 Cedar Hills Boulevard Improvements

Improve pedestrian and bicycle safety and access to transit with wider sidewalks, lighting, safer street crossings, bike lanes, bus shelters and benches.

2006-2010

3067 185th Avenue Improvements

Widen the street to five lanes from West View High School to Springville Road. This project will include sidewalks and bike lanes.

2011-2020

3076 Allen Boulevard Improvements

Widen the street to five lanes from Highway 217 to Western Avenue. This project will include sidewalks and bike lanes.

Westside Station Community 2000-2005

3085 170th Avenue Improvement

Widen the street to three lanes from Rigert Road to Blanton and to five lanes from Blanton to Alexander Road with sidewalks and bike lanes to improve safety.

3094 Cornell Road Bikeway

Retrofit bike lanes on existing street from Elam Young Parkway to Ray Circle.

3095 170th Avenue
Pedestrian Improvements
Improve pedestrian safety and access to light rail transit by completing missing sidewalks from Tualatin Valley Highway to Elmonica light rail station.

3096 Pedestrian Access to MAX

Improve pedestrian safety and access to light rail transit with wider sidewalks, lighting and better crossings in areas adjacent to light rail stations.

2006-2010

3091 Quatama Street Improvements

Widen the street to three lanes from 205th Avenue to 227th Avenue and extend the street south to Baseline Road at 227th Avenue. This project will include sidewalks and bike lanes.

3107 SW 205th Avenue Improvements

Widen the street to five lanes from light rail to Baseline Road. This project will include a new bridge, sidewalks and bike lanes.

2011-2020

3084 170th Avenue Improvements

Widen the street to five lanes from Alexander Road to Merlo Road. This project will include sidewalks and bike lanes.

3086 158th Avenue Improvements

Widen the street from Walker Road to Jenkins Road to include bike lanes.

3087 Millikan Way Improvements

Widen the street to five lanes from Tualatin Valley Highway to 141st Avenue. This project will include sidewalks and bike lanes.

3088 Millikan Way Improvements

Widen the street to three lanes from 141st Avenue to Hocken Road. This project will include sidewalks and bike lanes.

3093 Murray Boulevard Pedestrian Improvements

Make the street safer for Bikeway
Retrofit bike lanes on existing street from Farmington Road to Tualatin Valley Highway.

3098 Walker Road Bike/ Pedestrian Improvements

Retrofit bike lanes and sidewalks on existing street from Canyon Road to Cedar Hills Boulevard.

Hillsboro Regional Center 2000-2005

3102 Baseline Road Improvements

Widen the street to three lanes from 201st Avenue to 231st Avenue. This project also will include sidewalks and bike lanes to improve safety.

3104 NW Aloclek Drive Extension

Construct a three-lane extension of the street from Amberwood Drive to Cornelius Pass Road. This project will also include sidewalks and bike lanes.

3105 East/West Collector

Construct a new three-lane street from 185th Avenue to 231st Avenue. This project also will include sidewalks and bike lanes.



Forest Grove Town Center 2000-2005

3154 Forest Grove Northern Arterial

Construct a new three-lane arterial connection from Quince Street to Highway 47. This project also will include sidewalks and bike lanes to improve safety.

3162 Tualatin Valley Highway (Pacific/19th) Bikeway

Retrofit bike lanes on existing street from Hawthorne Street to E Street.

3163 Forest Grove Town Center Pedestrian Improvements

Improve pedestrian safety and access to transit within the town center with wider sidewalks, lighting, crossings, bus shelters and benches.

2006-2010

3153 David Hill Road Connection

Construct a new two-lane street from Thatcher Road to Sunset Drive to link the northwest sector of the city to Highway 47.

3157 Sunset Drive Improvements

Widen the street to three lanes from University Avenue to Beal Road. This project also will include sidewalks, bike lanes and a new traffic signal.

3158 Forest Grove to US 26 Improvements

Realign Martin Road and Cornelius-Schefflin Road with widened paved shoulders to improve safety.

3159 Highway 8 Improvements

Retrofit the street with a boulevard design from Quince Street to B Street including wider sidewalks, curb extensions, safer street crossings, bus shelters and benches.

3160 Verboort Road Intersection Improvements

Signalize intersection at Highway 47 to improve safety.

2011-2020

3156 Forest Grove Connectivity Improvements

Construct two-lane collector streets parallel to Tualatin Valley Highway to improve local circulation and access within the town center.

Sunset Town Center 2000-2005

3177 Cedar Hills Boulevard/ Barnes Road Intersection Improvement

Reconstruct intersection and approaches to add new travel lanes and turn lanes and upgrades traffic signals.

2006-2010

3178 Westhaven Road Pathways

Improve access to Sunset transit center by constructing off-road pathway between Morrison Street to Springcrest Road west of 95th Avenue.

2011-2020

3176 90th/98th Avenue Extension

Construct a two-lane extension of the street with bicycle and pedestrian facilities from Leahy Road to Barnes Road.

Cedar Mill Town Center 2000-2005

3183 Cornell Road Improvements

Widen the street to three lanes from 143rd Avenue to Saltzman Road. This project will also include sidewalks and bike lanes.

3185 Barnes Road Improvement

Widen the street to five lanes from Saltzman Road to 119th Avenue. This project also will include sidewalks and bike lanes.

3186 Murray Boulevard Improvements

Widen the street to five lanes from Science Park Drive to Cornell Road. This project also will include sidewalks and bike lanes.

3193 Cornell Road Boulevard Treatment

Retrofit the street with boulevard design, including wider sidewalks, raised medians, landscaping, street furniture, curb extensions and safer street crossings.

2006-2010

3190 143rd Avenue Improvements

Widen the street to three lanes from Cornell Road to West Union Road. This project will also include sidewalks and bike lanes.

2011-2020

3181 Cornell Road Improvements

Widen the street to five lanes from US 26 to 143rd Avenue. This project will also include sidewalks and bike lanes.

3184 Cornell Road Improvements

Widen the street to three lanes from Saltzman Road to Miller Road. This project will include safer street crossings and bus shelters.

3187 US 26 Overcrossing

Construct a new multi-modal crossing linking 143rd Avenue near Cornell Road with Meadow Drive to improve local circulation across US 26.

3188 Saltzman Road Improvements

Widen the street to three lanes from Cornell Road to Burton Street. This project will include sidewalks and bike lanes.

3191 Cornell Road Intersection Improvements

Modify the intersections at Saltzman Road, Barnes Road, Murray Boulevard and Trail Avenue to make them safer for all modes.

Bethany Town Center 2000-2005

3197 Bethany Boulevard Improvements – Phase 1

Widen the street to three lanes from Bronson Road to West Union Road. This project also will include sidewalks, bike lanes and a soundwall.

2011-2020

3198 Bethany Boulevard Improvements – Phase 2

Widen the street to five lanes from Bronson Road to West Union Road. This project will include sidewalks and bike lanes.

Farmington Town Center 2000-2005

3222 185th Avenue Bike and Pedestrian Improvements

Construct bike lanes and sidewalks along one side of the street from Kinnaman Road to Blanton Street.

2006-2010

3216 185th Avenue Improvements

Widen the street to three lanes from Kinnaman Road to Bany Road. This project will include sidewalks and bike lanes.

3217 Farmington Road Improvements

Widen the street to three lanes from 185th Avenue to 209th Avenue. This project also will include sidewalks and bike lanes.

3223 185th Avenue Improvements

Widen the street to five lanes from Tualatin Valley to Kinnaman Road. This project will include sidewalks and bike lanes.

2011-2020

3214 Farmington Road Improvements

Widen the street to five lanes from 172nd Avenue to 185th Avenue. This project also will include sidewalks and bike lanes.

3215 Kinnaman Road Improvements

Widen the street to three lanes from Farmington Road to 209th Avenue. This project also will include sidewalks and bike lanes.

3106 229th/231st/234th Avenue Connector

Construct a new three-lane street from Century High School to light rail transit. This project will also include a new bridge, sidewalks, bike lanes and widening 231st Avenue to three lanes.

3108 Baseline Road Improvements

Widen the street to three lanes from Lisa Avenue to 201st Avenue. This project also will include sidewalks and bike lanes to improve safety.

3110 Jackson School Road Improvements

Reconfigure the intersection at US 26 to improve safety. This project restricts turn movements and cross-intersection travel.

3111 First Avenue Improvements

Make the street safer for pedestrians from Grant Street to Glencoe High School, with wider sidewalks, better street crossings and transit improvements.

3113 10th Avenue Improvements

Construct a new right turn lane and widen sidewalks in light rail station area from Main Street to Baseline Road.

3114 NE 28th Avenue Improvements

Widen the street to three lanes from Grant Street to Main Street. The project also improves safety and access to light rail with bike lanes, wider sidewalks, better lighting, safer crossings and landscaped buffers.

3119 Tualatin Valley Highway Improvements

Make boulevard retrofit of street within the regional center from Shute Park to 10th Avenue including wider sidewalks, curb extensions and safer street crossings.

3122 St. Mary's Urban Reserves Future Street Plan

Study the area to define a future street plan for the urban reserve areas located south of Tualatin Valley Highway in Washington County.

3123 Hillsboro Regional Center Transportation Management Association Startup

Implement a transportation management association program with employers in the regional center.

3124 Tualatin Valley Highway System Management

Interconnect the traffic signals from 209th Avenue to 10th Avenue in Hillsboro to limit traffic congestion and improve traffic flow in the corridor.

3127 Hillsboro Regional Center Pedestrian Improvements

Improve pedestrian safety and access to transit within the regional center with wider sidewalks, lighting, safer street crossings, bus shelters and benches.

2006-2010

3112 First Avenue Improvements

Reconfigure First Avenue to provide protected left turn lanes and update signal phasing at Oak Street and Baseline Street.

3115 10th Avenue Improvements

Construct third northbound travel lane from Washington Street to Main Street to improve traffic flow and relieve vehicle queuing at light rail crossing.

3116 10th Avenue Improvements

Construct additional northbound turn lane from Walnut Street to Baseline Street and reconfigure westbound Baseline Street approach to 10th Avenue to improve safety.

3128 Cornell Road Improvements

Widen the street to five lanes from Arrington Road to Main Street. This project will include sidewalks and bike lanes.

**Sunset Industrial Area
2000-2005****3130 Evergreen Road Improvements**

Widen the street to three lanes from Glencoe Road to 15th

Avenue. This project also will include sidewalks and bike lanes to improve safety.

3132 Cornelius Pass Road Improvements

Widen the street to five lanes from US 26 to West Union Road. This project also will include sidewalks and bike lanes to improve safety.

3133 Cornelius Pass Road Interchange Improvement

Add capacity to the interchange and northbound Cornelius Pass Road to improve traffic flow and freight access to US 30.

3134 Cornelius Pass Road Improvements

Widen the street to five lanes from Tualatin Valley Highway to Baseline Road. This project also will include sidewalks, bike lanes and traffic signals to improve safety.

3135 Cornelius Pass Road Improvements

Widen the street to five lanes from Baseline Road to Aloclek Drive. This project also will include sidewalks and bike lanes to improve safety.

3136 Brookwood/Parkway Avenue Improvements

Widen the street to three lanes from Baseline Road to Airport Road and five lanes from Cornell Road to Airport Road. This project also will include sidewalks and bike lanes to improve safety.

3137 Brookwood Avenue Improvements

Widen the street to three lanes from Tualatin Valley Highway to Baseline Road. This project also will include sidewalks and bike lanes to improve safety.

3138 Murray Light Rail Overcrossing and Pedestrian Improvements

Widen the existing light rail crossing to four lanes. This project also will include bike lanes, wider sidewalks, lighting, better crossings and landscaped buffers.

3142 Johnson Street Extension

Construct a three-lane extension of the street from 170th Avenue to 209th Avenue with sidewalks and bike lanes.

3150 Cornell Road System Management

Interconnect traffic signals from 185th Avenue to 25th Avenue to limit traffic congestion and improve traffic flow in the corridor.

2006-2010

3131 Evergreen Road Improvements

Widen the street to five lanes from 15th Avenue to 253rd Avenue. This project also will include sidewalks and bike lanes.

3140 229th Avenue Extension

Construct a three-lane extension of street from Wagon Way to West Union Road. This project also will include sidewalks and bike lanes.

3141 170th/173rd Improvements

Widen the street to three lanes from Baseline Road to Walker Road. This project also will include sidewalks and bike lanes.

3143 Walker Road Improvements

Widen the street to five lanes from Cedar Hills Boulevard to 158th Avenue. This project also will include sidewalks and bike lanes.

3144 Walker Road Improvements

Widen the street to five lanes from Amberglen Parkway to 158th Avenue. This project also will include sidewalks and bike lanes.

3147 25th Avenue Improvements

Widen the street to three lanes to include bike lanes to improve safety.

2011-2020

3139 US 26 Overcrossing

Construct a new crossing of US 26 from Bennett Avenue to Wagon Way.

3218 Cornelius Pass Road Extension

Construct a three-lane extension from Tualatin Valley Highway to 209th Avenue. This project will include sidewalks and bike lanes.

3220 Farmington Town Center Pedestrian Improvements

Improve pedestrian safety and access to transit within town center with wider sidewalks, better crossings, lighting, bus shelters and benches.

Tanasbourne Town Center 2006-2010**3204 Cornell Road Improvements**

Widen the street to five lanes from 179th Avenue to Bethany Boulevard. This project also will include sidewalks and bike lanes.

2011-2020

3205 173rd/174th Undercrossing

Construct a new two-lane undercrossing from Cornell Road to Bronson Road. This project also will include sidewalks and bike lanes.

3208 Tanasbourne Town Center Pedestrian Improvements

Improve pedestrian safety and access to transit within the town center with wider sidewalks, safer street crossings, lighting, bus shelters and benches.

3210 185th Avenue Pedestrian Improvements

Improve pedestrian safety and access to transit from Westview High School to West Union Road, filling in gaps in the sidewalk system and constructing wider sidewalks, better crossings, lighting, bus shelters and benches.

Cornelius Main Street 2000-2005**3167 Highway 8 Intersection Improvement**

Install traffic signals at 19th/20th Avenue and reconfigure intersection to improve safety.

3169 Main Street Improvements

Retrofit the street with a boulevard design from 10th Avenue to 19th Avenue, including wider sidewalks, curb extensions and safer street crossings.

2006-2010

3166 Highway 8 Intersection Improvement

Widen the intersection at 10th Avenue to support freight traffic.

3168 Baseline Street/Adair Street Couplet Intersection Improvements

Install a traffic signal at the intersection of 14th Avenue to improve safety.

3170 West Couplet Enhancement

Retrofit the street with a boulevard design from First Avenue to 10th Avenue, including wider sidewalks, curb extensions, safer street crossings, bus shelters and benches.

Regional Highways 2000-2005**3006 US 26 Improvements**

Complete Phase 2 and 3 of US 26 improvements from Camelot Court to Sylvan Road by adding third through lane and collector distributor system.

3008 US 26 Improvements

Widen US 26 to three lanes in each direction from Highway 217 to Murray Boulevard.

3016 Washington County Traffic Management Improvements

Purchase hardware for new traffic operations center to serve Washington County and conduct needs analysis.

3023 Highway 217 Interchange Improvements

Construct a new frontage road adjacent to the highway from Walker Road to Tualatin Valley Highway, braided ramps at Tualatin Valley Highway and other ramp improvements at Beaverton-Hillsdale Highway, Walker Road and Allen Boulevard. Final design of this project will be determined through Highway 217 corridor plan.

3062 Tualatin Valley Highway System Management

Interconnect traffic signals from Beaverton to Hillsboro to tie into Washington County signal system.

3121 Tualatin Valley Highway Refinement Planning

Refinement planning to identify phased strategy to implement a limited-access facility in this corridor. Study area is from Cedar Hills Boulevard to Minter Bridge.

2006-2010

3001 Highway 217 Improvements

Widen the northbound Highway 217 to three lanes from Tualatin Valley Highway to US 26 with ramp improvements.

3007 US 26 Improvements

Widen eastbound US 26 to three lanes from Highway 217 to Camelot Court.

3060 Tualatin Valley Highway Access Management

Implement access management strategies from 117th Avenue to Hillsboro.

3061 Tualatin Valley Highway System Management

Interconnect traffic signals from 209th Avenue to Highway 217 to limit congestion and improve traffic flow.

2011-2020

3000 Highway 217 Improvements

Add a north and southbound express lane and/or HOV lane from I-5 to US 26.

3002 US 26/217 Interchange Improvement

Reconfigure the interchange with braided ramps.

3009 US 26 Improvements

Widen the freeway to six lanes from Murray Boulevard to 185th Avenue with possible high-occupancy vehicle lane.

3025 Tualatin Valley Highway Improvements

Widen the highway to seven lanes from Cedar Hills Boulevard to Murray Boulevard, six lanes with limited access from Murray Boulevard to Brookwood Road and five lanes from Brookwood Road to 10th Avenue to limit congestion.

Regional Trails 2000-2005**3012 Rock Creek Greenway Multiuse Path**

Construct a multiuse path along Rock Creek Greenway. This project includes several bridges and street crossing improvements in addition to construction of the multiuse path.

3013 Bronson Creek Greenway Study

Study to determine the feasibility of new multiuse trail along Bronson Creek Greenway.

3014 Powerline Beaverton Trail Corridor Study

Complete planning, design and construction of new multiuse trail that connects Bronson Creek Greenway to Farmington Road.

3015 Beaverton Creek Greenway Study

Study to determine the feasibility of new multiuse trail along Beaverton Creek Greenway.

3071 Fanno Creek Greenway Multiuse Path

Construct a multiuse path along Fanno Creek Greenway from Allen Boulevard to Denney Road east of Highway 217 and from Highway 217 east to Allen Boulevard near the Scholls Ferry Road intersection.

3072 Beaverton Powerline Multiuse Trail

Construct a new multiuse trail for bicyclists and pedestrians from Farmington Road to Scholls Ferry Road.

3092 Powerline Rock Creek Multiuse Trail

Construct a multiuse path for bicyclists and pedestrians just north of US 26.

3194 Cedar Mill Multi-Use Path

Construct a multiuse path north of Cornell Road from 113th Avenue to 119th Avenue and help fill the gap between existing bicycle and pedestrian facilities.

Regional Transit

The projects listed in the Regional Transit section identify major transit capital projects and

other improvements that enhance rapid bus and frequent bus service. Capital improvements for rapid bus routes and stations would include transit preferential treatments such as queue-by-pass lanes and signal preemption, park-and-ride facilities, possible off-street station areas and station amenities such as schedule information, ticket machines, lighting, benches, covered shelters and bicycle parking. Capital improvements for frequent bus routes and stations would include transit preferential treatments such as signal preemption, and passenger amenities such as schedule information, covered shelters, curb extensions, lighting, and benches. (See Transit Service Strategy fact sheet for additional information on transit service.)

2000-2020

3018 Transit Center and Park-and-Ride Upgrades

Construct, expand and/or upgrade the transit stations and park-and-ride lots throughout the subarea, including Cornelius, Westside MAX stations, Forest Grove, Beaverton, Hillsboro, Aloha and Cedar Mill transit centers.

3164 Tualatin Valley Highway Frequent Bus

Provide improvements that enhance frequent bus service between Forest Grove and Hillsdale via Tualatin Valley Highway and Beaverton-Hillsdale Highway.

6000 Beaverton-Wilsonville Commuter Rail

Provide new peak-hour commuter rail service between Wilsonville to Beaverton.

6064 Hall Boulevard Frequent bus

Provide improvements that enhance frequent bus service between Tualatin, Tigard, Beaverton and Sunset transit centers.

5.4 Possible Revenue Strategies for 2020

The following is a general description of what would be necessary to provide revenues to fund the Strategic transportation system. A more detailed financial analysis is necessary to accurately identify how much revenue would be raised by increases in existing revenue sources or by the creation of new revenue sources. Further study and engineering is also needed to more accurately estimate the project costs of the Strategic system.

Each agency or jurisdiction that administers a revenue source has the authority to control the spending of additional revenues from those sources in accordance with any laws governing the revenue source. The following scenarios are only to illustrate the magnitude of what would be required to fund the strategic transportation system. Three possible scenarios for raising the revenues necessary to fund the strategic system are described for comparative purposes but do not constitute an adopted financial strategy for the region.

5.4.1 Traditional Sources

This strategy would be to rely on increases in the rates of existing revenue sources to fund the strategic transportation system. Existing revenue sources are familiar to those affected and usually do not require the creation of additional administrative systems to collect and distribute the revenues.

Increases in the following revenue sources could provide the resources necessary to fund the strategic system.

Increase in the State Gas Tax and Vehicle Registration Fee. The state gas tax and vehicle registration fee could be increased to a level that would adequately fund state highway OMP and provide resources necessary to fund highway modernization and expansion costs in the region. Due to revenue sharing of state trust fund money by the state to the cities and counties of the region, additional revenues would also be available for OMP and capital projects for the road system in the region.

An annual increase of 1 cent in the state gas tax through the year 2020 would make available an additional \$3.8 million in the year 2000 and \$96 million by the year 2020 for state highway OMP in the region. This amount of additional revenue would adequately fund state highway OMP in the region and provide approximately \$20 million (YOES) for state highway modernization projects in the region during the course of the 20 year planning period.

An increase in the state vehicle registration fee by \$10 annually would make available an additional \$5.7 million in the year 2000 increasing to \$9.4 million by the year 2020 for the modernization of state highways in the region. If used for highway modernization, this additional \$10 fee would result in a year of expenditure equivalent of \$47 million during the course of the planning period. To provide enough revenue to fund the capital projects in the strategic highway system in the metro region would require an increase of \$420 annually (to a total of \$440) of the state vehicle registration fee.

Under current revenue sharing rates of state gas taxes to Oregon cities and counties, an annual one cent state gas tax increase would provide an additional \$4.9 million dollars to the cities and counties in the region in the year 2000, increasing to \$127 million by the year 2020. These additional revenues would allow the region to begin funding the cost of maintaining and preserving current pavement and bridge standards in the region by the year 2007, although there would continue to be a shortfall until that time.

An increase in the state vehicle registration fee by \$10 annually would result in additional \$5.2 million in the year 2000, increasing to \$8.9 million by the year 2020 for metro area local governments. This would have a year of expenditure value of \$91.2 million for road capital projects. If the state vehicle registration fee was increased by \$420 annually in an attempt to fund the strategic state highway system, local governments could fund the \$2.22 billion strategic road system and make additional revenues available for OMP.

The additional revenue available for road OMP in the region would be \$92 million in the year 2000, increasing to \$157 million by the year 2020. This revenue with existing resources would fully fund the costs to improve road pavement quality to 90 percent fair or better condition until the year 2010, when small shortfalls in funding would begin.

Increase in Local Gas Tax. If an increase in state revenues were not made available, an increase in local gas taxes could provide revenues needed for road modernization and OMP costs. An increase to five cents per gallon in each of the three counties of the region would raise an additional \$17.5 million annually. Each additional one cent increase in the local gas tax would result in an additional \$5 million annually.

Increase in Payroll Tax and Passenger Fares. Transit operations and maintenance costs of the strategic system could be funded through increases in the payroll tax and passenger fares. An increase of approximately .1 percent in the payroll tax with an additional .1 percent increase after five years would fund operations and maintenance costs of the strategic transit system.

Property Tax Bonds. Property tax bonds could provide revenues to match federal discretionary grants for the capital costs of the light rail system as was done on the westside light rail project. An additional \$650 million in property tax based bonds would be needed to match federal grants for light rail projects that have no identified local match at this time.

With these property tax bonds and the allocation of \$982 million of flexible revenues (out of \$1,020 million available), the capital costs of the strategic transit system could be fully funded.

5.4.2 Growth and User Based

This strategy would attempt to ensure that fees and revenues generated by development pays for all impacts that development has to the existing transportation system and pays for all new transportation services required by the development. Costs to maintain and operate the transportation system would be shared by everyone.

Priced Lanes with Added Freeway Capacity. This strategy would price new freeway capacity with the goal of maximizing revenue up to recovering the full cost of these projects.

The following highway projects could be built with priced lanes to help offset capital costs of the project:

- Tualatin-Sherwood connector
- Highway 26 widening
- Highway 217 widening
- McLoughlin Boulevard widening; Harold to Hwy 224
- Sunrise Highway; I-205 to US 26
- I-5 North widening (portions only); Going Street to the Interstate Bridge
- I-205 North widening; Oregon City to I-84

Pricing lanes of freeway expansion projects would reduce the amount of increase to the state vehicle registration fee needed to fully fund the highway capital costs in the region. These projects are currently being studied and a cost recovery rate will be estimated for each project by Metro within the next year. For purposes of this RTP, a 20 percent capital cost recovery rate of all these projects are assumed. This recovery rate would reduce the capital cost of the strategic highway system from \$1.96 billion to \$1.68 billion.

Increase in the State Gas Tax and Vehicle Registration Fee. As with the Traditional Resources strategy, the state gas tax and vehicle registration fee could be increased to a level that would adequately fund state highway OMP and provide resources necessary to fund highway modernization and expansion costs in the region. Due to revenue sharing of state trust fund money by the state to the cities and counties of the region, additional revenues would also be made available for OMP and capital projects for the road system in the region.

An increase of 1 cent in the state gas tax each would adequately fund state highway OMP in the region and provide approximately \$20 million (YOES) for state highway modernization projects in the region during the course of the 20 year planning period.

An increase in the state vehicle registration fee could fund state highway capital costs in the region for those costs not recovered by priced freeway lanes. To provide enough revenue to fund the capital projects in the strategic highway system in the metro region would require an increase of \$290 annually (to a total of \$310) to the state vehicle registration fee.

Under current revenue sharing rates of state gas taxes to Oregon cities and counties, an annual one cent state gas tax increase would provide an additional \$4.9 million dollars to the cities and counties in the region in the year 2000, increasing to \$127 million by the year 2020. This additional revenue would allow the region to fully fund the cost of maintaining and preserving current pavement and bridge standards in the region by the year 2007, although there would continue to be a shortfall until that time.

An increase in the state vehicle registration fee by \$10 annually would result in additional \$5.2 million in the year 2000, increasing to \$8.9 million by the year 2020 for metro area local governments. If the state vehicle registration fee was increased by \$290 annually in an attempt to fund the strategic state highway system, local governments would be able to fully fund the capital costs of the strategic road system (\$2.22 billion) and have additional money for road OMP costs.

After fully funding the strategic road system, local governments would have an additional \$28.7 million in the year 2000, increasing to \$49.2 million by the year 2020 from state vehicle registration fee revenues. With the revenues from the increased state gas tax, this would provide an additional \$33.6 million in the year 2000, increasing to an additional \$176.2 million by the year 2020. This additional revenue would address a majority of the backlog of OMP needs of the regional road system.

Increase in System Development Charges. System development charges could be increased by jurisdictions to provide for:

- all capital costs of new roads associated with the development,
- a contribution to a road modernization fund for impacts to the existing road network, and
- a contribution to a transit capital improvements fund for costs associated with providing new or improved transit service to a community.

These revenues would be used to fully fund OMP costs of the road system. It would also reduce the amount needed from property tax backed revenue bonds as the local match portion of the light rail system by allowing flexible revenues to be used for this purpose rather than other transit capital needs.

Increase in Payroll Tax. Transit operations and maintenance costs of the strategic system could be funded through increases in the payroll tax. An increase of .1 percent in the payroll tax with an additional .1 percent increase in five years would fund O&M costs of the strategic transit system.

5.4.3 Balanced Approach

This strategy would attempt to ensure that growth pays its fair share of transportation costs while allowing for flexibility in how jurisdictions raise and allocate transportation revenues. It also takes into consideration the feasibility of creating new revenue sources and the levels at which revenue sources could be sustained.

Tollways or Peak Period Pricing for New Highway Capacity. This strategy would price selective projects with the goal of balancing the effort to recover costs of the project with the effort to influence of travel behavior to desired routes and times.

The following highway projects could be built with priced lanes to help offset capital costs of the project:

- Tualatin-Sherwood connector

- Highway 26 widening
- Highway 217 widening
- McLoughlin Boulevard widening; Harold to Hwy 224
- Sunrise Highway; I-205 to US 26
- I-5 North widening (portions only); Going Street to the Interstate Bridge
- I-205 North widening; Oregon City to I-84

Pricing lanes of freeway expansion projects would reduce the amount of increase to the state vehicle registration fee needed to fully fund the highway capital costs in the region. These projects are currently being studied and a cost recovery rate will be estimated for each project by Metro within the next year. For purposes of this RTP, a 20 percent capital cost recovery rate of all these projects are assumed. This recovery rate would reduce the cost of the strategic system from \$1.96 billion to \$1.68 billion.

Increase in the State Gas Tax and Vehicle Registration Fee. As with the Traditional Resources strategy, the state gas tax and vehicle registration fee could be increased to a level that would adequately fund state highway OMP and provide resources necessary to fund some highway modernization and expansion costs in the region. Due to revenue sharing of state trust fund money by the state to the cities and counties of the region, additional revenues would also be made available for OMP and capital projects for the road system in the region.

An increase of 1 cent in the state gas tax each would adequately fund state highway OMP in the region and provide approximately \$20 million (YOES) for state highway modernization projects in the region during the course of the 20 year planning period. Rather than fully funding all OMP costs of state highways to improve current pavement and bridge standards, ODOT and the region could use some of these additional revenues for modernization and expansion projects.

An increase in the state vehicle registration fee could fund state highway capital costs in the region. The balanced approach strategy would attempt to select a more feasible vehicle registration fee increase of \$30 a year (to \$50 a year). This would provide \$141 million in year of expenditure revenue for the capital projects in the strategic highway system in the metro region. Further increases could be made in later years if the additional increases in the vehicle registration fee are acceptable given the benefits of the strategic highway system projects that would be funded.

Under current revenue sharing rates of state gas taxes to Oregon cities and counties, an annual one cent state gas tax increase would provide an additional \$4.9 million dollars to the cities and counties in the region in the year 2000, increasing to \$127 million by the year 2020. This additional revenue would allow the region to fully fund the cost of maintaining and preserving current pavement and bridge standards in the region by the year 2007, although there would continue to be a shortfall until that time.

An increase in the state vehicle registration fee by \$10 annually would result in additional \$5.2 million in the year 2000, increasing to \$8.9 million by the year 2020 for metro area local governments. If the state vehicle registration fee was increased by \$30 annually, local governments would be able to provide \$274 million in year of expenditure dollars towards the capital costs of the strategic road system.

Implement Road Maintenance Fee. A road maintenance fee similar to the fee used by the City of Tualatin, implemented throughout the region, could provide an additional \$25 million to \$35 million per year for road maintenance in the region. With the additional revenues available for road OMP from the increase in the state gas tax, a portion of the backlog of maintenance needs could be addressed.

Implementation of the road maintenance fee could most feasibly be done by the cities and counties of the region by legislative action and by collecting the fee as a part of their utility bills.

Increase in Payroll Tax. Transit operations and maintenance costs of the strategic system could be funded through increases in the payroll tax. An increase of .1 percent in the payroll tax and an additional .1 percent increase in five years would fund O&M costs of the Strategic transit system.

Property Tax Bonds. Property tax bonds could provide revenues to match federal discretionary grants for the capital costs of the light rail system as was done on the westside light rail project. An additional \$650 million in property tax backed bonds would be needed to match federal grants that have no identified local match at this time.

Increase in System Development Charges. System development charges could be increased by jurisdictions to provide for capital projects related to transit capital projects in their jurisdiction. These include street improvement costs associated with the Regional Transit Network (shelters, sidewalks, platforms), new or improved transit centers and park-and-rides and systems costs such as transit priority signals and que-jump lanes.

This source could reduce the amount of flexible revenue needed for transit capital of the strategic system.