

***Chapter 5***

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**Growth and the Priority System**



**METRO**

**2004 RTP**



## CHAPTER 5

# Growth and the Priority System

## 5.0 Introduction

The financial analysis in Chapter 4 shows a dramatic shortfall in the region's ability to fund the 2020 Preferred system identified in Chapter 3, with needed improvements costing more than three times the 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 could affect all aspects of the regional transportation system, in particular limiting the region's ability to expand existing roadways, transit service as well as adequately serve the region's pedestrian, bicycle and freight needs.

For the purpose of evaluating the impact of funding limitations on our ability to provide needed improvements, this chapter includes a Financially Constrained System analysis. The Financially Constrained System also serves as the basis for complying with federal planning and air quality regulations. In this scenario, the scale of the system is limited to approximately \$2.9 billion, which includes existing and proposed funding sources that can reasonably be expected to be available for transportation uses during the 20-year plan period.<sup>1</sup> This includes \$900 million of federal transit money that may only be used to expand the light rail system beyond the Interstate Avenue light rail project.

With expected revenue, the financially constrained system is not adequate to meet the region's 20-year transportation needs. The analysis of this Financially Constrained network shows an unacceptable level of congestion, with accompanying impacts on the region's ability to adequately serve expected growth in centers and maintain adequate access to intermodal facilities and industrial areas. As a result, the 2020 Priority System was developed. The 2020 Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. It is not intended to fully meet the region's 20-year needs identified in Chapter 3 as the "preferred" system, but is adequate given current funding limitations. However, the "priority" system of projects described in this chapter would still require a major increase in transportation funding. The resulting priority system would be adequate to serve most of our transportation needs during the next 20 years, but many needs would remain unmet, particularly in developing areas near the urban fringe and on minor routes, underscoring the importance of exploring new and innovative funding strategies for addressing the region's transportation needs.

Therefore, while the 2020 Preferred System is a full statement of need, the 2020 Priority System is a statement of the highest priority need, given current transportation funding constraints, which includes a modest increase of existing resources. Section 5.4 of this chapter describes four possible revenue concepts to address the funding needs of the 2020 Priority System. The accompanying subarea maps show the proposed priority system projects and programs in detail. A summary of the projects included in the Preferred, Priority and Financially Constrained systems is shown in Appendix 1.1. This chapter is organized as follows:

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<sup>1</sup> See Appendix 4.0 for more detail on the revenue assumptions used to develop the financially constrained system.

**Effects of Growth on the Financially Constrained System:** This section evaluates the performance of the Financially Constrained System and the corresponding impact on implementation of the 2040 Growth Concept on a regional and sub-region basis. For RTP analysis purposes, the financially constrained system was defined to provide a benchmark transportation scenario to compare with the 2020 Preferred and Priority systems and demonstrate that current transportation funding is not adequate to serve this region's 20-year transportation needs. The Financially Constrained System also serves as the basis for complying with federal planning and air quality regulations.

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

**2020 Priority System Analysis:** This section evaluates the performance of the 2020 Priority 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 Priority 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 Financially Constrained System**

### **5.1.1 Financially Constrained System Defined**

The financially constrained system is a 20-year transportation scenario that assumes existing and proposed funding sources that can reasonably be expected to be available for transportation uses during the 20-year plan period<sup>2</sup> It is required by federal transportation planning regulations and constitutes the federally recognized plan. The purpose of defining a financially constrained system is to provide a benchmark transportation scenario that will be compared with the 2020 Priority and Preferred systems as part of the RTP analysis. As noted, this system also demonstrates that current transportation funding is not adequate to serve this region's 20-year transportation needs, and is used to determine conformity with federal planning and air quality regulations.<sup>3</sup>

During the 20-year plan period, approximately \$2.9 billion in forecasted revenue was allocated for capital improvements.<sup>4</sup> This amount represents a major shortfall when compared to the cost to implement the needs identified in the preferred system in Chapter 3. As a result, the financially constrained system does not attempt to address all transportation needs. Instead, the financially constrained system attempts to focus limited revenue in key 2040 design types throughout the

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<sup>2</sup> See Appendix 4.2 for more detail on the revenue assumptions used to develop the Financially Constrained System.

<sup>3</sup> See Appendix 4.1 for detail on the air quality conformity background and findings of compliance with federal planning regulations.

<sup>4</sup> See Chapter 4, Section 4.1 for more detail on existing revenue sources.

region, including the central city, industrial areas and intermodal facilities and regional and town centers. Other considerations in developing the financially constrained system focused on prior commitments or previously highly ranked projects, smaller, key phases of larger projects and projects that would help complete the bicycle, pedestrian, transit, motor vehicle and freight systems identified in Chapter 1 of this plan.

### **5.1.2 Regional Performance<sup>5</sup>**

Chapter 2 described expected travel demand for the year 2020 based on implementation of the 2040 Growth Concept and predicted population and employment. In summary, population and employment is expected to increase by 46 percent and 68 percent respectively between 1994 and 2020 within the urban growth boundary. This growth is expected to result in a corresponding increase in travel demand during the same time period. The increase in travel throughout the region is expected to have a significant impact on the performance of the regional transportation system. Overall, the financially constrained system is expected to result in slightly less vehicle miles traveled than the preferred system. Table 5.1 shows expected growth in travel within the urban growth boundary.

Though the Financially Constrained System was developed with an emphasis on serving key 2040 Growth Concept centers and industrial areas and intermodal facilities, the travel demand in these areas is expected to exceed the ability of proposed motor vehicle and transit improvements to accommodate growth. The motor vehicle system is expected to be very congested during the evening two-hour peak period, exceeding regional motor vehicle performance standards on most principal arterial routes, including the Banfield Freeway west of I-205, portions of the Sunset Highway, Highway 217, Interstate 5 and Interstate 205. Many major arterial routes throughout the region are also expected to experience significant congestion during the evening two-hour peak period, limiting access to the Gresham, Gateway, Oregon City, Clackamas, Beaverton and Hillsboro regional centers. Though the financially constrained transit system carries heavy volumes in the Eastside and Westside light rail corridors, congestion on would significantly impact bus service on parallel arterial routes during the evening two-hour peak period.

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<sup>5</sup> Based on Appendix 1.2: System Performance Measures for Intra-UGB Trips.

**Table 5.1**

**2020 Financially Constrained System Vehicle Miles of Travel<sup>6</sup>**

	1994	2020 Preferred System	2020 Financially Constrained System	Difference Preferred and Financially Constrained Systems
Average weekday vehicle miles traveled	16,112,462	24,049,650	24,041,362	<-1%
Average weekday vehicle miles traveled per person	14.10	14.43	14.43	<1%
Average weekday vehicle miles traveled per employee	20.36	18.11	18.10	<-1%

<sup>1</sup> Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

*Source: Metro*

**Motor Vehicle System Performance**

Like the preferred system, delay on the region’s freeway and arterial street networks 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 financially constrained system, 20.3 percent of the region’s arterial streets are expected to experience congestion during the evening two-hour peak period. In comparison, in the preferred system, slightly less than 14 percent of the region’s arterial streets are expected to experience congestion during the evening two-hour peak period.

If the financially constrained 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 15 percent to nearly 39 percent between 1994 and 2020. 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 28.7percent.

Freeways in the financially constrained system are expected to experience slightly more than 1.5 times the amount of motor vehicle hours of delay as freeways in the preferred system. Likewise, arterial streets in the financially constrained 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 financially constrained 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 financially constrained systems, summarizing the differences in the amount and extent of congestion within the Metro urban growth boundary.

<sup>6</sup> Based on Appendix 1.2: System Performance Measures for Intra-UGB Trips.

**Table 5.2**

**2020 Financially Constrained System Motor Vehicle System Performance<sup>1</sup>**

	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Financially Constrained System</b>
Average motor vehicle speed	25 mph	22 mph	20mph
Average motor vehicle travel time	11 minutes	12 minutes	13 minutes
Percent of freeway miles experiencing congestion (v/c >0.9)	14.9%	28.7%	38.6%
Percent of arterial street miles experiencing congestion (v/c >0.9)	6.0%	13.7%	20.3%
Total motor vehicle hours of delay (v/c >0.9)	7,764	33,102	51,496
Motor vehicle hours of delay on freeway (% of total)	2,325 (1.8%)	9,684 (4.4%)	13,746 (5.6%)
Motor vehicle hours delay on arterial streets (% of total)	5,439 (4.3%)	23,418 (10.6%)	37,750 (15.4%)

<sup>1</sup> Based on evening two-hour peak period. Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

Source: Metro

**Alternative Mode Performance**

Drive-alone trips as a percentage of all person trips are expected to decrease by slightly more than one percent between 1994 and 2020, assuming implementation of the financially constrained 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 priority systems.

Transit service hours are expected to increase by 45 percent, increasing from 4,400 hours in 1994 to more than 8,406 hours in 2020. Transit ridership is expected to increase by 40 percent, representing more than 5 percent of all person trips in the region by 2020. The number of average weekday transit trips is expected to more than double between 1994 and 2020, increasing from 172,464 to more than 387,000 transit trips. In comparison, ridership in the preferred system is expected to more than 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 7 percent and 4 percent respectively between 1994 and 2020, assuming implementation of the financially constrained 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 financially constrained systems within the Metro urban growth boundary.

**Table 5.3**

**2020 Financially Constrained System Alternative Mode Performance<sup>1</sup>**

	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Financially Constrained System</b>
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%	5.11%
Average weekday transit trips (originating rides)	172,464	551,757	387,527
Average weekday transit revenue hours	4,400	13,836	6,402
Percent of households within 1/4-mile of transit	78%	83%	73%
Percent of jobs within 1/4-mile of transit	86%	88%	82%

<sup>1</sup> Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

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 financially constrained system. This represents a change from 4 percent of truck hours experiencing delay in 1994 to more than 17 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 financially constrained system, and compares performance of the financially constrained system with the preferred system.

**Table 5.4**

**2020 Financially Constrained System Freight System Performance<sup>1</sup>**

	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Financially Constrained System</b>
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	713	1,026
Two-hour peak period average truck travel time	36.53	42.86	45.90

Note: This summary of freight system performance reflects Metro's regional truck travel forecasting model.

<sup>1</sup> Within the four-county region, includes Clark, Clackamas, Multnomah and Washington counties.

Source: Metro

### **5.1.3 Subarea Performance**

Significant congestion will remain on the regional transportation system, assuming implementation of the Financially Constrained System. As a result, the 2020 Financially Constrained System does not adequately meet the overall travel needs of the Portland metropolitan region for the next 20 years.

This section summarizes the performance of proposed 2020 Financially Constrained System improvements on the regional transportation system by RTP Subarea. The discussion focuses on an evaluation of the overall impact of certain improvements on access to the central city, regional centers, industrial areas and intermodal facilities.

#### **Subarea 1: West Columbia Corridor**

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 most financially constrained system improvements. Exceptions include several seismic retrofit projects and an interchange improvement at 33rd Avenue on Northeast Portland Highway. The financially constrained system assumed limited improvements to I-5 North corridor that included an extension of light rail to Clark County, Wa., widening I-5 North to three lanes in each direction from Lombard Street to the Expo Center and a smaller phase of ramp improvements to I-84 at Greeley Avenue.

Other improvements assumed for this subarea include a light rail extension to the Portland International Airport, capacity improvements to key arterial streets and freight rail lines that access industrial areas and intermodal facilities, system management strategies on arterial streets, bicycle and pedestrian improvements and the establishment of transportation management associations.

## **Financially Constrained System Performance**

Motor vehicle and freight systems assumed in the financially constrained system perform comparably to the priority system, largely because the two systems are nearly identical in terms of the assumptions for the West Columbia Corridor subarea, with the exception of I-5 North. I-5 North experiences more congestion in the financially constrained system when compared to the priority system, reflecting limited improvements to the corridor. Other areas of significant congestion are in the vicinity of Portland International Airport, along Alderwood Road, 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 Portland International Airport.

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 much from the priority 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 priority system, as a result. New and existing transportation management associations are expected to benefit the overall function of the transportation system in this subarea.

## **Subarea 2: Portland Central City and Neighborhoods**

This subarea is centered on the Portland central city. As a primary land-use component in the 2040 Growth Concept, the Portland central city is a focus of many financially constrained system improvements, with many priority system projects represented in the financially constrained network. Examples of projects not included in the financially constrained system include: I-5 access improvements from Macadam and the Central Eastside Industrial District, Belmont Avenue ramp improvements, some eastside bikeways, some 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.

Transit coverage in this subarea did not vary significantly from the priority system, although both bus and light rail service are less frequent. Transit service in this subarea is mostly limited to regional bus service and light rail, extending north to the Portland Metropolitan Exposition (Expo) Center and south to the Milwaukie regional center from the Rose Quarter transit center, and then potentially to Clark County, Wash. The central city street car was extended to the North Macadam area in the financially constrained system. Overall, transit ridership to and from the subarea is expected to be somewhat lower than the priority system as a result of the reduced bus and light rail service.

## **Financially Constrained System Performance**

Motor vehicle and freight systems assumed in the financially constrained system are expected to be more congested than the priority system. In particular, all radial principal arterial corridors exceed the level-of-service policy established in Chapter 1, including I-405, I-5 North, I-5 South, I-84 and US 26. System management strategies, transportation management associations and improvements to the regional bike and pedestrian systems represent a higher percentage of financially constrained system projects within this subarea as a means to provide adequate

alternatives to the congested motor vehicle system. 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 financially constrained system.

Without light rail service improvements to the Highway 99E/224 corridor, there is not an adequate alternative to congestion during the evening-two hour peak period. Highway 224 experiences more congestion in the vicinity of the Ross Island and Sellwood bridges in the financially constrained system when compared to the priority system during the evening two-hour peak period. Similarly, Barbur Boulevard and I-5 south of I-405 are expected to experience significantly more congestion than the priority system without an adequate high-capacity transit alternative in the Barbur Boulevard corridor.

Maintenance and preservation of the Willamette River Bridges is expected to fall behind given the funding limitations of the financially constrained system; this could have significant impacts on access to the Portland central city by all modes of travel.

### **Subarea 3: East Multnomah County**

The Gresham and Gateway regional centers and the east Columbia Corridor industrial area are included in this subarea. As primary land-use components of the 2040 Growth Concept, these areas are the focus of most financially constrained system improvements. Examples of projects located outside of these areas that were not included in the financially constrained system include: widening I-84, improvements to I-205, multi-modal retrofits of arterial streets, localized capacity improvements to address significant bottlenecks on Division Street (east of 257th Avenue), 162nd, 201st, Halsey, Glisan, Palmquist and Orient roads and connectivity improvements in the east Columbia Corridor industrial area. Transit service in the East Multnomah County subarea included regional bus service and light rail. Transit coverage in this subarea did not vary from the priority system, although both bus and light rail service are less frequent and there are fewer capital improvements to increase bus speed and reliability.

### **Financially Constrained System Performance**

Motor vehicle and freight systems assumed in the financially constrained system are expected to be more congested than the preferred and priority systems. In particular, I-205, Powell Boulevard and north/south arterial streets that access I-84. The level of congestion on the motor vehicle network does not significantly affect access to the Gresham regional center because assumed transit service and multi-modal retrofits of existing streets provide alternatives. Travel demand from developing areas south of Gresham regional center is expected to cause Division Street, Powell Boulevard and Foster Road to experience significant congestion during the evening two-hour peak period.

In contrast, Gateway experiences significant spillover traffic from the Banfield Freeway corridor. As a result, a number of east/west corridors in the Gateway area, including Halsey, Glisan, Burnside, Stark and Division streets experience more congestion in the financially constrained system as compared to the preferred and priority systems during the two-hour peak period.

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 other routes such as 181st and 223rd avenues.

System management strategies, transportation management associations and improvements to the regional bike and pedestrian systems represent a higher percentage of financially constrained system projects within this subarea as a means to provide adequate alternatives to the congested motor vehicle system.

#### **Subarea 4: Damascus/Pleasant Valley**

The Damascus/Pleasant Valley urban reserve areas represent the majority of land uses in this subarea. As a result, most financially constrained system improvements for this area focused on developing a modest base street network to serve planned urbanization in this part of the region. Performance of the financially constrained system in the Pleasant Valley/Damascus area varies significantly from the preferred and priority systems, largely due to the lack of an adequate street network to serve planned urbanization in this part of the region. In addition, due to funding limitations the financially constrained system assumed only Phase 1 of the Sunrise Corridor principal arterial connection, modest capacity improvements to arterial streets, including Foster Road, 172nd Avenue and Sunnyside Road, and modest improvements to the regional bicycle system. Examples of projects not assumed in the financially constrained system to serve this subarea include: a project to widen 242nd Avenue from Gresham regional center to Highway 212, regional bus service expansion, a number of surrogate collector and arterial street network and implementation of a transportation management association.

Transit service in this subarea includes regional bus service that connects to Clackamas and Gresham regional centers. Transit coverage in this subarea was also significantly less in the financially constrained system when compared to the preferred and priority systems, and both bus and light rail service were less frequent.

#### **Financially Constrained System Performance**

Despite modest capacity improvements to most existing arterial streets in this subarea, the motor vehicle system experiences significantly more congestion than the preferred and priority systems during the two-hour peak period. In addition, differences in the surrounding Multnomah and Clackamas county networks are expected to affect access to the Damascus and Pleasant Valley areas from the rest of the region. In the financially constrained system, scaled-back improvements to I-205 are expected to 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 financially constrained system during the evening two-hour peak period. In terms of access to Multnomah County, the lack of a collector and arterial street network north of Foster Road and expected congestion along Foster Road are expected to make travel in and out of Multnomah County more difficult and result in diversion of traffic onto other rural routes.

Furthermore, the level of transit service assumed for this area is not expected to provide an adequate alternative to peak hour congestion.

### **Subarea 5: Urban Clackamas County**

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 most financially constrained system improvements and many priority system projects are represented in the financially constrained network. Key improvements like adding capacity to I-205, Highway 224, the Sunrise Corridor and high-capacity transit to Clackamas and Oregon City regional centers are not retained in the financially constrained system. Transit service in this subarea includes regional bus service and light rail, from the Rose Quarter transit center to the Milwaukie town center. A light rail extension from Milwaukie to Oregon City and Clackamas regional centers is not included in the financially constrained system. Transit coverage and service in this subarea varied significantly from the preferred and priority systems, including less frequent bus and light rail service and fewer capital improvements to increase bus speed and reliability.

### **Financially Constrained System Performance**

Overall, motor vehicle and freight systems assumed in the financially constrained system are expected to be more congested than the preferred and priority system. The urban Clackamas County transportation system is already overburdened in the preferred and priority systems, due to the heavy concentration of urban reserves adjacent to and within this subarea. In addition, a lack of improvements to the arterial and collector street network results in congestion during the evening two-hour peak period on major routes, like Sunnyside Road, 82nd Avenue and McLoughlin Boulevard. This significant congestion is further compounded by not including I-205 and Highway 99E/224 capacity improvements or adequate transit alternatives for these principal and major arterial corridors in the financially constrained system. This has a dramatic effect on both arterial routes 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. Urban reserve areas to the south of Oregon City are also expected to impact access to the regional center as planned growth in these areas cannot be adequately served by proposed improvements to Highway 213.

Most bicycle and pedestrian improvements assumed in the financially constrained system are limited to regional and town centers thus limiting bicycle and pedestrian access along major corridors that connect these centers. System management strategies, transportation management associations and improvements to the regional bike and pedestrian systems represent a higher

percentage of financially constrained system projects within this subarea as a means to provide alternatives to the congested motor vehicle system.

### **Subarea 6: South Washington County**

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 most financially constrained system improvements. Examples of projects located outside of these areas that were not included in the financially constrained system include: I-5/99W Connector, widening 99W, bike and/or pedestrian improvements in town centers, and several collector and minor arterial connectivity and capacity improvements in Tigard and Wilsonville town centers.

Transit service in this subarea includes regional bus service and peak-hour only commuter rail service connecting Wilsonville to Beaverton. Transit coverage in this subarea varied significantly from the preferred and priority systems, Transit coverage and service in this subarea varied significantly from the priority system, including less frequent bus and light rail service and fewer capital improvements to increase bus speed and reliability.

### **Financially Constrained System Performance**

Motor vehicle and freight systems assumed in the financially constrained system are expected to be more congested than the preferred and priority systems during the evening two-hour peak period. Absence of the I-5/99W Connector is expected to divert traffic onto 99W, Tualatin-Sherwood Road and other rural routes. This in turn is expected to impact access to regional and town centers within the subarea. Local circulation and access to Tigard town center is limited by significant congestion along 99W in the financially constrained system during the two-hour peak period. Highway 217 in the vicinity of Washington Square regional center and I-5 south of Kruse Way are expected to experience significant congestion. Commuter rail between Wilsonville and Beaverton and transit service along the Barbur Boulevard corridor do not provide adequate alternatives to congestion in this part of the region. Highway 217 experiences significant congestion in some sections in the vicinity of Washington Square regional center during

Most bicycle and pedestrian improvements in the financially constrained system are limited to regional and town centers thus limiting bicycle and pedestrian access along major corridors that connect these centers. A relatively strong program of transportation management associations is expected to provide some benefits to the transportation system.

### **Subarea 7: North Washington County**

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 most financially constrained system improvements. Several priority system projects are not included in the financially constrained system, including capacity improvements to US 26 west of Murray Boulevard, portions of Walker Road and arterial streets north of US 26. Bike and/or pedestrian improvements along Walker Road, Denney Road, Springville Road, Western Avenue, Canyon Road, Baseline Road, Allen Boulevard and Tualatin Valley Highway were also not included. Most bicycle and pedestrian improvements assumed in the financially constrained system are limited to projects that also add road capacity.

Transit service in this subarea includes regional bus service, peak-hour only commuter rail service connecting Wilsonville to Beaverton and light rail. Transit coverage and service in this subarea varied significantly from the preferred and priority systems, including less frequent bus and light rail service and fewer capital improvements to increase bus speed and reliability.

### **Financially Constrained System Performance**

Overall, motor vehicle and freight systems assumed in the financially constrained system are expected to be more congested than the preferred and priority systems during the evening two-hour peak period. In particular, sections of US 26 and Walker Road near the Sunset industrial area are expected to experience significant congestion during the evening two-hour peak period. In addition, Tualatin Valley Highway, Beaverton-Hillsdale Highway, Farmington Road, Jenkins Road, portions of Murray Boulevard, Scholls Ferry Road and West Union Road experience significant congestion in the financially constrained system during the evening two-hour peak period. Bus transit service does not provide an adequate alternative to this congestion.

Highway 217 between Beaverton and Washington Square regional centers is expected to experience in part due to the amount of local trips using Highway 217 to access the regional centers. Local connectivity improvements assumed in downtown Beaverton provide some alternatives to congestion on major arterials entering Beaverton regional center. Commuter rail service does provide an alternative to this congestion for some types of trips, but better bus feeder service is needed. A relatively strong program of transportation management associations is expected to provide some benefits to the transportation system.

## **5.2 Proposed Priority System Improvements for 2020**

These proposed Priority System Improvements are the regional Transportation System Plan improvements, which comprise an “adequate” system required by the state Transportation Planning Rule (TPR).

### **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 Priority System needs and projects to meet those needs are summarized in Table 5.5.

**Table 5.5**  
**2020 Priority System**  
**Principles for Identifying Needs and Projects**

<p><b>Vision for consistency with the 2040 Growth Concept</b></p> <ul style="list-style-type: none"> <li>• Implements the most significant primary land-use components transportation needs</li> <li>• Addresses many secondary land-use components transportation needs</li> <li>• Addresses some needs for other 2040 Growth Concept land-use components</li> <li>• Substantially preserves “Regional Highways” function</li> </ul> <p><b>Structure for consistency with the 2040 Growth Concept</b></p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Most industrial areas have strong connections to regional highway system and intermodal facilities</li> <li>• Most town centers, corridors and main streets served by regional transit and contain a mix of arterial street, pedestrian and bicycle systems improvements</li> <li>• Many neighborhoods and employment areas served by community transit, arterial capacity improvements and some improvements to the pedestrian and bicycle systems</li> </ul> <p><b>2020 Priority System Performance</b></p> <ul style="list-style-type: none"> <li>• Meets many Chapter 1 modal targets (<i>from Chapter 1</i>)</li> <li>• Meets most regional motor vehicle performance measures (<i>from Chapter 1</i>)</li> <li>• Meets intent of Oregon Transportation Planning Rule requirements (<i>from Chapter 6</i>)</li> <li>• Serves as policy determination of “adequate” transportation system (<i>from Chapter 6</i>)</li> <li>• Maintains current regional operations, maintenance and preservation needs</li> <li>• Meets many 20-year benchmarks for 2040 Growth Concept implementation (<i>from Chapter 6</i>)</li> </ul>
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Source: Metro

### 5.2.2 Sources of Priority System Projects

Similar to the 2020 Preferred System, the list of priority 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 Priority System Projects

While the Preferred System represents a statement of need, the Priority System represents a statement of the highest priority need. More than 820 projects have been identified for the preferred system. The 2020 Priority System represents a scaled back 2020 Preferred System and is

made up of more than 650 of the 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 priority 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 Priority 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 priority 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 Priority 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 priority system. Figure 5.1 graphs the number of road-related projects proposed in the priority system by mode. (Note: Throughout the document, cost estimates referring to “road-related” improvements include the full modal mix reflected in Figure 5.1). The number of proposed transit capital projects is not included in Figure 5.1.

**Table 5.6**

**General Overview of the 2020 Priority System<sup>1</sup>**

	<b>1994</b>	<b>2020</b>	<b>Percent Change</b>
Freeway lane miles	570	667	+17%
Arterial lane miles	3,231	3,696	+14%
Freight network miles <sup>2</sup>	623	647	+4%
Light rail miles	15	60	+ 300%
Rapid/Frequent bus route miles	none	225	n/a
Local bus route miles	958	1,144	+19%
Bicycle network miles added	not available	447	n/a
Pedestrian network miles added	not available	457	n/a

Note: This table includes arterial and freeway lane/route miles.

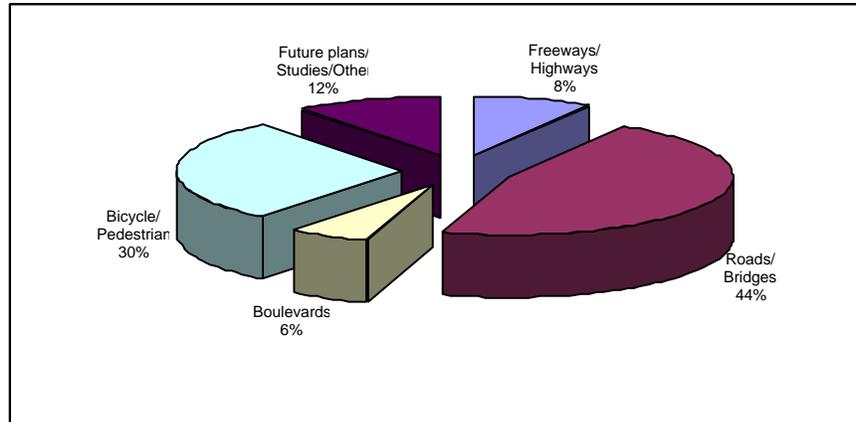
<sup>1</sup> Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

<sup>2</sup> Freight network miles are also accounted for in freeway and arterial streets.

Source: Metro

**Figure 5.1**

**2020 Priority System  
Road-Related Projects**



Note: All "Road" and "Boulevard" projects include a bicycle and pedestrian component.

Source: Metro

Similar, to the preferred system, examples of the types of projects included in Figure 5.1 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 priority system, but are not identified in Figure 5.1 include:

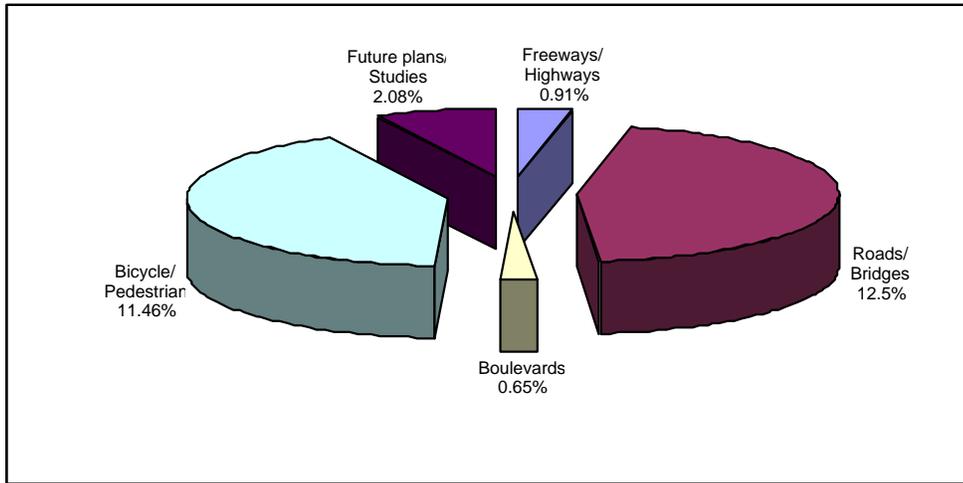
- *State and local road maintenance.* Adequate maintenance and preservation of the existing road system without the current pavement condition level slipping from approximately 77 percent of regionally significant roads in fair or better condition.
- *Expanded transit service.* A 4.2 percent increase 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.
- *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.

### **5.2.5 Overview of Projects Not Included in the 2020 Priority System**

Figure 5.2 shows the breakdown of road-related projects not included in the 2020 Priority System as a proportion of the preferred system. Approximately 26 percent of projects identified in the

preferred system were not included in the priority system. The types of projects not included in the priority system were primarily arterial street expansions and bicycle and pedestrian improvements. Figure 5.2 does not include transit capital improvements.

**Figure 5.2**  
**Road-Related Projects Not Included in the 2020 Priority System**  
(as a percentage of the preferred system)



Source: Metro

### 5.3 2020 Priority System Analysis

The 2020 priority system is intended to meet the state Transportation Planning Rule (TPR) definition of an "adequate" system. This definition means that while the 2020 priority 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 priority 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 priority system is to meet 20-year implementation benchmarks established for the 2040 Growth Concept.

The 2020 priority 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 priority 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 Priority 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 priority system. See Chapter 6 for more detail on proposals for addressing, or in some cases, tolerating that congestion.

### 5.3.1 Regional Performance<sup>7</sup>

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

**Table 5.7**

**2020 Priority System Average Weekday Trips<sup>1</sup>**

	1994	2020 Preferred System	2020 Priority System	Difference 1994-2020 Priority
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 %

<sup>1</sup> Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

Source: Metro

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

<sup>7</sup> Based on System Performance Measures for Intra-UGB Trips, Appendix 1.2.

**Table 5.8**

**2020 Priority System Vehicle Miles of Travel<sup>1</sup>**

	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Priority System</b>	<b>Difference 1994-2020 Priority</b>
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 %

<sup>1</sup> Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

Source: Metro

**Motor Vehicle System Performance**

In the priority system, the proportion of the region’s arterial streets experiencing congestion is expected to more than double, increasing from 6.0 percent in 1994 to slightly more than 15 percent in 2020. In the preferred system, slightly more than 16 percent of the region’s arterial streets are expected to experience congestion 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 priority systems, summarizing the differences in the amount and extent of congestion within the Metro urban growth boundary.

**Table 5.9**

**2020 Priority System Motor Vehicle System Performance<sup>1</sup>**

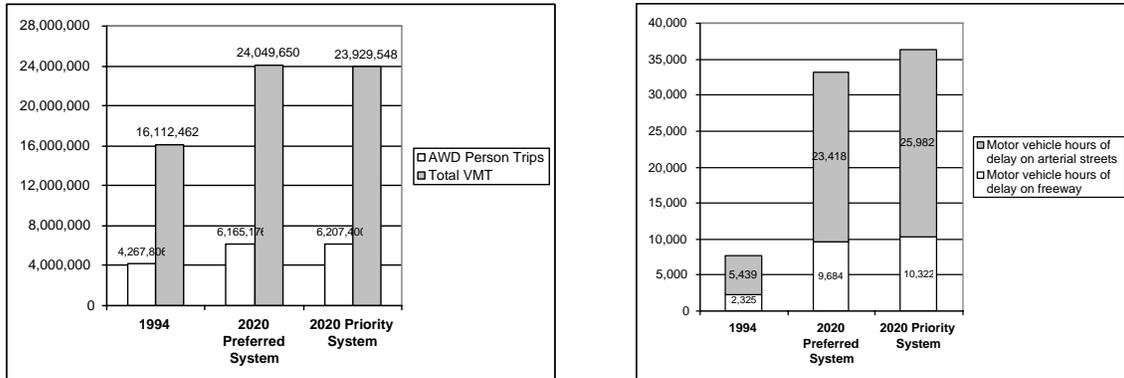
	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Priority System</b>
Average motor vehicle speed	25 mph	22 mph	21 mph
Average motor vehicle travel time	11 minutes	13 minutes	13 minutes
Percent of freeway miles experiencing congestion (v/c >0.9)	14.9%	28.6%	26.6%
Percent of arterial street miles experiencing congestion (v/c >0.9)	6.0%	15.3%	16.3%
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%)

<sup>1</sup> Based on evening two-hour peak period. Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

Source: Metro

Figure 5.4 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 priority systems.

**Figure 5.3**  
**Comparison of Travel and Delay<sup>1</sup>**



<sup>1</sup> Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

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 priority 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 priority 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. 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 priority system. Of the new transit service provided to the region on an average weekday, the forecast is that:

- 31 percent would provide new coverage
- 36 percent would expand the length and increase the frequency of peak-hour service on existing routes
- 23 percent would provide more frequent service during off-peak hours on existing routes
- 10 percent would provide longer service days on existing routes

Table 5.10 summarizes alternative mode performance.

**Table 5.10**

**2020 Priority System Alternative Mode Performance<sup>1</sup>**

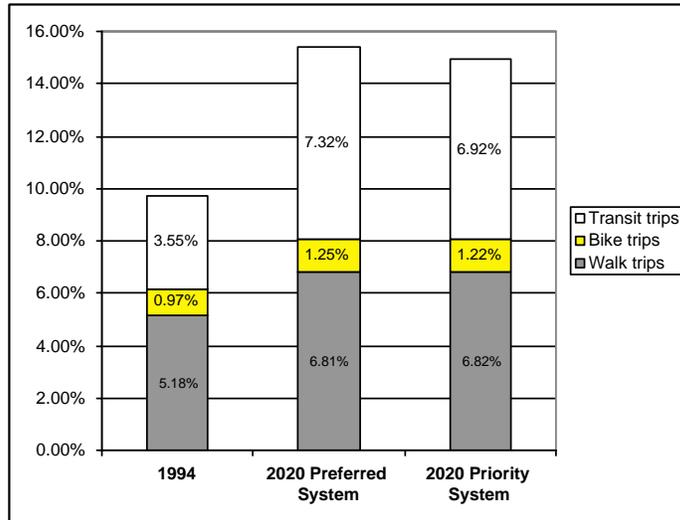
	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Priority System</b>	<b>Difference 1994-2020 Priority</b>
Walk trips (as a percent of total person trips)	5.18%	6.81%	6.82%	+ 32%
Bike trips (as a percent of total person trips)	.97%	1.25%	1.22%	+ 26%
Transit trips (as a percent of total person trips)	3.55%	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%

<sup>1</sup> Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

Source: Metro

Figure 5.5 highlights alternative mode performance for 1994 and the 2020 preferred and priority systems.

**Figure 5.4**  
**Alternative Mode Performance<sup>1</sup>**



<sup>1</sup> Within Metro urban growth boundary (excludes Clark County, Wash. and areas of Clackamas, Multnomah and Washington counties outside of the Metro urban growth boundary).

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 priority system has 77 more truck hours of delay than the preferred system. Despite the expected increases in delay, the priority 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 priority system, and compares performance of the priority system with 1994 and the preferred system.

**Table 5.11**

**2020 Priority System Freight System Performance<sup>1</sup>**

	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Priority System</b>	<b>Difference 1994-2020 Priority</b>
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%

Note: This summary of freight system performance reflects Metro's regional truck travel forecasting model.

<sup>1</sup> Within the four-county region, 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 5.3 and Figure 5.4 highlight auto and transit cut-line results for these major corridors in the region.

**Table 5.12**

**Comparison of Motor Vehicle Volumes<sup>1</sup>**

<b>Corridor</b>	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Priority System</b>	<b>Difference 1994-2020 Priority</b>
(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%)

<sup>1</sup> These volumes reflect the peak direction during the evening two-hour peak period. Refer to Figures 5.6 and 5.7 for actual cut-line locations indicated in parenthesis. Volumes are based on Round 3 model results.

Source: Metro

**Table 5.13**

**Comparison of Selected Transit Volumes<sup>1</sup>**

<b>Corridor</b>	<b>1994</b>	<b>2020 Preferred System</b>	<b>2020 Priority System</b>	<b>Difference 1994-2020 Priority</b>
(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%)

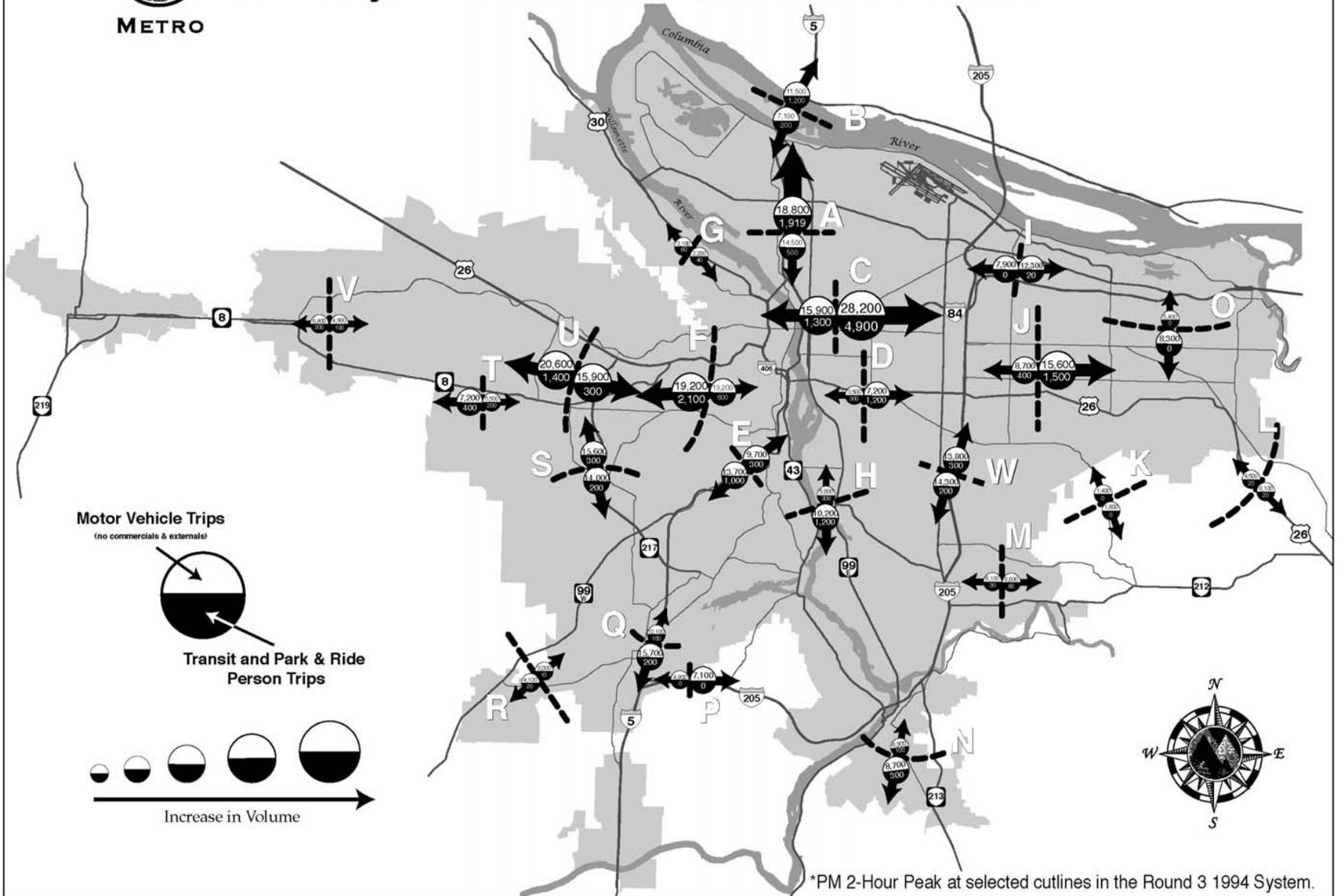
<sup>1</sup> These volumes reflect the peak direction during the evening two-hour peak period. Refer to Figures 5.6 and 5.7 for actual cut-line locations indicated in parenthesis. Volumes are based on Round 3 model results.

Source: Metro



Figure 5.5

# 1994 Major Corridor Auto and Transit Volumes\*





## 5.4 Priority System Financing

### 5.4.1 Principles for Funding the Priority System

Funding the 2020 Priority System will require additional revenue sources. The following is an illustrative list of principles that should be evaluated when elected officials and others consider a strategy for pursuing additional revenue sources. The principles are not exclusive of one another; there will be a dynamic tension between competing principles. It will be up to decision-makers to balance these natural tensions in adopting a financial strategy. Additional principles may also be developed as further work is completed on a funding strategy for the 2020 Priority System as outlined in Section 6.8.14.

#### Adequacy

- *Adequacy in addressing funding shortfall.* A new source should make a significant contribution to the funding shortfall identified in this RTP.
- *Fee revenue should grow with increased use and inflation.*
- *Source of fee revenue should contribute to diversity of transportation revenue sources for overall stability of funding.* A revenue source should not be vulnerable to the same variable conditions, such as fuel efficiency or economic slowdowns, as existing transportation revenue sources.

#### Flexibility

- *Projects/programs supported should encourage public/private partnerships.* Fees should allow spending on projects that leverage private investments that produce additional transportation benefits.
- *Fee revenue should be flexible with ability to address changing transportation priorities.* Fees should allow spending on whichever transportation project is the priority for the implementing jurisdiction.
- *Existing flexible funding (STP, CMAQ and Enhancement funds) should remain flexible and available for any eligible priority project.* The region should continue to advocate to Congress to maintain the flexibility of these funds when applied to regional priorities and not dedicate this funding to any particular type or mode of transportation improvement.

#### Fairness

- *Fee related to use.* Fees paid should be related to use or beneficiaries of the improvements or maintenance. The gas tax costs drivers more the more they drive but does not address differences in fuel efficiency between drivers nor does it address whether the driver is using the system at congested periods of the day. System development charges (SDC's) are a method of charging growth for its effect on the transportation system. While there will always be baseline charges everyone pays for the benefits everyone receives from having a

transportation system, fees should provide the capacity to increase or decrease relative to the use of or impact to the transportation system.

- *Fee should have equitable geographic burden relative to area of benefit.* Maintaining access through the region and to regional facilities should receive fee contributions from throughout the region. Transportation facilities that only serve sub-regional or local purposes should be funded from sub-regional or local resources.
- *Fee should not unduly burden low and fixed-income populations.* While fees should provide capacity to increase or decrease with use of the transportation system, the sliding scale of transportation costs should recognize the burden that large, irregular charges pose to persons on fixed or limited incomes. Alternatives to these charges, such as alternative or reduced payment options or equitable transportation services, should be provided. An evaluation of new revenues should also include an analysis of the overall affordability of transportation fees for low and fixed income households.

### **Implement Policy Objectives**

- *Fees should support 2040 land use objectives.* New fees should be evaluated for potential effects on 2040 land use goals. For example, fees should not provide a disincentive for developing in Centers or promote development in rural areas.
- *Fees should help the region meet mode-split targets.* New fees should help the region meet mode-split targets by providing relative cost advantages to alternative modes to the single occupant vehicle.

### **Address Public Accountability**

- *Fees generated able to support identifiable projects with tangible benefits.* Fees should have the capacity to allow policy makers the ability to clearly define the relationship between the payment of the fee and the projects and/or maintenance to be provided. This capacity will allow policy makers to educate the public about the benefits of the transportation improvements provided relative to the fees paid.
- *Minimize administrative costs.* Fees should utilize existing administrative systems and/or be simple to collect and allocate to minimize the costs of collecting and distributing fee revenue. This will ensure maximum benefits from the fee and greater public satisfaction with the fee structure.

## **5.4.2 Potential New Revenue Sources**

This section provides a description of revenue sources currently in use in the Metro region that could provide additional revenue as well as new sources of revenue that have been recently studied as potential sources of transportation funding. These revenue sources are divided into four broad categories: user-pay systems, development-based systems, special funds and levies

and other transportation financing options. Additional sources of transportation funding may be considered as policy-makers develop a long-term transportation funding strategy for this region.

### User Pay Systems

- **Increase in State gas tax.** Under current rates of distribution of state gas taxes, an additional 1 cent in the state gas tax would initially result in an additional \$5 million annually for the regional road system and an additional \$3.9 million annually for the state highway system within the Metro area. By the year 2020, that same one cent increase would result in an additional \$6 million for the regional road system and \$4.6 million for state highways in the Metro region.
- **Increase in State vehicle registration fee.** An increase in the state vehicle registration fee of \$10 would result in an additional \$92 million in year of expenditure dollars for highway capital projects and \$86 million in year of expenditure dollars for road capital projects during the 20-year plan period in the Metro region.
- **Tri-county gas tax.** Revenue could be created for transportation maintenance or capital projects with a uniform gas tax in Clackamas, Multnomah and Washington counties. Raising the tax in Clackamas and Washington counties to equal Multnomah County's 3 cents per gallon gas tax would create an additional \$4.7 million of revenue in the year 2000 for the regional road system, increasing to \$6.8 million by the year 2020. Each additional 1 cent per gallon would create an additional \$3.7 million of revenue in the year 2000 for the regional system, increasing to \$5.4 million by the year 2020.
- **Tri-county vehicle registration fee.** Authority already exists for the three counties or Metro to refer to voters a vehicle registration fee up to the amount of the state vehicle registration fee. At \$40 per biennium, approximately \$25 million could be raised in the region in the year 2000, increasing to \$33.5 million in the year 2020.
- **Peak period pricing.** Electronic tolling of highway use during congested periods can provide some revenues for needed highway expansions. In addition, peak period pricing can manage congestion on new highway lanes, thereby extending their life and reducing the need for future expansions. The Traffic Relief Option Study, undertaken with the guidance of a citizen's task force and completed in 1999 by Metro and ODOT, examined the potential of various types of roadway pricing to meet regional transportation, environmental and land use goals. The citizen's task force recommended that pricing be considered whenever major new highway capacity was planned. The study found that congested roadways had the potential to generate some revenue towards the cost of construction.

The evaluation of the performance of eight specific pricing options is contained in *Working Paper 9* dated May 10, 1999. The study recommended further consideration of peak period pricing on all major, new highway capacity projects. A regional analysis of the effect of this approach to pricing is currently being conducted. Further analysis is recommended as part of individual highway projects.

## Development-Based Systems

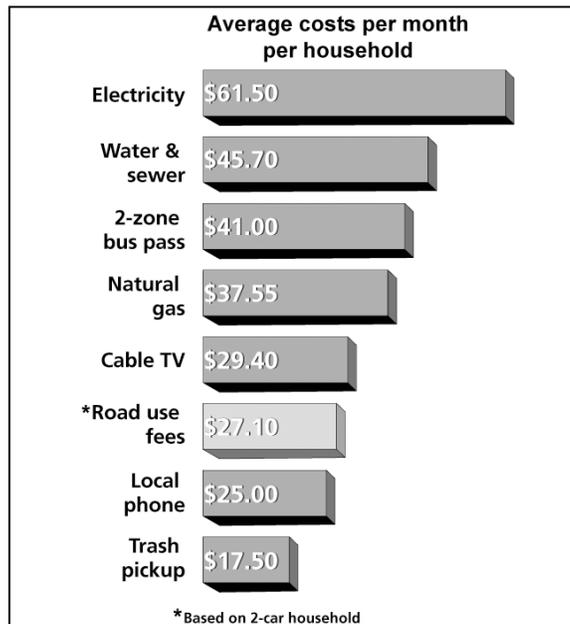
- **Increase in system development charges.** Cooperation among most or all of the jurisdictions of the region to pursue a partial or full cost-recovery strategy for transportation infrastructure with system development charges would result in additional revenues available for transportation purposes. The amount of revenue available would depend on the exact nature of the policy, the number of jurisdictions participating, and the costs of providing infrastructure in each jurisdiction.

## Special Fees and Levies

- **Road maintenance – transit utility fee.** A road maintenance or transit utility fee is a general assessment of properties for maintenance and/or operation of the transportation system that serves the property. Figure 5.8 shows that, on average, transportation fees are among the least expensive utilities when compared to other utilities in the Portland metropolitan region. The city of Tualatin has such a system that assesses property by the number of vehicle trips typically generated by the developed use of that property. The fee is collected as a part of the city utility bill. This fee could be implemented by ordinance within any city or county in the Metro region. A road maintenance utility fee similar to Tualatin's, implemented by all of the local jurisdictions on property within the Metro region, could generate approximately \$22 million in the year 2000, increasing to \$32 million in the year 2020. Rates could be adjusted to collect revenues equal to all or some portion of the cost to maintain each jurisdiction's road system or to provide transit service to an area.

**Figure 5.7**

### 1999 Comparative Utility Costs



Source: Metro

- **Payroll tax rate increase for transit.** A potential source of additional revenue for transit operations would be to raise the rate of the payroll tax for either TriMet or SMART. An increase of .1 percent of the payroll tax rate would raise \$21 million annually in the TriMet district or approximately \$500,000 annually in the SMART district (\$1998). TriMet's payroll tax rate is limited by state statute.
- **Property tax general obligation bond.** General obligation bonds, backed by property taxes have been used for transportation improvements in the Metro region, especially for capital projects. These taxes must be approved by voters in a general election. A tax of 1 cent per \$1,000 of assessed property value would raise \$770,000 annually in the Metro region in the year 2000, increasing to approximately \$1.5 million by the year 2020. Bonding this revenue stream for capital projects would incur bonding and interest costs but save money on project inflationary costs by constructing the projects earlier than would otherwise be possible.
- **Vehicle miles traveled fee.** A fee on the miles of travel for non-commercial vehicles registered in the three metro counties (or some portion thereof) could be implemented. A fee of 1 cent per mile, indexed to inflation, for residents of the Metro region would generate \$1.33 billion over the course of the 2000 - 2020 plan period. At one cent per mile, the average cost per vehicle would be approximately \$10 per month.
- **Parking Fee for non-residential spaces.** A fee for each non-residential off-street parking space could be levied within the Metro region. A fee at the rate of \$1 per month per space, indexed to inflation would generate \$197 million over the course of the 2000 - 2020 planning period. This total assumes a 10 percent reduction in parking spaces per capita by year 2020 as a result of parking ratios defined in Title 2 of the Urban Growth Management Functional Plan and is consistent with state transportation planning rule requirements.

### Other Transportation Financing Options

The Oregon Department of Transportation has recently published the final report of the "Innovative Finance Study," a review of potential new sources of transportation funding. In addition to several of the potential sources described, the study investigated the potential for funding transportation projects with:

- **Value Capture:** private interests compensating a public agency for a portion of the economic value created to the private interest with the creation of the transportation facility
- **State Infrastructure Bank:** A revolving fund that can offer loans and credit assistance to sponsors of certain highway or transit capital projects.
- **Federal Credit - Transportation Infrastructure Finance and Innovation Act:** This act authorizes state transportation departments to provide secured loans, loan guarantees and standby lines of credit to sponsors of certain highway and transit projects.

- **Grant Anticipation Notes:** This allows state transportation departments to generate up-front capital for large capital projects by allowing recovery of interest payments and other bond issue costs on anticipation of receipt of future federal grant monies.

The Metro region, in cooperation with the Oregon Department of Transportation, could pursue these finance options for eligible transportation improvements. Other sources of revenue new to this region could also be considered to fund transportation needs.

### **5.4.3 Finance Concepts for Funding the Priority System**

The following is a general description of what would be necessary to provide revenues to fund the 2020 Priority 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 2020 Priority 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 2020 Priority System. Four possible scenarios for raising the revenues necessary to fund the 2020 Priority System are described for comparative purposes but do not constitute an adopted financial strategy for the region.

#### **The Problem**

Many jurisdictions in the region have traditionally relied on the State Legislature to increase the state gas tax as a primary means of funding their transportation needs. As such, revenues from the State Highway Trust Fund, which is funded from the state gas tax revenues and related truck fees and vehicle registration fees, has become the primary source of transportation funding for many jurisdictions in the region. The problem the region is facing by relying primarily on this revenue source is that it is subject to two factors that reduce its purchasing power over time; inflation and increasing vehicle fuel efficiency. Therefore, the gas tax cost per mile driven in Oregon (in current \$) has decreased from 2.6 cents per mile in 1970 to 1.3 cents per mile today.

This reduction in revenues relative to road use in the state has reduced the ability of ODOT and local jurisdictions to maintain the transportation system at optimum levels and to respond to growth with modernization projects. There is currently a backlog of maintenance work to be completed on both state highways and on the regional arterial and major collector road system. There is a need to not only address this backlog of maintenance needs but to increase fees just to address further reductions in purchasing power of the existing state gas tax revenues which would result in further deterioration of maintenance levels. In addition to maintenance needs, there are highway, road, and transit modernization projects that need funding to address current needs and needs that will be created by the growth of population and jobs in the region. An increase in transit operating revenues will also be needed to address growth in transit service needs in the region.

A major challenge in transportation financing is funding road and highway maintenance and preservation at optimum levels (defined here in general terms as keeping pavement at 90 percent in fair or better condition). To extend the life cycle of existing facilities, transportation agencies generally attempt to achieve this standard as a priority for spending over building new facilities that would then add to future maintenance and preservation costs. On average, most agencies in the region have only been able to maintain pavement condition at approximately 77 percent fair or better condition. This has created a backlog of maintenance needs. The first three funding concepts below address this backlog and fully fund maintenance and preservation costs, in addition to new capital projects. The fourth funding concept does not attempt to address the backlog of maintenance needs and demonstrates what level of funding is necessary to maintain existing pavement conditions. It should be noted that this funding concept does not account for any increase in capital funding necessary that may result from premature failure of existing facilities due to not being optimally maintained.

Four funding concepts are described below that would address these needs. The concepts are summarized in Table 5.14. More detailed information on how each of the following funding sources would address 2020 Priority transportation system needs can be found in the Appendix.

### **Concept 1: Annual 4¢ State Gas Tax Increase**

Continuing to rely on annual increases to the state gas tax would require action by the State Legislature to increase the state gas tax by 4 cents every year for the next 20 years. This would address the declining purchase power of the gas tax revenues, fund the backlog of maintenance needs, fully fund modernization of the 2020 Priority system and provide additional revenue for local road capital projects.

Under this concept, it will be necessary to provide additional funds to expand transit operations to levels anticipated in the 2020 Priority system. Increasing the rate of the payroll tax by: .1 percent from current rates (TriMet = .6 percent, SMART = .3 percent) would significantly address the funding shortfall needed to operate the 2020 Priority System transit network.

Current law does not allow State Highway Trust Fund revenues to be used for transit capital or operations. However, fully funding the highway and road maintenance and modernization needs with increases in the state gas tax would allow the maximum amount of existing flexible revenues (STP, CMAQ and Enhancement funds) to be used for transit; an additional \$284 million over the course of the planning period. General obligation property tax bonds could provide the remaining \$699 million needed for transit capital projects to implement the 2020 Priority transit system. An average annual cost for the owner of a home assessed at \$150,000 in value would be approximately \$58 between the years 2005 and 2040 to retire the bonds. Actual annual costs would vary depending on the bond terms and conditions.

### **Concept 2: Fund Maintenance Locally**

Another alternative concept to funding the 2020 Priority transportation system would be to address the funding shortfall for City and County road maintenance locally and fund capital projects and ODOT highway maintenance with state gas tax increases when action from the state Legislature is feasible.

Several funding tools could potentially be used to provide additional revenues for maintenance. Additional local gas taxes and a local vehicle registration fee could be used for City and County maintenance needs. If the three Metro area counties implemented a uniform 3 cent per gallon gas tax with an annual 1 cent increase and a local \$15 vehicle registration fee, a significant portion of the City and County maintenance backlog could be addressed, maintaining road conditions at improved conditions from today.

A street utility fee, similar to such fees already in place in cities such as Tualatin, Wilsonville, and Grants Pass, could be implemented throughout the region. Street utility fees are typically included as part of a city or special district water and sewer or other utility billing. The City of Tualatin's fee structure is based on average vehicle trips generated by the land use classification of the property. A fee at two and a half times the current City of Tualatin rate implemented throughout the region would address a significant portion of the City and County maintenance backlog. At this rate the cost to a single family home would be \$3.56 per month. Costs to other land uses (commercial, industrial, etc.) would vary. Rates could be set to achieve any level of maintenance desired by the implementing jurisdiction.

Road maintenance districts are property tax based assessments for the purpose of maintaining the transportation system under the premise that every property in the billing area benefits from the access provided by the transportation system. Washington County currently has a road maintenance district for unincorporated areas. If such a district were put in place throughout the region at approximately twice the current rate of Washington County's district, city and county roads would continue to be maintained at current standards through the planning period (to year 2020). This would cost the owner of a home assessed at \$150,000 approximately \$6.25 per month.

Any one of or a combination of the above new revenue sources could be implemented throughout the region to address city and county maintenance needs. This would demand that ODOT highway maintenance and road and highway capital project funding to be addressed at the state level. To fully fund the needs in these areas and stay even with inflation, as defined by the 2020 Priority system, would require a 2 cent increase in the state gas tax every year throughout the planning period. A \$9 increase in the state vehicle registration fee could be implemented in lieu of a 1 cent increase in the state gas tax.

As ODOT's share of the annual 2 cent increase in the state gas tax would be used to meet highway maintenance needs, the City and County share of the state gas tax increases would need to pay for the modernization of both road and highway projects of the 2020 Priority system. Tolling revenues would also be needed for highway capital costs. <sup>8</sup> Therefore, cities and counties would need other sources of new revenue to pay for the construction of local roads. This financial concept assumes local jurisdictions would raise system development charges (SDC's) and/or other sources to fund the costs of constructing local streets.

If a street utility fee were considered throughout the region for street maintenance, it could also be considered for transit operations. A transit utility fee with rates at or slightly higher than the

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<sup>8</sup> An analysis of potential toll revenues that could be used to help fund Priority system projects is underway at the time of this draft of the RTP. Specific information from that analysis will be included in future drafts of the RTP produced following adoption of the Traffic Relief Options study.

City of Tualatin's street maintenance fee would generate revenues to address revenue needed to operate the 2020 Priority transit system. At the Tualatin rate, the cost to a single family home would be \$1.42 per month while costs to other land uses would vary according average vehicle trip generation rates.

The "Fund Maintenance Locally" concept would not raise as much revenue for the road system as an annual 4 cent increase to the state gas tax. The additional funding, however, could allow some additional flexible revenues to be allocated to transit capital projects. An additional \$53 million of flexible revenues would bring expenditures on transit capital to half of the available flexible funds. General obligation property tax bonds could provide the remaining \$932 million needed for transit capital projects to implement the 2020 Priority transit system.

### **Concept 3: Fund Modernization Locally**

Another alternative concept to funding the 2020 Priority transportation system would be to address the funding shortfall for maintenance with state gas tax increases and fund capital projects with new local sources.

To fully fund the maintenance needs of the state highway and city and county road system would require a 2 cent increase in the state gas tax every year throughout the planning period. A \$9 increase in the state vehicle registration fee could be implemented in lieu of a 1 cent increase in the state gas tax.

With maintenance addressed by state funding sources, local jurisdictions could attempt to fund highway and road modernization locally. Two new potential sources of transportation revenue could be considered for modernization projects; a fee on vehicle miles traveled (VMT) and a fee on non-residential parking spaces.

At a rate of 1cent per mile and indexed to inflation, a VMT fee on residents of the Metro region would generate \$1.33 billion over the course of the planning period. This represents approximately one half of the funding shortfall of road and highway capital projects in the 2020 Priority system.

A \$7 per space, per month parking fee on all non-residential parking spaces in the region, indexed to inflation, would generate \$1.38 billion over the course of the planning period. This represents approximately one half of the funding shortfall of road and highway capital projects in the 2020 Priority system. This financial concept assumes local jurisdictions would raise system development charges (SDC's) and/or other sources to fund the costs of constructing local streets.

As with the "Annual 4¢ State Gas Tax Increase" concept, increasing the rate of the payroll tax by .1 percent from current rates (TriMet = .6 percent, SMART = .3 percent) would significantly address the funding shortfall needed to operate the 2020 Priority Transit network.

The "Fund Modernization Locally" concept would also not raise as much revenue for the road system as an annual 4 percent increase to the state gas tax. The additional funding, however, could allow some additional flexible revenues to be allocated to transit capital projects. An additional \$53 million of flexible revenues would bring expenditures on transit capital to half of

the available flexible funds. A combination of system development charges and general obligation property tax bonds could provide the remaining \$932 million needed for transit capital projects to implement the 2020 Priority transit system.

#### **Concept 4: Accept Current Maintenance Levels**

A final funding concept to be presented in the RTP is for agencies and jurisdictions in the region would be to accept the current level of maintenance of area roads and bridges. Today, approximately 77 percent of regional roads and highways are maintained at fair or better pavement condition. While maintaining the road system at 90 percent fair or better pavement condition provides the longest life of the facility and safest operating conditions, the agencies and jurisdictions of the region may decide that it is simply not feasible to fund maintenance at this level.

An annual increase of 1 cent in the State gas tax would allow ODOT to continue to maintain highways in the region at current levels. The same annual 1 cent increase in the State gas tax would allow cities and counties to use their share to maintain roads in the region at current maintenance levels.

Funding modernization of the highway and road system to implement the 2020 Priority transportation system would take additional resources. A second annual increase of 1 cent in the state gas tax, for a total of 2 cent annual increase, in conjunction with an increase in system development charge revenues and tolling of new highway lanes could fund modernization of the 2020 Priority road and highway system.

As described in the other concepts, an increase in the payroll tax rate could fund additional transit service to implement the Priority transit system.

In this funding concept, no additional flexible revenues would be shifted from road and highway projects to transit projects. A combination of system development charges and general obligation property tax bonds could provide the additional \$985 million of local revenues needed for transit capital projects to implement the Priority transit system.

#### **Conclusions**

- The Priority transportation system is not too large or expensive relative to past per capita expenditures in transportation or in relative utility costs.
- The region will need actions at both the state and local levels to successfully fund the 2020 Priority System and keep up with inflation.
- The region will need new, creative sources of transportation revenue to successfully fund the Priority system and keep up with inflation.
- In the short-term, until new funding sources are established, setting clear priorities for spending will be increasingly important as funding will be limited to less than the identified need.

**Table 5.14**  
**RTP Priority Transportation System Funding Concepts**

<b>Transportation Cost Category</b>	<b>Funding Shortfall to Address</b>	<b>Concept 1</b> Annual 4¢ State Gas Tax Increases	<b>Concept 2</b> Maintenance Funded Locally	<b>Concept 3</b> Modernization Funded Locally	<b>Concept 4</b> Accept Current Maintenance Level
<b>A</b> City/County OM&P	\$77 m to \$240 m annually <sup>1</sup>	<i>Improve pavement conditions</i> - Local share of 2¢/gal annual increase in state gas tax <sup>3</sup>	<i>Improve pavement conditions</i> Pursue local sources • Gas tax + local vehicle registration fees and/or • Street utility fees and/or • Road maintenance districts	<i>Improve pavement conditions</i> - Local share of 2¢/gal annual increase in state gas tax <sup>3</sup>	<i>Accept current pavement conditions</i> - Local share of 1¢/gal annual increase in state gas tax <sup>3</sup>
<b>B</b> Highway OM&P	\$44 m to \$166 m annually <sup>1</sup>	<i>Improve pavement conditions</i> - State share of 2¢/gal annual increase in state gas tax <sup>3</sup>	<i>Improve pavement conditions</i> - State share of 2¢/gal annual increase in state gas tax <sup>3</sup>	<i>Improve pavement conditions</i> - State share of 2¢/gal annual increase in state gas tax <sup>3</sup>	<i>Accept current pavement conditions</i> - State share of 1¢/gal annual increase in state gas tax <sup>3</sup>
<b>C</b> Highway, Road, Bike and Pedestrian Modernization	\$1.65 b Highways and \$.89 b Roads <sup>2</sup>	- Additional 2¢/gal annual increase in state gas tax <sup>3</sup> (\$1.5 b to local streets)	• Local share of 2¢/gal annual increase in state gas tax <sup>3</sup> • Tolling of new highway lanes	Pursue local sources • Household fee on vehicle miles traveled • Business fee on parking spaces	- Additional 1¢/gal annual increase in state gas tax <sup>3</sup> • System development charges • Tolling of new highway lanes
<b>D</b> Transit Operations & Routine Capital	\$32 m to \$186 m annually <sup>1</sup>	- Increase in rate of payroll tax	• Street utility fees	- Increase in rate of payroll tax	• Increase in rate of payroll tax
<b>E</b> Transit Capital	\$1.73 b <sup>2</sup>	• Maximize allocation of regional flex funds • G.O. bonds	• Increase allocation of regional flex funds • G.O. bonds	• Increase allocation of regional flex funds • System development charges • G.O. bonds	• System development charges • G.O. bonds
<b>Total New Revenue to Address Funding Shortfall</b>		Mod-Capital (C+E) = \$4.27 b <sup>2</sup> OM&P (A+B+D) = \$153 to \$592 m annually <sup>1</sup>	Mod-Capital (C+E) = \$4.27 b <sup>2</sup> OM&P (A+B+D) = \$153 to \$592 m annually <sup>1</sup>	Mod-Capital (C+E) = \$4.27 b <sup>2</sup> OM&P (A+B+D) = \$153 to \$592 m annually <sup>1</sup>	Mod-Capital (C+E) = \$4.27 b <sup>2</sup> OM&P (A+B+D) = \$93 to \$389 m annually <sup>1</sup>

<sup>1</sup> In year-of-expenditure dollars based on existing funding resources forecast through the year 2020.

<sup>2</sup> In 1998 dollars based on financially constrained revenue forecasts allocated to priority projects of the RTP Strategic System. Does not include potential private revenue sources.

<sup>3</sup> An increase in the state vehicle registration fee of \$9 could be used in lieu of a 1 cent per gallon increase in the state gas tax.