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DATE: December 22, 2006

TO: RTP Interested Persons

FROM: Kim Ellis, Principal Transportation Planner

SUBJECT: Phase 2 RTP Research and Analysis – Updated Preliminary Finance Analysis Report

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Attached is an updated *Preliminary Financial Analysis for the 2035 Regional Transportation Plan* that responds to comments received from TPAC members since December 1 and comments provided by JPACT on December 14. The report will inform future policy discussions by JPACT and the Metro Council and the update to financially constrained revenue forecast in 2007. A schedule to specifically discuss RTP finance issues raised by this report will be developed in January.

If you have any questions about the 2035 RTP update process, contact me at (503) 797-1617 or by e-mail at ellisk@metro.dst.or.us.

Preliminary Financial Analysis for the 2035 Metro RTP Update

Prepared for
Metro

by

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December 2006

Table of Contents

Summary

This report describes future costs and funding for regional transportation projects and programs. It is part of the 2035 update of the Regional Transportation Plan (RTP). It was prepared by ECONorthwest, with assistance from Kittelson and Associates. It compiles information that can be used to estimate the level of funding reasonably available for transportation needs in the Portland region through the planning period for the RTP. It is a precursor and potential appendix to what will eventually become the Financial Element of the Regional Transportation Plan (RTP).

PRELIMINARY ESTIMATE OF THE FUNDING GAP

Table S-1 summarizes estimates revenue and cost, and the resulting "funding gap":

- The revenue estimates in Table S-1 are preliminary estimates of the likely range of "reasonably available" revenue sources. Funding package E+ is existing sources plus a conservative estimate of new, future funding; Package E++ includes the new sources in E+, plus others. We consider it optimistic, but not unreasonable.
- Under a wide variety of assumptions about revenues and costs, there is a funding gap.

Table S-1: Summary of funding gaps for road-related and transit-related OM&P activities and modernization projects (in billions of 2007$)

	Funding Gap		
Cost Type	**E**	**E+**	**E++**
State	**-$5.5**	**-$5.1**	**-$3.9**
State OM&P	-$2.2	-$2.1	-$2.2
State modernization	-$3.3	-$3.0	-$3.0
flexible funding	$0.03	$0.04	$1.22
Local	**-$4.3**	**-$2.1**	**$1.5**
State OM&P	-$6.9	-$6.9	-$6.9
State modernization	-$4.2	-$3.6	-$3.0
flexible funding	$6.8	$8.5	$11.5
Transit	**-$8.8**	**-$6.7**	**-$4.7**
Transit O&M	-$16.5	-$16.5	-$16.5
Transit modernization	-$6.9	-$5.8	-$4.5
flexible funding	$14.6	$15.6	$16.3
Grand Total	**-$18.6**	**-$13.8**	**-$7.1**

Source: ECONorthwest. A summary of deficit and surplus data from Table 5-2 and related tables not shown for the other revenue scenarios and Table 5-3.

In concept, that gap can be filled by either *reducing costs* (which can be done by reducing the number, scale, or desirable characteristics of projects) or *increasing revenues*. Though cost-cutting measures will be an inevitable part of the RTP process in 2007, they are not part of the analysis that follows, which

focuses on the potential for *expanded or new revenue sources beyond those already included in the E++ package*. Whether any of these sources, or others, get included as "reasonably available" in the "fiscally constrained planned" is a policy decision that will be made in Spring of 2007,

Two categories of policy decision will have a big influence on how the funding gap gets eliminated in Spring 2007:

- *Operations, Maintenance and Preservation* costs could easily vary by as much as 25% from the average estimate of around $5 billion over the planning period. Thus, in the final analysis, the allocation to OMP might be around $1 billion less.
- *Projects of Statewide Significance* total about $4 billion (updated estimates in 2007 are more likely to be higher than lower). The choice could be made to do fewer of them, or to fund them from other sources not in our preliminary estimate of reasonably available revenues. Depending on which projects get selected, one or two could be funded for around $1 billion, which would be $3 billion less than the cost estimate we used.
- Together, these two examples drop the revenue requirement by about $4 billion for roads, about 30% to 40% of the estimated total requirements for road-related revenue for the planning period.

These two issues suggest that the final "financially constrained" funding package is going to get balanced by dealing with OMP allocations (revenue reductions for modernization), cost cutting (including, most importantly, decisions about large regional projects), and expanded or new revenue sources. The discussion that leads to that balancing will occur in Winter and Spring 2007.

BIG PICTURE AND NEXT STEPS

Arriving at a fiscally constrained system will depend not only on containing costs (deciding what projects should be included on the list), but understanding what future resources are can be expected to be "reasonably available," as determined by local decisionmakers in the region. It will also require an understanding that new growth will continually challenge local governments to maintain the existing system of regional roads within their jurisdiction.

The analysis in this report, and the three issues just described in the previous section, suggests that the final "financially constrained" funding recommendation will be balanced by dealing with OM&P allocations (which might mean revenue reductions for modernization), revised definitions of transportation needs that respond to the desired outcomes embodied in the 2040 Growth Concept, and defining funding strategies to secure expanded or new revenue sources. The discussions that lead to that balancing will occur in Winter and Spring 2007.

Future 2035 RTP activities will include discussions of expanded or new revenue sources consistent with an outcomes-based approach to defining transportation needs. Additional work will be conducted to develop funding concepts and strategies for implementation of the 2035 RTP in conjunction with

defining transportation needs based on desired outcomes. This work will define the commitments needed to secure new revenue sources and the consequences to the plan should revenues not be secured within the timeframe committed to as part of the RTP process.

This Preliminary Financial Analysis will be used for discussion among decision-makers to decide what future revenue sources seem most reasonable to fund future transportation investments that respond to the desired outcomes for the region. Regional decision-makers will have, in essence, provided a provisional estimate of "reasonably available" revenues for the region. That estimate will be the preliminary basis for a discussion of expenditures: how much can the region afford to invest in with these funds?

The process will be informed by research and outreach conducted in Fall 2006 and public opinion research and focus groups in Winter 2007. The actual definition of transportation needs and project/program selection will occur in Spring 2007. After that, transportation costs and revenues will be refined and an updated Financial Element of the RTP can be completed.

Chapter 1 Introduction

This Preliminary Financial Analysis is part of the 2035 update of the Regional Transportation Plan. It was prepared by ECONorthwest with assistance from Kittelson and Associates. It is a precursor and potential appendix to what will eventually become the Financial Element of the Regional Transportation Plan.

BACKGROUND

This *Preliminary Financial Analysis* report is part of the 2035 update of the Regional Transportation Plan (RTP). Metro is updating the RTP as part of the New Look at regional choices to support the goals of the Region 2040 Growth Concept. The RTP is a 20- to 30-year plan[1] that guides investments in the region's transportation system. It establishes policies and priorities for projects to improve the movement of people and freight by all modes of travel—motor vehicle, transit, rail, pipeline, walking, and bicycling.

The bulk of people and freight using the transportation system are traveling on roads in cars, trucks, and buses. In addition, many walkways and bicycle facilities are part of the roadway system. The roadway system in the United States is primarily owned and operated by the public sector. While the system of freeways, highways, and streets function as a single system, it is the joint responsibility of federal, state, and local governments to build and maintain this system.

Road systems in urban areas are extensive and cross many jurisdictions. Efficiently building and maintaining such a complex system requires planning to coordinate the investments of multiple jurisdictions. Large urban areas are required by federal and state law to coordinate plans for transportation improvements at a regional level.[2] The RTP serves this function by considering long-run transportation needs at a regional level and identifying policies, programs, and projects to meet these needs. The plans of local jurisdictions responsible for the transportation system in the Portland region must be consistent with policies, programs, and projects identified in the RTP. In addition, projects must be in the RTP to be eligible for most federal and state funding programs.

While measures in an RTP can include policies, strategies, and programs, the focus of an RTP is usually on *capital investments* to improve existing roadways, construct new roadways, and improve transit service. A key requirement for regional transportation plans is that they be *fiscally constrained*—the cost of

[1] The planning period for the RTP is roughly 25 years. The RTP is scheduled to be adopted in 2007; 25 years forward would be 2032; Metro pushed the date out to 2035 to accommodate that fact that most of its modeling is done in five-year increments, with forecasts for years ending in 0 and 5.

[2] Planning, in addition to being a good idea, is the law. Much of the funding for metropolitan transportation systems comes from the federal government. As a condition of that funding, the federal government (through the US Department of Transportation and the Federal Highway Administration) requires metropolitan areas with more than 50,000 people to form a Metropolitan Planning Organization (MPO) and to have that MPO develop a metropolitan transportation plan with at least a 20-year planning horizon.

activities identified in the RTP cannot exceed the level of funding considered reasonably available in the region.

The cost of all projects in a region that could contribute to improvements in reliability, accessibility and safety almost always exceeds the financial resources considered *reasonably available* to pay for the projects. For these reasons, the biggest and defining task of an RTP is to select and prioritize projects within the constraint of available funding.

To address the requirement for fiscal constraint, RTPs have a chapter or technical appendix that estimates the level of funding that is reasonably available in the region. This document (the one you are reading now) is not that chapter. Rather, this document, referred to as the *Preliminary Financial Analysis*, is a precursor to what will be the financial element of the RTP. The purpose of this *Preliminary Financial Analysis* is to provide a financial context for the discussion and evaluation of projects that will occur in Winter and Spring 2007. It is likely that this *Preliminary Financial Analysis* will be amended in the future so that it can be used as technical appendix to the RTP.

Thus, this report does not make recommendations about what funding level is "reasonably available" in the Metro region. The focus of this report is to put some bounds on the range of possible revenue so that "reasonably available" funding sources and the fiscally constrained plan they imply can be decided on in Spring of 2007.

This *Preliminary Financial Analysis* focuses on compiling information that can be used to estimate the level of funding reasonably available for transportation needs in the Portland region through the planning period for the RTP, which extends to 2035. To this end, this report:

- Summarizes current revenues and expenditures for transportation in the Metro region by each level of government—federal, state, and local
- Forecasts revenues available to jurisdictions that operate and maintain transportation facilities and services in the Metro region
- Summarizes existing information about future costs to operate, maintain, and improve the region's transportation system.

Later work by Metro will provide more detail about the future costs to maintain and improve transportation services in the region. Ultimately, the estimate of reasonably available funding and project costs will be brought together as the fiscally-constrained set of projects selected for the 2035 RTP.

FRAMEWORK FOR THINKING ABOUT TRANSPORTATION FUNDING

Building and maintaining the transportation system is a joint responsibility of federal, state, and local governments. Projects to improve the transportation system are funded through a mix of federal, state, and local revenues distributed through a variety of funding programs that dictate how this revenue can be spent.

In addition to revenue generation and spending by multiple jurisdictions, revenue sharing among jurisdictions and cooperation among multiple jurisdictions on individual projects makes describing transportation finance complicated.

The evaluation of transportation funding in this report is organized primarily by the level of government making expenditures to support the transportation system in the Metro region—state, regional, and local. At each level of government, we describe the sources of transportation revenues and the types of expenditures these revenues are used for. Identifying the sources of revenue and types of expenditures at each level of government adds layers of detail that are complicated but important for estimating future funding available in the region for several reasons:

- The growth rate of future revenue will vary for each revenue source. The growth of revenue from any one source will depend on conditions affecting the ultimate source of that revenue and potential policy decisions by elected officials.
- Some transportation revenue sources have restrictions on their use. System Development Charges, for example, can only be used for capital improvements needed to accommodate new development while gas tax revenue can be used for a wide range of road-related expenditures. Tracking and forecasting revenue by source is important for knowing what types of future expenditures can be funded by each source.
- The current level of expenditures by type at each level of government reflect decisions to allocate revenues among competing demands, and are thus indicative of likely future allocations of revenues.
- Current expenditures on operation, maintenance and preservation of the existing system indicate the level of expenditures that will be needed in the future. Future expenditures on operation, maintenance and preservation of the transportation system will affect the level of funding available for improvements to the system.

This report describes revenues by source and expenditures by type for each level of government funding transportation systems in the Metro region. The description of current revenues and expenditures in Chapter 2 will be general in order to provide an overall context for understanding transportation finance in the region. Chapters 3 and 4 in this report will provide more detail about factors affecting the growth of future revenues and costs in the region. Chapter 3 will also provide a forecast of future transportation revenue available in the Metro region, restrictions associated with specific funding sources, and implications for transportation planning in the region.

In this report we make a distinction between the terms “funding” and “financing,” which often get used interchangeably. Providing transportation facilities and services costs money, and somebody has to pay for these costs. The ultimate source of revenue for these costs is *funding*. When the funds for transportation costs are borrowed and paid back over time, then these costs have been *financed*. Public agencies finance costs for the same reasons as households and businesses—to reduce the current out-of-pocket costs by spreading out

payments over time. But the ultimate source of funding for financed costs is not the financing instrument itself—bonds—but rather the revenue sources used to repay the borrowed funds.

Since financed costs must be paid back over time, financing costs cannot increase the total amount of funding available in a region over a long-term planning period such as the one used in this report. Financing costs merely makes future funding available earlier, at the cost of the interest charged to borrow the funds. Since financing costs actually decreases the level of future funding available for transportation by adding the cost of interest, this report focuses on the level of funding that will be available in the future without considering the effect of using that revenue to finance costs earlier in the planning period. While this report stays with the common term of a "financial" fact base, it is in fact primarily about funding.

ORGANIZATION OF THIS REPORT

This report is the *Preliminary Financial Analysis.* It is an interim technical report that is part of Metro's process for developing a Regional Transportation Plan. The rest of the report is organized into five chapters:

- **Chapter 2 Current Funding for Transportation in the Metro Region**, gives an overview of how transportation facilities and services are currently funded in the Metro region. This chapter provides an overview of transportation funding and summarizes revenues and expenditures for transportation in the region at each level of government.
- **Chapter 3 Future Transportation Revenues in the Metro Region** forecasts revenues that will be available to jurisdictions for operation and improvement of the transportation system in the Metro region over the planning horizon of the RTP.
- **Chapter 4 Future Transportation Costs in the Metro Region** relies on existing information to describe the level of future costs to operate, maintain, and improve the transportation system in the Metro region.
- **Chapter 5 Funding Gap for Transportation Needs in the Metro Region** discusses measures to address the potential gap between reasonably available revenues and the cost of transportation needs in the Metro region.
- **Chapter 6 Private Costs of Roadway and Transit Use** provides additional context for evaluating public costs by providing estimates of the private costs necessary for the transportation system to operate, in particular the private costs of acquiring and operating an automobile so that one can use the highway and roadway system relative to the private costs of using transit.
- **Appendix A, Glossary,** gives a brief definition of many acronyms and phrases used in the *Preliminary Financial Analysis*. Many of the entries concern funding sources or local transportation agencies and plans.

- **Appendix B, Requirements for Financial Elements of Transportation Plans,** highlights the Federal, State and Regional guidelines behind the development and adoption of a regional transportation plan. Among these requirements is the creation of a financial plan that prioritizes projects based upon reasonable and reliable estimates of future costs and revenue.
- **Appendix C, Methods Memo,** is a deliverable that ECO created for Metro in July 2006. It describes the approach ECO will take to satisfy the Federal guidelines to developing the financial portion of the RTP, the methods ECO will use to complete its assigned tasks and the data it will use to complete said tasks.
- **Appendix D, Description of Typical Funding Sources,** is a table that describes all of the typical funding sources available to a given MPO, city or county transportation jurisdiction in Oregon. The table breaks the sources up by Federal, State and Local origin and then, if they are not currently utilized, evaluates their potential for implementation.
- **Appendix E, Data,** displays the origin of the data ECO uses in its analysis for the *Preliminary Financial Analysis* in greater detail.
- **Appendix F, Local Funding Sources,** breaks down the local funding mechanisms available to and used by jurisdictions in the Metro region. It also states, where applicable, the rate charged to constituents by mechanism.
- **Appendix G, Political Landscape,** details various political and legislative actions that could result in more funding for the regional system. Various funding scenarios categorize these actions by their likelihood of occurrence.

Chapter 2 Current Funding for Transportation in the Metro Region

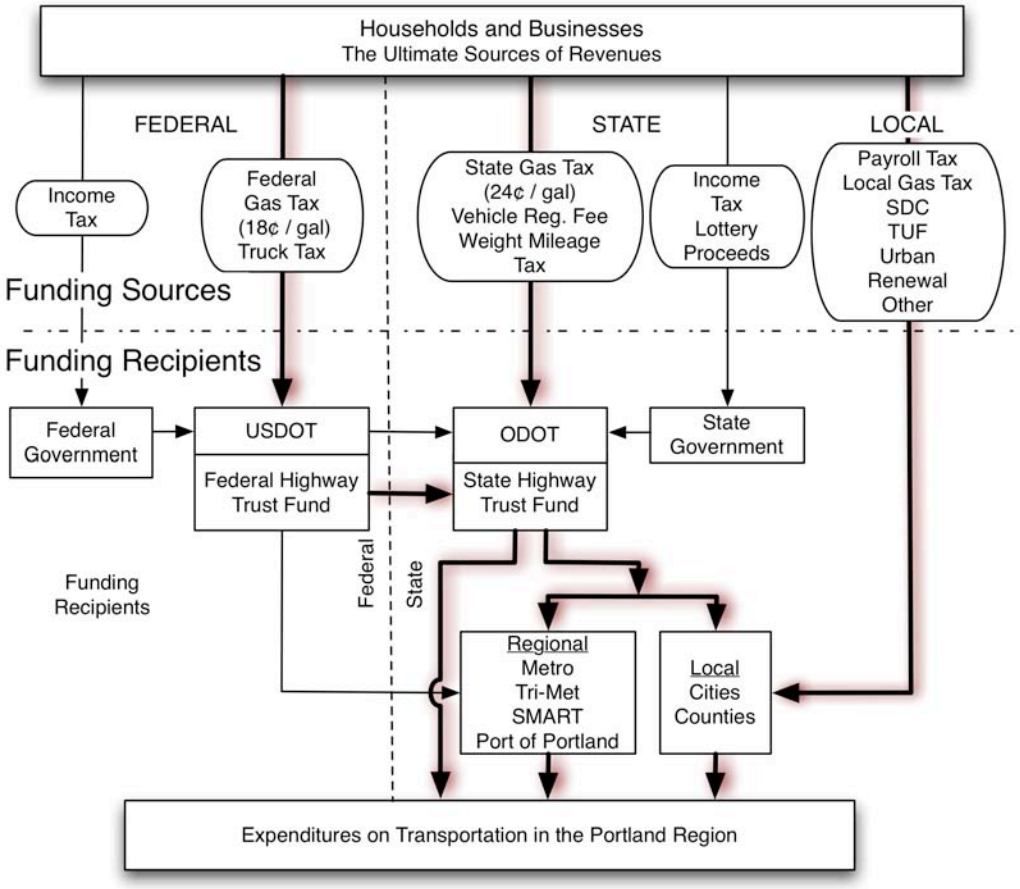
This chapter summarizes current revenues and expenditures for transportation by all levels of government in the Metro region—federal, state, and local. Its purpose is to explain how the transportation system in the Metro region is now financed to provide a context for the forecasts of revenues and costs in Chapters 3 and 4.

OVERVIEW OF PUBLIC FUNDING FOR TRANSPORTATION

Public funding for transportation facilities and services comes from taxes and fees charged to households and businesses. Figure 2-1 shows, in broad terms, how money moves from households and businesses to federal, state, regional, and local government agencies that use it for maintaining and improving the transportation system. The highlighted lines show the main flow of funds.

At the federal level, the primary revenue source for transportation is the federal gas tax, currently 18¢ per gallon. Revenue from this tax, taxes on personal and corporate income, and other taxes and charges is pooled in the Federal Highway Trust Fund. Federal funds are allocated to ODOT for expenditures on federal and state facilities in Oregon, and for distribution to regional and local governments. The allocation of federal revenues to ODOT is determined by program formulas and earmarks established by federal legislation. These programs and earmarks dictate how this funding can be used and, in some cases, require that it be distributed to regional or local jurisdictions or for specific projects in the state.

Figure 2-1: Overview of transportation funding



Source: ECONorthwest

At the state level, the largest source of transportation revenue is also the gas tax. The state gas tax in Oregon is currently 24¢ per gallon in addition to the federal gas tax. State gas tax revenue is combined with revenue from vehicle registration fees, weight-mile taxes on trucks, taxes on personal and corporate income, property taxes, and other taxes and fees to fund transportation expenditures.

At the local level, The State Highway Trust Fund and other shared federal and state revenue from ODOT is the largest source of transportation funding for most counties and cities in Oregon. Since this shared revenue is seldom sufficient to fully fund local transportation needs, local governments have established sources for additional revenue. Some counties and cities in Oregon have enacted a local gas tax in addition to state and federal gas taxes. Other major sources of transportation revenue for local government include:

- Property taxes
- Payroll taxes for transit services
- System Development Charges (SDCs) or Transportation Impact Fees (TIFs) on new development

- Transportation Utility Fees (TUFs) on households and businesses.

Specific revenue sources for local jurisdictions in the Metro region are described in more detail later in this chapter.

The last box in Figure 2-1 represents expenditures for transportation facilities and services in the Metro region. The three arrows indicating the source of funds for these expenditures show that expenditures are made by three levels of government: state, regional, and local. Agencies at each level of government have a primary responsibility for various aspects of the region's transportation system:

- State: ODOT (federal and state roadways)
- Regional: TriMet and SMART (transit) and Metro (all parts of the transportation system)
- Local: counties, cities, and other agencies (regional and local roadways, pedestrian and bike facilities)

At each level of government, transportation revenue is from a mix of federal, state, and local sources, and transportation expenditures are for a mix of operations, maintenance, preservation and capital improvements. The following sections describe recent revenues by source and expenditures by type for the region's transportation system at each level of government.

TRANSPORTATION REVENUES AND EXPENDITURES IN THE METRO REGION

The overview and discussion of revenues and expenditures in this chapter draws from a variety of documents and data from federal, state, local, and private sources. Each document and data source reports only a subset of all transportation-related revenues and expenditures in the region. Since the state shares revenue with regional and local agencies, and agencies often cooperate on funding transportation projects, some revenues and expenditures are reported at multiple levels of government. The assessment in this chapter—and throughout this report—will seek to identify and account for any duplicate reporting of revenues or expenditures for transportation in the region.

The documents and data used in this chapter describe transportation-related revenues and expenditures over a variety of time periods, with some data for actual revenues and expenditures and some for budgeted revenues and expenditures. While having only actual or only budgeted data would be more logically consistent, data from multiple levels of government is not readily available for consistent time periods. Despite some inconsistencies in time periods, the data presented this chapter were selected to provide an adequate description of current funding conditions in the Metro region.

Using data on revenues and expenditures in various time periods raises the issue of adjusting data for inflation. The purchasing power of money changes over time from changes in the prices for goods and services. When reporting dollars from different years, economists often convert the values to adjust for changes in

prices to allow comparisons in constant dollars. This chapter, however, does not adjust data on current revenues and expenditures because:

- The data presented in this chapter are for a relatively short time period, covering the recent past and near future. Making adjustments for inflation over this short period would not substantially change the description of current funding.
- Revenues and expenditures for transportation in the Metro region fluctuate from year-to-year due to changes in revenue sources and construction activity. This chapter uses data for several years in the recent past or near future to establish an average annual level of revenue or expenditures.
- It is often difficult to tell exactly which year's revenues were received or funds spent from the reports and data used in this chapter.
- The purpose of this chapter is to provide an overall understanding of how transportation facilities and services in the Metro region are funded, and the current level of revenues and expenditures for transportation in the region. Small technical adjustments to the data are not necessary to establish a context for transportation finance in the region.

Chapter 3 will discuss the need to adjust future revenue for expected changes in costs for transportation maintenance and improvement projects over the planning period.

ODOT

The Oregon Department of Transportation (ODOT) is primarily responsible for building and maintaining federal and state transportation system in Oregon, including federal interstates, federal highways, and state highways. In addition, ODOT collects federal and state funding and allocates a portion of this funding to regional and local government agencies in Oregon. These regional and local agencies combine their share of federal and state funds with revenue from local sources to provide regional and local transportation facilities and services. The next section describes ODOT transportation revenues and expenditures at the state level; the subsequent section describes ODOT expenditures for transportation facilities in the Metro region.

STATEWIDE OVERVIEW

Figures 2-2 and 2-3 show ODOT revenues and expenditures at the state level.

Figure 2-2. ODOT revenue by source, 2005/06–2006/07

Revenue Source	Millions	Percent
State Funds	**$2,430**	**64%**
Beginning Balance	$349	9%
Motor Fuels Taxes	$852	23%
Driver / Vehicle Licenses & Fees	$499	13%
Transportation Licenses & Fees	$63	2%
Weight-Mile Tax	$455	12%
Transfers to ODOT	$104	3%
State General Funds	$9	0%
Oregon Lottery Proceeds	$33	1%
Sales and Charges for Services	$22	1%
All Other Revenue	$44	1%
Federal Funds	**$605**	**16%**
State Highway and Oregon Lottery Revenue Bonds	**$744**	**20%**
Total ODOT Revenue	**$3,779**	**100%**

Source: ODOT *Transportation Key Facts 2006*, p. 44.

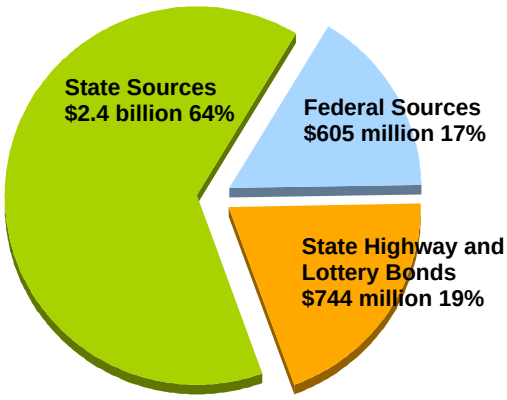
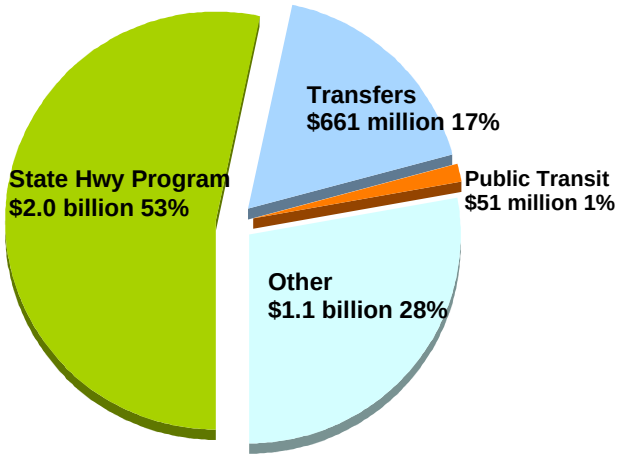


Figure 2-3. ODOT expenditures by type, 2005/06–2006/07

Expenditure Type	Millions	Percent
State Highway Program	**$2,013**	**53%**
Bridge	$534	14%
Modernization	$454	12%
Maintenance	$299	8%
Preservation	$231	6%
Local Government Assistance	$215	6%
Other	$280	7%
Transfers to Other Agencies	**$661**	**17%**
Counties	$357	9%
Cities	$232	6%
Other Agencies	$72	2%
Debt Service	**$170**	**4%**
DMV	**$130**	**3%**
Rail	**$78**	**2%**
Public Transit	**$51**	**1%**
Other	**$280**	**7%**
Reserves and Ending Balance	**$396**	**10%**
Total ODOT Expenditures	**$3,779**	**100%**

Source: ODOT *Transportation Key Facts 2006*, p. 45.



In summary, ODOT's budget is about $3.8 billion per biennium (in rough terms, almost $2 billion per year). The revenues from the state (which are more than half [64%] of the total revenues) come primarily from the state gas tax, vehicle registration fees, and the weight-mile tax (truck transport fees). Federal funds (primarily from the Federal Highway Trust Fund, which is funded by federal gas taxes) are about 17% of the budget. About half of the budget is spent in the State Highway program, and about half of that (about $1 billion, or 25% of the total) is spent on bridges and modernization (the bulk of new construction). Approximately, 18% is passed through to cities, counties, transit agencies and other local governments.

ODOT EXPENDITURES IN THE METRO REGION

ODOT reports expenditures by program rather than by region of the state. Thus, we do not have good data on the amount that ODOT spends on operation and maintenance of federal and state facilities in ODOT Region 1[1] or in the Metro region. We use other sources to get an estimate.

The *2006–2009 Final Statewide Transportation Improvement Plan* (STIP) is the most recent STIP adopted by ODOT. The STIP lists planned improvement projects on federal and state highways maintained by ODOT and all federal or state funded transit projects. The STIP also lists projects on local streets that have regional significance, even if these projects will be built entirely with local funds. The STIP is a four-year capital-improvements plan, not a long-range plan. In general, funding for projects listed in the STIP has been identified and the projects have a high likelihood of actually being built.

The STIP identifies projects that are within the boundaries of a Metropolitan Planning Organization (MPO), including the Portland MPO. Table 2-1 shows the total costs for ODOT projects in the Portland MPO that are listed in the 2006–2009 STIP.

Table 2-1. ODOT project costs by type in the Portland MPO, 2006–2009 (millions of dollars)

Work Type	Total Costs	Annual Average	Percent of Total
Modernization	$391.5	$97.9	34%
Transit	$342.8	$85.7	30%
Bridge	$159.8	$40.0	14%
Pavement Preservation	$114.6	$28.7	10%
Congestion Management	$53.5	$13.4	5%
Planning	$21.7	$5.4	2%
Bicycle/Pedestrian	$15.3	$3.8	1%
Safety	$11.9	$3.0	1%
Enhancement	$11.8	$2.9	1%
Operations	$10.3	$2.6	1%
Immediate Opportunity Fund	$1.2	$0.3	0%
Culvert	$1.1	$0.3	0%
Special Programs	$0.6	$0.1	0%
Total Costs	**$1,136.0**	**$284.0**	**100%**

Source: Oregon Department of Transportation. *2006–2009 Final Statewide Transportation Improvement Plan*. Costs summarized by ECONorthwest.
Note: The STIP is for four years: annual average equals *Total Costs* divided by 4.

Table 2-1 shows that the largest expenses are for modernization and transit, together making up about two-thirds of ODOT project costs in the region. Bridge and pavement preservation make up the next tier of costs, together making up about a quarter of all costs.

[1] ODOT Region 1 includes most of the Metro region and surrounding rural areas in Clatsop, Columbia, Washington, Clackamas, Multnomah, and Hood River County.

The STIP identifies the mix of federal, state, and local revenues used to fund each improvement project, and the specific programs that are the source of federal and state revenue. Table 2-2 summarizes funding sources for Portland MPO projects included in the 2006–2009 STIP.

Table 2-2. Funding sources for ODOT, local, and transit projects in the Portland MPO, 2006–2009 (millions of dollars)

Funding Source	Total	Annual Average	Percent of Total
Federal Highway Programs	**$361.1**	**$90.3**	**32%**
Surface Transportation Program	$129.0	$32.2	11%
Federal Earmark	$67.9	$17.0	6%
Interstate Maintenance	$52.8	$13.2	5%
Congestion Management Air Quality	$48.6	$12.1	4%
National Highway System	$30.1	$7.5	3%
Highway Bridge Rehabilitation	$20.5	$5.1	2%
Transportation Enhancement	$6.7	$1.7	1%
Hazard Elimination Program	$3.5	$0.9	0%
Transportation Safety	$2.0	$0.5	0%
State Sources	**$264.1**	**$66.0**	**23%**
OTIA III	$202.5	$50.6	18%
Advance Construction	$27.9	$7.0	2%
OTIA I	$16.6	$4.2	1%
Other State Funds	$11.2	$2.8	1%
Transportation Infrastructure Bank	$3.6	$0.9	0%
Bicycle/Pedestrian Program	$1.7	$0.4	0%
Immediate Opportunity Fund	$0.5	$0.1	0%
Special Transportation Fund (transit)	$0.1	$0.0	0%
Federal Transit Programs	**$225.0**	**$56.3**	**20%**
Urbanized Area Formula (capital)	$171.0	$42.7	15%
Bus & Bus Facilities	$33.6	$8.4	3%
Bus & Bus Facilities (operating)	$20.0	$5.0	2%
Elderly & Disabled (capital)	$0.5	$0.1	0%
Local Sources	**$285.8**	**$71.4**	**25%**
Local Matching Funds	$182.2	$45.6	16%
Other Local Funding	$103.6	$25.9	9%
Total Funding	**$1,136.0**	**$284.0**	**100%**

Source: Oregon Department of Transportation. *2006–2009 Final Statewide Transportation Improvement Plan*. Funding by source summarized by ECONorthwest.

According to the STIP, funding classified as "Other" represents local funding, not federal or state funding.[2] This funding is shown as "Other Local Funding" in Table 2-2. In addition, the STIP does not report any local matching funds that are required as a condition for receiving federal or state funds.[3] Since the amount of funding reported for many projects in the STIP is less than the total cost of a project, this implies that the difference between total cost and reported funding is

[2] Oregon Department of Transportation. 2005. *Final Statewide Transportation Improvement Program 2006–2009*. Appendix 1 Fund Code Descriptions, page 389.

[3] Ibid., Key to Project Listing, page 4.

the amount of local matching funds. This assumption is reflected in the Local Matching Funds reported in Table 2-2.

Table 2-3. Funding sources for ODOT highway projects and OM&P activities in the Portland MPO, 2006–2009 (millions of dollars)

Funding Source	Improvement Projects	OM&P Activities	Total
Federal Highway Programs	**$155.0**	**$141.3**	**$296.3**
Surface Transportation Program	$41.1	$32.5	$73.5
Federal Earmark	$60.9	$2.8	$63.7
Interstate Maintenance	$1.7	$51.1	$52.8
Congestion Management Air Quality	$0.0	$43.5	$43.5
National Highway System	$18.6	$11.4	$30.1
Highway Bridge Rehabilitation	$20.5	$0.0	$20.5
Transportation Enhancement	$6.7	$0.0	$6.7
Hazard Elimination Program	$3.5	$0.0	$3.5
Transportation Safety	$2.0	$0.0	$2.0
State Sources	**$248.0**	**$14.8**	**$262.8**
OTIA III	$197.5	$5.0	$202.5
Advance Construction	$27.9	$0.0	$27.9
OTIA I	$9.5	$7.2	$16.6
Other State Funds	$9.3	$1.8	$11.2
Transportation Infrastructure Bank	$3.6	$0.0	$3.6
Bicycle/Pedestrian Program	$0.2	$0.9	$1.0
Local Sources	**$171.9**	**$22.3**	**$194.1**
Local Matching Funds	$75.7	$22.3	$97.9
Other Local Funding	$96.2	$0.0	$96.2
Total Funding	**$574.9**	**$178.4**	**$753.3**

Source: Oregon Department of Transportation. *2006–2009 Final Statewide Transportation Improvement Plan*. Funding by source summarized by ECONorthwest.
Note: Improvement Projects includes projects classified as Modernization, Bridge, Safety, and Enhancement projects in the STIP. OM&P Activities includes projects classified as Operations, Congestion Management, and Pavement Preservation projects in the STIP.

Table 2-3 shows the funding sources for ODOT highway improvement projects and OM&P activities in the Portland region, from 2006–2009. It focuses on the sources of revenue for highway projects differentiated as capital and OM&P. The note to the table explains how the estimates of funding sources tie to the costs in Table 2-1.

Table 2-4. Funding sources for ODOT transit projects in the Portland MPO, 2006–2009

Funding Source	Transit	Percent of Total
Federal Highway Programs	**$37.4**	**11%**
Surface Transportation Program	$36.5	11%
Congestion Management Air Quality	$0.9	0%
State Sources	**$0.1**	**0%**
Special Transportation Fund (transit)	$0.1	0%
Federal Transit Programs	**$225.0**	**66%**
Urbanized Area Formula (capital)	$171.0	50%
Bus & Bus Facilities	$33.6	10%
Bus & Bus Facilities (operating)	$20.0	6%
Elderly & Disabled (capital)	$0.5	0%
Local Sources	**$80.3**	**23%**
Local Matching Funds	$80.3	23%
Total Funding	**$342.8**	**100%**

Source: Oregon Department of Transportation. *2006–2009 Final Statewide Transportation Improvement Plan*. Funding by source summarized by ECONorthwest.

Table 2-4 shows the funding sources for ODOT transit projects in the Portland MPO region, 2006–2009. The majority of funding for ODOT transit-related projects in the region comes from federal sources. Total funding of $342 million ties to the costs in Table 2-1.

COUNTIES AND CITIES

Counties and cities within the region also provide funding for regional transportation projects. The following sets of tables summarize the average annual road revenues in the 3 counties in the region. A separate set of tables describes them for the cities in the region.

Table 2-5. Average annual road-related revenue by source in Clackamas, Multnomah, and Washington County, FY 2002/03–2004/2005 (millions of dollars)

	Clackamas	Multnomah	Washington	3-County Total	3-County Percent
TOTAL REVENUE	**$46.45**	**$40.65**	**$58.43**	**$145.53**	**100%**
Receipts from Local Sources	**$21.02**	**$8.51**	**$35.81**	**$65.33**	**45%**
Non-Road Fund Transfer	$0.00	$0.00	$23.11	$23.11	16%
Special Area Assessments	$9.97	$0.00	$0.00	$9.98	7%
Fuel Tax	$0.00	$7.43	$0.81	$8.24	6%
Transportation Impact Fee (TIF) or SDC	$4.89	$0.20	$2.62	$7.71	5%
Other Gov'ts.	$1.15	$0.00	$2.10	$3.25	2%
Interest Income	$1.45	$0.28	$1.28	$3.01	2%
Property taxes within 6% Limitation	$0.00	$0.00	$2.81	$2.81	2%
From Cities	$0.00	$0.10	$2.25	$2.35	2%
Sale of Bonds and Notes	$1.67	$0.00	$0.00	$1.67	1%
Permits	$0.48	$0.00	$0.07	$0.56	0%
Transportation Utility Fees (TUF)	$0.00	$0.49	$0.00	$0.49	0%
Land Sales & Rentals	$0.20	$0.00	$0.09	$0.29	0%
Franchise Fees	$0.09	$0.00	$0.00	$0.09	0%
Other	$1.12	$0.00	$0.65	$1.78	1%
Receipts from State Government	**$19.19**	**$28.58**	**$22.62**	**$70.39**	**48%**
Highway Fund Apportionment	$16.60	$28.49	$17.24	$62.32	43%
OTIA	$2.59	$0.00	$4.72	$7.31	5%
State Forestry	$0.00	$0.00	$0.67	$0.67	0%
Exchange Program	$0.00	$0.06	$0.00	$0.06	0%
Other	$0.00	$0.03	$0.00	$0.03	0%
Receipts from Federal Government	**$6.24**	**$2.09**	**$0.00**	**$8.34**	**6%**
National Forest Reserve Revenue	$4.71	$0.61	$0.00	$5.32	4%
Traffic Grants	$0.84	$0.01	$0.00	$0.85	1%
Emergency Events	$0.00	$0.11	$0.00	$0.11	0%
Other	$0.70	$1.37	$0.00	$2.06	1%
Receipts from Other Jurisdictions	**$0.00**	**$1.01**	**$0.00**	**$1.01**	**1%**
Unspecified Other	**$0.00**	**$0.46**	**$0.00**	**$0.46**	**0%**

Source: Oregon Department of Transportation, Local Road and Street Questionnaire. Annual averages, summary, and percents calculated by ECONorthwest.

Note: Multnomah County staff provided comments to this report near submission of the final draft. They indicated that the Transportation Impact Fees (TIF) and Transportation Utility Fees (TUF) funding sources reported for Multnomah County might be an error. Additionally, funds under the Exchange Program should be on the order of $0.27 million instead of the $0.06 reported.

Table 2-5 shows the average annual road-related revenue by local, state, and federal sources in the three counties in the region from 2003–2005 (millions of dollars). In the region, the three counties' locally-generated funds are about on par with that received from the state.

Table 2-6. Average annual road-related expenditures by type in Clackamas, Multnomah, and Washington County, FY 2002/03–2004/05 (millions of dollars)

	Clackamas	Multnomah	Washington	3-County Total	3-County Percent
TOTAL EXPENDITURES	**$43.54**	**$35.54**	**$55.67**	**$134.75**	**100%**
Capital Projects	**$24.11**	**$27.66**	**$37.37**	**$89.14**	**66%**
Const. & Expansion	$15.79	$1.22	$17.40	$34.40	26%
Payments to Other Gov'ts.	$0.02	$22.71	$0.00	$22.73	17%
Const. Eng.	$3.81	$3.03	$11.72	$18.56	14%
ROW	$4.16	$0.12	$3.48	$7.76	6%
Est. Admin. & Gen. Eng.	$0.00	$0.00	$3.48	$3.48	3%
Debt Service	$0.00	$0.10	$0.88	$0.98	1%
Bike/Ped.	$0.35	$0.03	$0.41	$0.78	1%
Unspecified Other	$0.00	$0.45	$0.00	$0.45	0%
O&M Projects	**$19.43**	**$7.89**	**$18.30**	**$45.61**	**34%**
Gen. Maint.	$13.36	$4.14	$8.66	$26.16	19%
Repair & Pres.	$0.03	$0.85	$5.86	$6.75	5%
Safety & Traffic	$2.40	$1.07	$1.84	$5.31	4%
Engineering	$1.85	$1.34	$1.63	$4.81	4%
Est. Admin. & Gen. Eng.	$1.52	$0.00	$0.29	$1.81	1%
Snow/Ice Removal & Extraordinary Maint.	$0.27	$0.48	$0.02	$0.77	1%

Source: Oregon Department of Transportation, Local Road and Street Questionnaire. Annual averages, summary, and percents calculated by ECONorthwest.

Table 2-6 shows the average annual road-related expenditures in each of the three counties in the region from 2003–2005 (millions of dollars). Expenditures are differentiated as capital and OM&P projects. Of the 3-county total expenditures, about two-thirds is used on capital project, one-third on OM&P activities.

Table 2-7. Average annual road-related revenue by source in cities in the Metro region, 2003–2005 (millions of dollars)

		Suburban Cities		All Cities	
	Portland	Larger	Smaller	Total	Percent
TOTAL REVENUE	**$123.11**	**$48.29**	**$19.95**	**$191.35**	**100%**
Receipts from Local Sources	**$75.38**	**$24.59**	**$8.01**	**$107.97**	**56%**
From Counties	$21.46	$0.77	$1.01	$23.25	12%
Non-Road Fund Transfer	$12.98	$3.28	$1.11	$17.37	9%
Transportation Impact Fee (TIF) or SDC	$3.33	$8.54	$3.26	$15.13	8%
Parking	$13.41	$0.00	$0.00	$13.41	7%
Other Gov'ts.	$6.72	$0.28	$0.22	$7.22	4%
Sale of Bonds and Notes	$3.33	$2.00	$0.04	$5.37	3%
Permits	$2.98	$0.00	$0.05	$3.03	2%
Special Area Assessments	$0.61	$1.97	$0.10	$2.68	1%
Interest Income	$0.28	$1.66	$0.33	$2.26	1%
Property taxes within 6% Limitation	$0.00	$1.67	$0.00	$1.67	1%
Transportation Utility Fees (TUF)	$0.00	$1.01	$0.64	$1.66	1%
Franchise Fees	$0.00	$0.67	$0.46	$1.13	1%
Fuel Tax	$0.00	$0.53	$0.14	$0.67	0%
Other	$10.29	$2.19	$0.64	$13.13	7%
Receipts from State Government	**$28.29**	**$16.83**	**$10.93**	**$56.04**	**29%**
Highway Fund Apportionment	$24.28	$15.59	$7.82	$47.69	25%
OTIA	$0.00	$0.00	$1.13	$1.13	1%
Exchange Program	$0.00	$0.04	$0.00	$0.04	0%
Other	$4.01	$1.20	$1.98	$7.19	4%
Receipts from Federal Government	**$4.31**	**$0.94**	**$0.42**	**$5.67**	**3%**
Traffic Grants	$0.00	$0.91	$0.39	$1.30	1%
Emergency Events	$0.40	$0.00	$0.00	$0.40	0%
Housing and Urban Development	$0.00	$0.02	$0.04	$0.06	0%
Other	$3.91	$0.00	$0.00	$3.91	2%
Receipts from Private Sources	**$0.14**	**$5.87**	**$0.00**	**$6.01**	**3%**
Receipts from Other Jurisdictions	**$14.99**	**$0.07**	**$0.60**	**$15.65**	**8%**

Source: Oregon Department of Transportation, Local Road and Street Questionnaire. Annual averages, summary, and percents calculated by ECONorthwest.
Note: Larger suburban cities are Beaverton, Hillsboro, Tigard, Gresham, Lake Oswego, and Wilsonville. Smaller suburban cities are Cornelius, Forest Grove, Sherwood, Tualatin, Troutdale, Fairview, Oregon City, Gladstone, West Linn, Wood Village, Milwaukie, Damascus, and Happy Valley.

Table 2-7 shows the average annual road-related revenue in cities within the Metro region, 2003–2005 (millions of dollars). The table shows figures for the main city in the region, Portland, and combined totals for larger and smaller cities in the region. The data shows that local sources make up a little more than half of combined city revenues. About a third comes from the state, and a small percentage comes directly from federal sources.

Table 2-8. Average annual road-related expenditures by type in cities in the Metro region, 2003–2005 (millions of dollars)

		Suburban Cities		All Cities	
	Portland	Larger	Smaller	Total	Percent
TOTAL EXPENDITURES	**$122.95**	**$44.79**	**$19.23**	**$186.98**	**100%**
Capital Projects	**$52.65**	**$22.70**	**$9.11**	**$84.45**	**45%**
Const. & Expansion	$9.47	$13.46	$5.39	$28.31	15%
ROW	$15.33	$0.60	$0.63	$16.55	9%
Debt Service	$6.77	$5.61	$0.33	$12.71	7%
Non-road and street work	$9.81	$0.00	$0.05	$9.86	5%
Work for other jurisdictions	$8.74	$0.00	$0.00	$8.74	5%
Const. Eng.	$1.03	$2.19	$2.26	$5.49	3%
Payments to Other Gov'ts.	$1.48	$0.71	$0.32	$2.51	1%
Bike/Ped.	$0.03	$0.12	$0.12	$0.27	0%
Est. Admin. & Gen. Eng.	$0.00	$0.00	$0.01	$0.01	0%
O&M Projects	**$69.89**	**$19.69**	**$9.87**	**$99.45**	**53%**
Gen. Maint.	$44.66	$6.70	$3.68	$55.04	29%
Est. Admin. & Gen. Eng.	$15.98	$5.53	$3.19	$24.70	13%
Safety & Traffic	$7.90	$3.30	$0.96	$12.15	6%
Repair & Pres.	$1.24	$3.60	$1.53	$6.37	3%
Engineering	$0.00	$0.54	$0.49	$1.03	1%
Snow/Ice Removal & Extraordinary Maint.	$0.13	$0.02	$0.02	$0.17	0%
Unallocated Admin. & Gen. Eng.	**$0.00**	**$2.40**	**$0.26**	**$2.66**	**1%**
Federal Emergency Events	**$0.41**	**$0.00**	**$0.00**	**$0.41**	**0%**

Source: Oregon Department of Transportation, Local Road and Street Questionnaire. Annual averages, summary, and percents calculated by ECONorthwest.
Note: Larger suburban cities are Beaverton, Hillsboro, Tigard, Gresham, Lake Oswego, and Wilsonville. Smaller suburban cities are Cornelius, Forest Grove, Sherwood, Tualatin, Troutdale, Fairview, Oregon City, Gladstone, West Linn, Wood Village, Milwaukie, Damascus, and Happy Valley.

Table 2-8 shows the average annual road-related combined expenditures of the cities in the region from 2003–2005 (millions of dollars). Expenditures are differentiated as capital and OM&P projects. Cities in the region expend more than half of their available funding on OM&P activities.

Table 2-9. Average annual road-related revenue and expenditures in counties and cities in the Metro region, 2003–2005 (millions of dollars)

			Metro Region	
	Counties	Cities	Total	Percent
TOTAL REVENUE	**$145.53**	**$191.35**	**$336.88**	**100%**
Local Sources	$65.33	$107.97	$173.30	51%
State Government	$70.39	$56.04	$126.43	38%
Federal Government	$8.34	$5.67	$14.01	4%
Private Sources	$0.00	$6.01	$6.01	2%
Other Jurisdictions	$1.01	$15.65	$16.66	5%
Unspecified Other	$0.46	$0.00	$0.46	0%
TOTAL EXPENDITURES	**$134.75**	**$186.98**	**$321.73**	**100%**
Capital Projects	$89.14	$84.45	$173.59	54%
O&M Projects	$45.61	$99.45	$145.07	45%
Unallocated Admin. & Gen. Eng.	$0.00	$2.66	$2.66	1%
Federal Emergency Events	$0.00	$0.41	$0.41	0%

Source: Oregon Department of Transportation, Local Road and Street Questionnaire. Annual averages, summary, and percents calculated by ECONorthwest.

Based on the data described in the previous tables, table 2-9 summarizes the average annual road-related revenue and expenditures in the counties and cities combined in the Metro region between 2003–2005. It is no surprise that local and

state sources provide nearly all of the funding generated at the local level. The combined expenditures shows that counties and cities expend more on capital projects (54% of all expenditures) than on OM&P activities (45%).

OTHER TRANSPORTATION SYSTEM FUNDS

In addition to operating the region's airports and marine terminals, which provide significant value to the region's transportation system, the Port of Portland, contributes to the improvement of other aspects of the region's transportation system. While the Port receives no federal or state highway trust fund money, the Port applies non-grant general fund income and non-grant aviation income to support their facilities that serve the region. The Port also invests in infrastructure related to their facilities but owned by other agencies or jurisdictions. The Port expends approximate $5 million per year through their general fund on projects of regional significance. For example, the Port is currently contributing 8$ million to the I-205/Airport Way interchange (owned by ODOT). They are also contributing to I-84/257th Avenue interchange project in Troutdale.

TRIMET

TriMet is the primary provider of transit service in the Metro region. Table 2-10 shows revenues and expenditures in TriMet's General Fund for FY2001–FY2005. Table 2-10 shows that TriMet had total revenues of almost $310 million in FY2005. The Employer/Municipal Payroll Tax generated roughly 50% of TriMet's annual revenue in the five years shown in Table 2-10. Passenger Revenue generated about 20% of annual revenue, and Grants and Capital Reimbursements generated about 15% to 20%. Remaining revenue sources contributed only 10% to 15% of TriMet's total revenue over the period shown in Table 2-10.

Table 2-10. General Fund revenue and expenditures for TriMet, 2004–2007 (thousands of dollars)

	FY2001	FY2002	FY2003	FY2004	FY2005
Beginning Working Capital	**$70,170**	**$86,900**	**$70,300**	**$51,994**	**$37,100**
Total Revenues	**$278,283**	**$273,391**	**$270,252**	**$285,713**	**$309,332**
Employer/Municipal Payroll Tax	$151,578	$146,228	$145,231	$146,125	$155,317
Passenger Revenue	$51,702	$53,191	$52,746	$55,664	$59,487
Grants & Capital Reimbursement	$39,020	$40,863	$39,885	$51,635	$58,350
Other Operating Revenue	$15,433	$17,217	$18,268	$17,482	$16,204
Self Employed Tax	$6,558	$7,289	$6,801	$7,541	$7,906
ATP-Cigarette Tax, Agency, Fares	$3,925	$3,510	$3,380	$3,775	$7,722
Interest	$8,392	$3,152	$2,072	$1,622	$2,375
State In-Lieu	$1,675	$1,941	$1,869	$1,869	$1,971
Total Expenditures	**$251,210**	**$280,121**	**$288,557**	**$298,397**	**$331,441**
Bus Operations	$116,421	$117,981	$127,177	$133,968	$148,859
Rail Operations (incl. Ptld. Streetcar)	$35,293	$37,887	$41,362	$44,263	$50,441
General & Administration	$37,744	$49,372	$39,821	$38,289	$39,426
Accessible Transportation Programs	$24,481	$27,900	$30,023	$31,914	$35,452
Capital Projects & Facilities	$9,937	$12,280	$10,601	$18,830	$19,676
Debt Service	$9,417	$10,479	$9,357	$10,389	$15,239
Transfer to Capital Fund-Projects	$17,917	$14,678	$20,349	$10,554	$11,331
Field Services		$9,544	$9,868	$10,190	$11,018
Ending Balance	**$97,243**	**$80,170**	**$51,994**	**$39,309**	**$14,991**

Source: TriMet. *FY 2006 Financial Issues Report #1: Financial Analysis and Forecast*. Fall 2005. Table 1.

Roughly 60% of TriMet's expenditures are for bus and rail operations (45% for bus and 15% for rail). Expenditures for Capital Projects and Facilities, and Transfers to Capital Fund, have averaged about 10% of TriMet's expenditures over the five years shown in Table 2-10, just over $30,000 in FY 2005.

Table 2-11. Capital Fund revenue and expenditures for TriMet, 2004–2007 (thousands of dollars)

	FY2001	FY2002	FY2003	FY2004	FY2005
Total Capital Revenues	**$49,997**	**$41,273**	**$37,004**	**$17,757**	**$20,181**
Vehicle Replacement Reserve	$11,847	$20,539	$3,248	$0	$0
Bond Proceeds/Debt Financing	$2,500	$0	$0	$0	$1,728
Transfer from General Fund	$17,917	$14,678	$20,349	$10,554	$11,331
Federal Grant Resources	$17,733	$6,056	$13,408	$7,203	$7,123
Total Capital Expenditures	**$38,150**	**$20,734**	**$33,757**	**$17,757**	**$20,181**
Replacement	$28,294	$5,042	$23,270	$10,007	$1,391
Improvement	$9,856	$15,692	$10,487	$7,750	$18,790
Costs by Funding Source					
Eligible for Federal Funds	$17,733	$6,056	$13,408	$7,203	$7,123
Tri-Met Funds Required	$20,417	$14,678	$20,349	$10,554	$13,059
Fund Balances					
Federal Grant Fund Balance	$0	$0	$0	$0	$0
Tri-Met Capital Fund Balance	$11,847	$20,539	$3,248	$0	$0

Source: TriMet. *FY 2006 Financial Issues Report #1: Financial Analysis and Forecast*. Fall 2005. Table 1.

Table 2-11 shows revenues and expenditures in TriMet's Capital Fund over the same period. TriMet spent an average of $26.1 million per year on capital projects over the five years shown in Table 2-11, with roughly half for replacement of equipment and half for improvement of facilities. Federal grants covered an average of roughly 40% of TriMet's capital costs over this period, with the remaining 60% of funding from TriMet sources.

SMART

The South Metro Area Rapid Transit (SMART) primarily serves transit riders in Wilsonville, Oregon. ECO's study of the recent DRAFT Wilsonville Transit Master Plan shows that the transit provider projects expenses to be just under $3 million in FY2007. According to the Wilsonville Transit Master Plan, anticipated 2007 revenues are expected to be just over $3 million, slightly exceeding the amount of the transit service's costs.

Chapter 3 Future Transportation Revenues in the Metro Region

This chapter forecasts revenues that will be available to jurisdictions for operation and improvement of the transportation system in the Metro region over the planning horizon of the RTP (to 2035). The next section describes methods and assumptions used to forecast future revenue. The remainder of the chapter uses data and assumptions to forecast levels of specific funding elements, organized into two sections: roads and transit services. Each section ends with a summary forecast for each funding element.

METHODS AND ASSUMPTIONS FOR ESTIMATING REVENUE

FEDERAL REGULATIONS AND GUIDANCE FOR TRANSPORTATION PLANNING

The federal government requires metropolitan regions to develop and update a long-range transportation plan for the region. These plans must identify transportation demand for people and goods in the region, assess measures to preserve and make the most efficient use of the existing transportation system, and identify improvements needed to the existing system to meet future demand.[1] The Regional Transportation Plan (RTP) being developed by Metro is the required long-range plan for the metropolitan Portland region.

A key purpose of long-range transportation plans is to set priorities for allocating limited resources for operating, preserving, and improving the transportation system in a region. To ensure that long-term transportation plans are realistic and set meaningful priorities, federal regulations limit the total cost of operation, preservation, and improvement activities in the plan to the level of reasonably available revenue in the region. This requirement is referred to as "fiscal constraint" and transportation plans are said to be "fiscally constrained." Federal regulations specific to long-range metropolitan transportation plans require those plans to

> "Include a financial plan that demonstrates the consistency of proposed transportation investments with already available and projected sources of revenue. The financial plan shall compare the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation uses, and the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan. The estimated revenue by existing revenue source (local, State, and Federal and private)

[1] 23 CFR 450.322

> available for transportation projects shall be determined and any shortfalls identified. Proposed new revenues and/or revenue sources to cover shortfalls shall be identified, including strategies for ensuring their availability for proposed investments. Existing and proposed revenues shall cover all forecasted capital, operating, and maintenance costs. All cost and revenue projections shall be based on the data reflecting the existing situation and historical trends" [2]

The practical implication of federal regulations and guidance on fiscal constraint is that long-range transportation plans must estimate the level of revenue that is "reasonably expected to be available" in the region. Federal regulations do not specifically define the meaning of "reasonable," but guidance on fiscal constraint from the FHWA defines "reasonableness" as

> "being in accordance with good judgment, sound sense, fairness, duty, or prudence."[3]

Federal regulations recognize the difficulty in projecting revenues and costs, so they provide for flexibility in demonstrating fiscal constraint:[4]

- Future revenues may be based on historical trends, including assumptions about future policy decisions based on past legislative or executive policy actions that affected revenue.
- Revenue forecasts can include new funding sources that do not currently exist or that may require additional steps before the revenue can be committed to transportation costs. These new funding sources must be "reasonably expected to be available" and the plan must include a strategy that identifies steps needed to ensure that the funding will become available within the time frame of the plan.
- While the fiscal constraint requires regions to provide for maintenance of the existing transportation system, FHWA and FTA largely defer to state and local governments regarding the appropriate level of operation and maintenance expenditures. The level of future funding allocated to operation, maintenance, and preservation of the existing transportation system affects the amount remaining for improvements to the system.

In this context, it appears that there are a variety of reasonable assumptions that one can make about future conditions that will result in a range of reasonably available revenue for transportation needs in a region. The analysis in this chapter groups all of the potential assumptions for various funding sources into three sets of assumptions to establish a range of "reasonably available" revenue:

- **Existing sources (E)** represent the level of revenue available from existing sources with no increases in tax rates or fees. (This funding level

[2] 23 CFR 450.322(b)(11)

[3] U.S. Department of Transportation, Federal Highway Administration. *Fiscal Constraint Definitions.* Last updated July 6, 2005. http://www.fhwa.dot.gov/Planning/fcdef62805.htm

[4] U.S. Department of Transportation, Federal Highway Administration. *FHWA-FTA Fiscal Constraint Guidance*. June 27, 2005. http://www.fhwa.dot.gov/Planning/fcguid62705.htm

precludes the 1-cent per year gas tax increase). Changes in revenue from existing sources occur only from changes in underlying conditions, such as property values, number of vehicles, or volume of gasoline sales.

- **Existing plus conservative expansion (E+)** includes revenue from existing sources, committed revenues, and reasonable but conservative assumptions for increases in revenue. The majority of increase from existing revenue is primarily through 1-cent per year gas tax increase and increases in federal High Priority Project Program (HPPP) funding based on increase in regional population. It also assumes increase in private developer contributions to the system.
- **Existing plus optimistic expansion (E++)** includes revenue from existing sources based on reasonable but optimistic assumptions for increases in tax rates, fees, and other policy decisions that affect revenue, including gas tax increases plus periodic increases in vehicle registration fees and an increased share of STIP funds. It also assumes increase in private developer contributions to the system.

The primary source of assumptions for future levels of revenue from federal and state sources in the Metro region is ODOT's *Financial Assumptions for the Development of Metropolitan Transportation Plans 2005–2030* [ODOT's *Financial Assumptions*].[5] Additional assumptions are made to forecast future levels of revenue from local funding sources. The methods and assumptions used to forecast revenue from each funding source are identified in the remainder of this chapter.

Though this report does not look at costs until the next chapter, we note that the costs it does look at are those of the 2004 RTP *preferred* system, not the *constrained* system. The reason for this choice, and its implications, are explained in Chapters 4 and 5.

DEALING WITH DOLLARS IN DIFFERENT YEARS

Comparing revenues that are generated today to revenues generated in the future can be confusing. The problem is the concept that a dollar today is not equivalent to a dollar in future years. For example, $200 million spent today (in *constant*, 2007 dollars) for transportation improvements would not buy the same amount of improvements in 2035 because of inflation. If inflation averaged 3% over the period from 2007 to 2035, $200 million spent in 2035 (in *current*, 2035 dollars) would buy less than half the improvements that the same amount of money in *constant* 2007 dollars would. A standard technique for dealing with money over time is to denominate all future dollars in *constant dollars* (rather than in *current* or *nominal* dollars). In Chapters 3, 4, and 5 we report all future revenue and costs in constant 2007 dollars.

[5] ODOT Financial Services, Policy and Economic Analysis Unit. December 2004 (tables updated March 2006).

There are several tricky issues here: trickier even than is generally discussed by people who understand the concepts of inflation and *discounting to present value*. Some of the complications:

- If one has confidence in assuming a constant and overall average rate of inflation over a long period, and costs for all goods and services are growing at roughly the same rate, then constant-dollar estimates are accurate estimates of future buying power. If an interchange costs $50 million today, and if construction costs are increasing at the same rate as general inflation, then one can assume that if the interchange were built 10 years from now, it would cost $50 million in year-2007 dollars. The issue is buying power. The issue of the time-value of money and discounting to present value does not enter into the calculation.

  Now consider some complications.

- What if one wanted to know how much money was needed now to be able to pay for the $50-million interchange in 10 years? That becomes a present-value question. If the market interest rate were 7% (e.g., 3% for inflation, 3% for the time-value of money, 1% for risk adjustment), one would need an amount less than $50 million today because it would be growing, *in real terms*, at 3% per year. Over ten years, 3% real growth (beyond inflation) per year compounds to 34% more. Thus, one needs only a little more than $37 million in 2007 to have the $50 million of real buying power available in 2017. As a practical matter, no jurisdiction saves or invests funds for future transportation costs of this magnitude.

- What if inflation for construction is growing faster than the average rate of inflation (as it is now)? That's complicated, and not something that any of the tables in this report deal with. To deal with that one would have to separate all capital revenues from those for OMP (assuming that OMP is growing at approximately the average inflation rate) and then either (1) discount future dollars using the construction inflation rate, thus reducing their buying power, or (2) estimate future constant dollars using the average inflation rate, but then adjust all construction-related costs to account for the difference between the average inflation rate and the construction cost inflation. The problem here is that if revenues are reported in constant 2007 dollars based on the average rate of inflation, but are earmarked for construction projects with costs growing faster than average inflation, then future dollars will have less buying power for construction than they do today, even with the adjustment to constant dollars for average inflation.

- Note that we have been talking about constant buying power in the future. That is not the same as talking about a stream of future revenues and asking "What could we buy today if we pledged that future stream of revenues?" That is a typical financing problem, and one similar to a home mortgage problem. If a jurisdiction agrees to pay (to retire bonds) $7.1 million per year for 10 years at 7% nominal interest, then the bond market will give it $50 million right now to build the interchange: $50 million is the present discounted value of the future stream of *current* (not *constant*) dollar payments at a 7% nominal (not real) interest rate. Note that $7.1 for

10 years is $71 million over the ten years: one ends up paying the difference—$21 million—to cover inflation, the time-value of money, and risk.

The path we have chosen for this report is as follows:

- All tables report future revenues in constant 2007 dollars that are estimated by using what we assume to be an *average* rate of inflation (assumed to be about 3% per year). We say "assume" because many of the sources are not explicit about how costs were inflated, if at all. Typically costs are estimated by what it would cost to build today, without applying construction cost inflation and then discounting back to constant dollars.
- Each table has two summary rows at the bottom. The first is "total" which means the sum of all the 2007 dollars in the column. For example, if revenues are forecast to be $10 million per year in 2007 dollars for every year during the forecast period (29 years), they sum to a total of $290 million. This means that the region can buy a total of $290 million of goods and services over the forecast period (an amount of goods and services equal to what $290 million would buy today). The second is "annual average" which is "total" divided by 29 years. For the example just given, annual average is $10 million. But many revenue streams are not constant over time, and the annual average is not equal to any specific number in the stream: it is the average.
- Thus, we *do* report annual revenue in constant dollars, but we *do not* report totals in present value. Present value represents what the region could purchase today by financing costs with the future stream of revenue. If one wants a present-value estimate, in rough terms (for a constant stream of cost or revenue) the present value will be about 2/3 of the total revenue in constant dollars, with the remaining 1/3 going to interest and finance costs. For variable streams, there is no specific factor, though many of the variable streams do not vary much, so 2/3 could be used as a rough approximation.
- We do not deal in the tables with the differential of construction cost. A couple of points. First, construction costs probably cannot continue to grow at their currently high rate over the 29-year forecasting period. The arithmetic of compounding would take construction costs to ridiculous levels over that period. The market would adjust before that would happen. Second, the direction of the effect is clear: our estimates, if they were perfect in every other way, will overstate the buying power of the forecasted revenues for construction projects.

FUNDING FOR ROADS IN THE METRO REGION

This section forecasts revenue available to jurisdictions in the Metro region from federal, state, and local funding sources over the planning horizon for the RTP, 2007 to 2035. It begins with a forecast of funding available to ODOT for modernization projects in the Metro region, followed by forecasts of total revenue available to local jurisdictions in the Metro region from federal, state, and local sources.

Note that though this chapter is about *revenue,* it often refers to *expenditures*, which are not the same as *costs* in Chapter 4. That overlap is awkward but hard to avoid. The *costs* in Chapter 4 are independent (mainly) of historical revenues or expenditures. They are estimates of how much money will be needed in the future to build, operate, and maintain a preferred transportation system over the planning period. In this chapter, the focus is on forecasting the *revenues* that will be available to cover the costs estimated in Chapter 4. But all of the revenue forecasts start with some estimate of how much revenue there is now, which is often best reported and explained in terms of what the revenue is spent on (i.e., *expenditures*). Though this chapter talks about expenditures, do not lose sight of the fact that the objective is to make an estimate of future revenues.

Many of the tables in this chapter are abridged. Some sections, where ECO believed appropriate, contain analysis without the aid of tables. Raw data and complete forecasts, the basis of the tables in this chapter, are in Appendix E.

ODOT EXPENDITURES FOR FEDERAL AND STATE HIGHWAYS IN THE METRO REGION

ODOT is responsible for the modernization as well as the operation, maintenance, and preservation (OM&P) of the interstate and state highway system in the Metro region. The level of expenditures needed for OM&P affects the amount of funding available for modernization projects to expand the capacity of the transportation system. ODOT describes its assumptions about and estimates of revenues and costs in a document it produces called *Financial Assumptions.*

Before one goes into the details, it helps to have a general understanding of ODOT's assumptions for forecasting. Most state funds that move from ODOT to the region pass through the State Highway Trust Fund. For various reasons some of those funds must be used for modernization or OM&P, but most are flexible: they can be used on either.

Thus, there are judgments and assumptions that must be made about how the revenues will be estimated, and *also* how they will be allocated.

Consistent with our methods, ODOT's *Financial Assumptions* start with a trend (Existing Sources or "Current Law") forecast, and then adds what we would classify as ODOT's assessment of "reasonably available" (new) revenues. Those revenues are assumed to come from two sources: increases in the state gas tax, and increases in the vehicle registration fee. Those revenues, in general, could be used for either modernization or OM&P. Given the structure of the analysis in this report, we would classify those sources as "flexible."

In ODOT's *Financial Assumptions*, however, ODOT assumes that the vehicle registration will be allocated to modernization, and the gas tax increases will be allocated to OM&P. In the text that follows, we report them that way.

To estimate the level of funding available for modernization projects, ODOT's *Financial Assumptions* includes an assumption about the level of future expenditures needed for OM&P of the existing federal and state system.[6] The forecasts in ODOT's *Financial Assumptions* subtract funding needed for future OM&P expenditures from total revenues in order to estimate the level of funding available for modernization projects.

This assessment of future expenditures needed for OM&P is done for the state as a whole—ODOT's *Financial Assumptions* does not include a forecast of funding or expenditures by ODOT for OM&P activities in the Metro region. An obvious assumption for the purposes of developing a financial plan for the RTP is that ODOT will continue to be responsible for funding OM&P of the federal and state highway system in the region. The more difficult issue is whether the revenues estimated in the 2004 RTP for that purpose are adequate at a preferred (efficient) level of OM&P, or a level that is deemed inadequate but achievable and acceptable.

ODOT's *Financial Assumptions* includes a forecast of future funding available to ODOT for modernization of the federal and state highway system. This forecast includes revenue from the State Highway Trust Fund (which is composed of revenue from the state gas tax, vehicle registration fees, and other road-related taxes and fees) and federal funding programs including the High Priority Projects Program (HPPP), Congestion Mitigation and Air Quality (CMAQ), Surface Transportation Program (STP), Highway Bridge Rehabilitation and Repair (HBRR), Safety and Demonstration programs.

For the next several years, ODOT expects OM&P needs to be greater than available funds, even with a gradual gas tax increase. While this would lead to no ODOT funding for modernization if all OM&P needs were met, ORS 366.507 requires a minimum amount of spending by ODOT on modernization. In addition, revenue from bonds issued as part of the Oregon Transportation Investment Act (OTIA) will boost funding available for *previously programmed* modernization projects through 2012.

Distribution of modernization funds to metropolitan areas is determined by deliberation among ODOT, local governments, Metropolitan Planning Organizations (MPOs), and the Oregon Transportation Commission (OTC). Analysis of historical expenditures of modernization funds shows that the Metro region has received about 24% of this funding.[7]

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[6] ODOT based future OM&P needs on Scenario 3 of the 1999 Oregon Highway Plan with minor adjustments. That scenario calls for maintaining pavement condition at a level where 78% of pavement is considered to be in fair or better condition. (ODOT *Financial Assumptions*, p. 9)

[7] ECO calculated from the ODOT *Financial Assumptions* appendix, page 15, that Region 1 is forecast to receive 33.56% of the statewide modernization funds. Per conversation with Ted Leybold at Metro, the Metro area (traditionally) receives about 80% of Region 1 funds. To calculate a rough estimate of the Metro region's share of statewide modernization funds, ECO takes 80% of the 30% (rounded down for simplification) of statewide modernization funds to Region 1, which is roughly 24%. Thus, we use 24% when calculating estimates of state-share of statewide funds expended in the Metro's region.

Table 3-1 shows ODOT's forecast of funding available for modernization projects in metropolitan areas statewide and the share of those expenditures in the Metro region, assuming the region continues to receive about 24% of statewide expenditures over the forecast period.

Table 3-1. Funding available to ODOT for expenditures on modernization projects in Oregon and the Metro region, 2007–2035 (millions of 2007$)

Year	Statewide Funding	Metro region's share of funding
2007	$105.1	$25.2
2008	$85.5	$20.5
2009	$83.7	$20.1
2010	$70.4	$16.9
2011	$68.9	$16.5
2012	$70.3	$16.9
2013	$27.2	$6.5
2014	$27.1	$6.5
2015	$26.9	$6.5
2016	$26.7	$6.4
2017	$26.5	$6.4
2018	$26.3	$6.3
2019	$26.1	$6.3
2020	$26.0	$6.2
2021	$25.8	$6.2
2022	$25.6	$6.1
2023	$25.4	$6.1
2024	$25.1	$6.0
2025	$24.9	$6.0
2026	$24.7	$5.9
2027	$31.3	$7.5
2028	$30.9	$7.4
2029	$30.5	$7.3
2030	$36.3	$8.7
2031	$35.7	$8.6
2032	$35.1	$8.4
2033	$34.5	$8.3
2034	$33.9	$8.1
2035	$33.3	$8.0
Total	**$1,149.8**	**$275.9**
Ann Avg	**$39.6**	**$9.5**

Source: ODOT's *Financial Assumptions*, "Derivation of Funds Available to Finance State Highway Modernization With New OM&P Revenue." Updated March 2006. Conversion to 2007 dollars and allocation to Metro region by ECONorthwest.

Table 3-1 reflects available (or expected existing "E") statewide ODOT funds for highway-related capital improvements. These figures exclude funds reserved for debt service. The data includes OTIA bond funds through 2012. Historically, the state share expended in the Metro region is about 24% of the available funds.

Note, the estimate includes the Oregon Transportation Investment Act (OTIA) funds. OTIA is a statewide bond program to fund critical investments in Oregon's transportation system. OTIA III, the third phase of this program, will provide funding for projects through 2012. Statewide bond revenues from OTIA are combined in the forecast of ODOT funding available for modernization shown in Table 3-1.[8]

ODOT expects its statewide funding for modernization to drop from roughly $70 million in 2012 to $27 million in 2013 as revenue from OTIA bonds is used up for specific projects. After 2013, ODOT expects its modernization funds to grow at about the same rate as inflation, resulting in relatively stable annual levels of funding in constant dollars.

ECO assumes that the Metro region will continue to receive a constant percentage of ODOT's expenditures on modernization projects; thus funding for projects in the region will follow the same pattern of available state funding. Statewide funds reserved for modernization projects in the Metro region drop from $17 million in 2012 to about $6.5 million in 2013, in line with state funding, as revenue from statewide bond revenues reserved for highway modernization are spent. Annual funding for ODOT modernization projects in the Metro region is expected to be relatively stable after 2013, averaging roughly $7 million (2007$) per year from 2013 through 2035.

Table 3-1 estimates the Metro region receiving an average of roughly $10 million (2007$) per year from 2007–2035. Over the entire planning period, our analysis of the ODOT data suggests the Metro region will receive about $275 million (2007$) of statewide funds reserved specifically for highway-related modernization projects.

The forecast of funding available for modernization projects from ODOT's *Financial Assumptions* is based on a forecast of State Highway Trust Fund revenues that assumes the state gas tax will increase by the equivalent of 1-cent per year every year beginning in July 2005. In fact, the state gas tax did not increase in 2005 or 2006. That point does not, by itself, mean the ODOT forecast is unlikely: the 1-cent assumption was a way of specifying an average amount of increase for the gas tax, not a prediction that that increase would or must be 1 cent in every year. But if the state gas tax does not increase at the average rate implied by the ODOT assumption (and history does not make such pessimism inappropriate), some of the funds otherwise available to ODOT for modernization will need to be diverted to fund OM&P expenditures, reducing the level of funding available to ODOT for modernization projects.

Regarding operations, maintenance, and preservation, ECO used data in the 2004 RTP to forecast ODOT's expenditures on highway-related OM&P in the Metro region. For the Metro region, ODOT is estimated to expend a total of about

[8] Funding to repay OTIA bonds comes from increases in motor vehicle and trucking fees. Payments for this debt will reduce the level of future revenue available for funding transportation needs. The forecasts from ODOT's *Financial Assumptions* in this chapter reflect the effect of using future revenue to repay OTIA bonds. ODOT's *Financial Assumptions* explicitly assumes no additional bonding of future revenues by the state to fund transportation projects.

$3 billion (2007$) from 2007 to 2035 on OM&P. About $144 million is projected to be available in 2007, declining to about $110 million in 2020, and $80 million in 2035 (all in constant 2007 dollars).

These figures are based on the 2004 RTP reported estimates of ODOT OM&P expenditures in the Metro region between 2000 and 2020. Taking 2000 and 2020 data from the RTP, ECO extrapolated the estimated expenditures out to 2035 based on the average annual growth rate from 2000 to 2020. The figures were then converted to constant 2007 dollars. A table showing the conversion of 2004 RTP data is listed in Appendix E.

Per the 2004 RTP, the estimated funds for state OM&P expenditures take into account increased road use and major rehabilitation and repairs of facilities reaching the end of their design-life.

We use that estimate of $3 billion (in 2007$) for OM&P over the forecast period for the Existing E level of revenue.

ASSUMED ADDITIONAL REVENUE FOR HIGHWAYS IN THE METRO REGION

As previously noted, new revenues are assumed to come from two sources: increases in the state gas tax, and increases in the vehicle registration fee. In general, these new revenues *could* be used for either modernization or OM&P. Given the structure of the analysis in this report, we would classify those sources as "flexible."

Derived from data in ODOT's *Financial Assumptions* appendix, combined new revenue from periodic increases in vehicle registration fees and a 1-cent per gallon per year gas tax could generate over $4.8 billion in the *state's share* of statewide flexible funding ($580 million from increases in VRF and about $4.3 billion in gas taxes). Assuming the region's historic 24% share of these funds, the state-share expended in the Metro region is estimated at just over $1 billion in new flexible revenue.

In ODOT's *Financial Assumptions,* ODOT allocates the projected new revenue stream:

- Funds generated from periodic increases in vehicle registration fees anticipated for modernization
- Funds generated from the gas tax are allocated to OM&P

For consistency with ODOT's report, we also report the estimated new revenue based on ODOT's assumed allocation.

For modernization, ODOT assumes periodic increases in vehicle registration fees (VRF) to generate new revenue. ODOT's financial analysis reported a $15 vehicle registration fee increase every eight years (beginning in Fiscal Year 2010) as the most appropriate and reasonable assumption for additional highway modernization funds. That assumption yields about $580 million (2007$) in

additional funds for the state's share of overall statewide highway modernization over the planning period. The region can anticipate $140 million (2007$) in new revenue for ODOT highway-related modernization expenditures, based on the region's historic share of the state's share of these funds expended in the region. For the purposes of this analysis, we consider the projected funding from the periodic VRF increase for the E++ scenario (upper bound bookend), yielding an overall total of $415 million (2007$) [$275 + $140 million].

We make no forecast for the Existing+Optimistic (E+) scenario. We found nothing more in the ODOT documents to give us a specific basis for making a conservative forecast for the E+ scenario.

For highway-related OM&P, potential new funds are also assumed. ODOT assumes a 1-cent per gallon per year increase in the gas tax to provide new revenue for expenditures for OM&P. ODOT's analysis concluded a fuel tax increase of 1-cent per gallon per year seemed the most appropriate basis for calculating the amount of additional State Highway Trust Fund revenue. ECO uses ODOT's assumption to forecast the Existing+Conservative expansion (E++) level for state highway OM&P in the region. This 1-cent per gallon per year tax could generate an $4.3 billion in new revenue for the *state's share* of funds for state highway-related OM&P. Given that, *additional* ODOT expenditures in the Metro region are estimated at about $1 billion, assuming the same historical expenditure trend for highway-related modernization (24%). ECO applied the additional $1 billion to the Existing (E) level of revenue to get an estimate of $4 billion for the Existing+Optimistic (E++) expansion of revenue.

We make no forecast for the Existing+Optimistic (E+) scenario. We found nothing more in the ODOT documents to give us a specific basis for making a conservative forecast for the E+ scenario.

In summary:

- Estimates for highway modernization-only funds range from $275 million (E) and $415 million (E+) with a statewide periodic increase in vehicle registration fees (a $15 per biennium vehicle registration fee increase every eight years beginning SFY 2010, shared with local governments).
- Estimates for state highway OM&P-specific expenditures in the Metro region range from $3 billion (E) and $4 (E++) based on a generally accepted assumption of a 1-cent per gallon per year gas tax.

As previously noted, the state gas tax did not increase in 2005 or 2006. Thus, the affect of this assumption may further be debated. An important concept to understand: if the state gas tax is not increased, some of the funds otherwise available to ODOT for modernization will likely need to be diverted to fund OM&P expenditures, thus reducing the level of funding available to ODOT for modernization projects.

FUNDING FOR LOCAL JURISDICTIONS IN THE METRO REGION

ODOT's Financial Assumptions includes forecasts of the amount of revenue from federal and state sources that will be available to all jurisdictions in the Metro region. This section summarizes ODOT forecasts of federal and state revenue available to local jurisdictions in the Metro region. In addition to federal and state sources, jurisdictions in the Metro region have local funding sources for transportation.

FEDERAL FUNDING IN THE METRO REGION

The federal government provides funding through a variety of programs administered by the Federal Highway Administration (FHWA). Federal transportation funding programs are established by legislation that set funding levels and policies for the distribution of funds. The most recent federal legislation authorizing transportation funding is the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This section summarizes forecasts from ODOT's *Financial Assumptions* for federal funding available to jurisdictions in the Metro region. Most of the federal formula categories available to ODOT for state facilities are part of the analysis provided earlier in this chapter.

Federal High-Priority Project Program funds

The federal High-Priority Project Program (HPPP) is a discretionary program for capital projects. HPPP and other discretionary federal funds are earmarked to specific projects by Congress based on need. ODOT's *Financial Assumptions* includes a forecast of HPPP and other federal discretionary funding available to Oregon; this forecast assumes that annual HPPP revenue will remain relatively flat over the forecast period because it is expected to increase only at the rate of inflation after 2010. ODOT provides three alternative forecasts for the share of HPPP funding available to jurisdiction in the Metro region, based on:

- The level of HPPP and other federal discretionary funds allocated to the Metro region under the last three federal authorizations (ISTEA, TEA-21, and SAFETEA)
- The level of HPPP and other federal discretionary funds allocated to the Metro region over the under the current federal authorization (SAFETEA-LU), and
- The region's share of Oregon's population.

Table 3-2 shows the resulting forecast of HPPP and other discretionary federal revenues allocated to the Metro region between 2007 and 2035. Table 3-2 shows that the Metro region would receive a total of $315–$670 million in funding from HPPP and other federal discretionary funding programs over the planning period for the RTP (in constant 2007$).

Table 3-2. HPPP and other discretionary federal revenues allocated to the Metro region, 2007–2035 (millions of 2007$)

	Allocation to Metro Region		
Year	Based on ISTEA, TEA-21, & SAFETEA	Based on SAFETEA-LU	Based on Population
2007	$11.3	$24.0	$21.1
2008	$10.9	$23.3	$20.4
2009	$10.6	$22.6	$19.8
2010	$10.6	$22.7	$19.9
2011	$10.6	$22.7	$19.9
2012	$10.7	$22.7	$19.9
2013	$10.7	$22.8	$20.0
2014	$10.7	$22.8	$20.0
2015	$10.7	$22.8	$20.0
2016	$10.7	$22.9	$20.1
2017	$10.7	$22.9	$20.1
2018	$10.8	$22.9	$20.1
2019	$10.8	$23.0	$20.1
2020	$10.8	$23.0	$20.2
2021	$10.8	$23.0	$20.2
2022	$10.8	$23.1	$20.2
2023	$10.8	$23.1	$20.3
2024	$10.9	$23.2	$20.3
2025	$10.9	$23.2	$20.3
2026	$10.9	$23.2	$20.4
2027	$10.9	$23.3	$20.4
2028	$10.9	$23.3	$20.4
2029	$10.9	$23.3	$20.5
2030	$11.0	$23.4	$20.5
2031	$11.0	$23.4	$20.5
2032	$11.0	$23.4	$20.6
2033	$11.0	$23.5	$20.6
2034	$11.0	$23.5	$20.6
2035	$11.0	$23.6	$20.7
Total	**$314.5**	**$670.7**	**$588.0**
Ann Avg	**$10.8**	**$23.1**	**$20.3**

Source: ODOT's *Financial Assumptions*, "Projected Average HPPP and Discretionary Highway Amounts." Updated January 2006. Conversion to 2007$ by ECONorthwest.

The three alternative ODOT forecasts of HPPP and other discretionary federal funding allocated to the Metro region can be used to place a lower and upper bounds on potential revenue from these sources. The forecasts in Table 3-2 correspond to three sets of assumptions we are using to forecast reasonably available revenue in this chapter as follows:

- **Existing sources (E):** $314.5 million
- **Existing sources plus conservative expansion (E+):** $588.0 million
- **Existing sources plus optimistic expansion (E++):** $670.7 million.

ODOT also uses HPPP and other federal discretionary funds directly for expenditures on state highways. The amount of this funding available to ODOT is included in the estimate of ODOT funding for modernization projects in the

Metro region earlier in this chapter, and there must be, therefore, a split between ODOT and local facilities. Historically, this split has been 50/50.

Federal Surface Transportation Program (STP) allocation to TMAs, counties and cities

ODOT's *Financial Assumptions* document includes an estimate of the STP apportionment to the Portland Transportation Management Area (TMA), which corresponds to the Metro region. ODOT also forecasts STP allocations to Multnomah, Clackamas, and Washington County for funding transportation in the non-metropolitan portions of those counties. This STP funding is not included in this section because it is for areas that are outside of the Metro region. Table 3-3 shows the annual STP allocation to the Portland TMA between 2007 and 2035 from ODOT's *Financial Assumptions.*

Table 3-3. STP allocation to the Portland TMA, 2007–2035 (millions of 2007$)

Year	STP Funds to Portland TMA
2007	$17.5
2008	$16.6
2009	$16.3
2010	$16.3
2011	$16.3
2012	$16.4
2013	$16.4
2014	$16.4
2015	$16.4
2016	$16.5
2017	$16.5
2018	$16.5
2019	$16.5
2020	$16.6
2021	$16.6
2022	$16.6
2023	$16.6
2024	$16.7
2025	$16.7
2026	$16.7
2027	$16.7
2028	$16.8
2029	$16.8
2030	$16.8
2031	$16.8
2032	$16.9
2033	$16.9
2034	$16.9
2035	$17.0
Total	**$482.7**
Ann Avg	**$16.6**

Source: ODOT's *Financial Assumptions*, "Distribution of Federal Highway Funds

(STP Only)." Updated in 2006.
Conversion to 2007$ by ECONorthwest.

Because the STP allocation is expected to increase only slightly faster than the assumed rate of inflation, the Portland TMA is expected to receive a fairly level annual allocation of STP funding, averaging $16.6 million per year between 2007 to 2035 (in constant 2007 dollars). This funding will total $482.7 million over the forecast period for the RTP.

The forecasts in ODOT's *Financial Assumptions* show the same annual increase in STP funding all TMAs and counties, regardless of expected population growth. It is possible that the Metro area's STP funding might increase more than these ODOT assumptions suggest, if it continues growing faster than the rest of the state and therefore increases its population-based share of STP funding. Oregon's Office of Economic Analysis (OEA) projects the tri-county region's population to increase 46% from 2005 to 2035, slightly higher than the 43% increase expected for the entire state. This suggests no significant adjustment to the Metro region's share of STP funds.

We have no strong basis for forecasting lower or higher amounts from the STP. Thus, we use the estimate of $483 million for all three funding scenarios: E, E+, and E++.

Other federal highway funds to the region

ODOT's *Financial Assumptions* document estimates the amount of federal highway funds other than STP and HPPP that will be available through 2035. These federal sources include the following programs (from largest to smallest):

- Highway Bridge Rehabilitation and Repair (HBRR)
  - Local Bridge (about 33% of all "other" STP allocation)
  - Highway / Rail Crossings (about 5% of all "other" STP allocation)
- Congestion Mitigation and Air Quality (CMAQ), which ODOT passes through to Metro by formula for distribution to various jurisdictions within the Metro region (about 25% of all "other" STP allocation)
- Transportation Enhancements (about 10% of all "other" STP allocation)
- Miscellaneous smaller programs

The forecast of total funding from these sources in ODOT's *Financial Assumptions* are for the state only, without a breakdown of funding by region. The forecast of funding is based on the assumption that these sources will all increase at roughly the level of inflation (3.26%) from 2010 to 2035. Table 3-4 shows that in constant 2007 dollars, therefore, the amount of federal funding to Oregon from these sources is expected to remain relatively constant from 2007 to 2035 at roughly $50 million per year.

Table 3-4. Funding from other federal sources, 2007–2035 (millions of 2007$)

		Allocation to Metro MPO			
		Based on share of		Based on share in recent STIPs	
Year	Statewide		SHF		
2007	$49.8	45%	$22.4	63%	$31.2
2008	$49.7	45%	$22.4	63%	$31.4
2009	$49.1	45%	$22.1	63%	$31.0
2010	$49.2	45%	$22.1	63%	$31.0
2011	$49.2	45%	$22.2	63%	$31.1
2012	$49.3	45%	$22.2	63%	$31.1
2013	$49.4	45%	$22.2	63%	$31.2
2014	$49.5	45%	$22.3	63%	$31.2
2015	$49.5	45%	$22.3	63%	$31.2
2016	$49.6	45%	$22.3	63%	$31.3
2017	$49.7	45%	$22.4	63%	$31.3
2018	$49.8	45%	$22.4	63%	$31.4
2019	$49.8	45%	$22.4	63%	$31.4
2020	$49.9	45%	$22.5	63%	$31.5
2021	$50.0	45%	$22.5	63%	$31.5
2022	$50.1	45%	$22.5	63%	$31.6
2023	$50.2	45%	$22.6	63%	$31.6
2024	$50.2	45%	$22.6	63%	$31.7
2025	$50.3	45%	$22.6	63%	$31.7
2026	$50.4	45%	$22.7	63%	$31.8
2027	$50.5	45%	$22.7	63%	$31.8
2028	$50.5	45%	$22.7	63%	$31.9
2029	$50.6	45%	$22.8	63%	$31.9
2030	$50.7	45%	$22.8	63%	$32.0
2031	$50.8	45%	$22.8	63%	$32.0
2032	$50.9	45%	$22.9	63%	$32.1
2033	$50.9	45%	$22.9	63%	$32.1
2034	$51.0	45%	$23.0	63%	$32.2
2035	$51.1	45%	$23.0	63%	$32.2
Total	**$1,451.6**		**$653.2**		**$915.6**
Ann Avg	**$50.1**		**$22.5**		**$31.6**

Source: Statewide funding from ODOT's *Financial Assumptions*, "Breakdown of 'Other Local Allocations' of Federal Funds." Updated in 2006. Allocation to Metro and conversion to 2007 dollars by ECONorthwest.
Note: Other federal funds includes funding from the Transportation Enhancement, Local Bridge, CMAQ, Rail/Highway Crossings, Safe Routes to Schools, High Risk Rural Roads, Borders and Corridors program and miscellaneous funding programs.

As the largest metropolitan region in the state, the Metro MPO has historically received a large share of the total funding available from these sources. Currently, Metro receives 80% of all state CMAQ funds. Examination of recent STIPs shows that Metro receives about 70% of the local share of the state's Highway Bridge funds, and about 25% of the state's Transportation Enhancements funds. All combined, these sources account for 63% of the total statewide funding available from other sources. The STIP does not report distribution of all funding from other sources identified in this section.

Alternative sets of assumptions were used to establish a range of funding from these federal sources that could be considered reasonably available to the Metro region:

- At a minimum, the Metro region should receive as much funding from these federal sources as its share of the State Highway Trust Fund distributed to cities and counties, which is 45% in 2006. This assumption results in total funding of $653.2 million or an average of $22.5 million per year to the Metro region between 2007 and 2035 (in 2007 dollars).

- Metro could receive the level of funding estimated in the 2004 RTP, which identifies total funding of over $400 million (2007$) over the planning period from federal sources including (converted to 2007$):
  $240 million in CMAQ funds,
  $121 million in Bridge funds,
  $37 million of Enhancement funds,
  $37 million from safety funds,

- Metro could continue to receive its current share of funding from CMAQ, HBRR, and Enhancements as indicated by recent STIPs, with at least 45% of total funding from other federal sources. This set of assumptions results in total funding of $915.6 million or an average of $31.6 million per year to the Metro region between 2007 and 2035 (in 2007 dollars).

Table 3-4 shows the level of funding from other federal sources that results from using the first and last of these assumptions. The funding from federal sources estimated in the 2004 RTP—$800 million (2007$)—is within the range of the two bookend assumptions (between $653 and $916 million in funding). For this analysis we associate that range with the three funding scenarios: E ($653 million), E+ ($800 million, roughly at the mid-point between E and E++), and E++ ($916 million).

STATE HIGHWAY TRUST FUND APPORTIONMENT TO LOCAL JURISDICTIONS IN THE METRO REGION

State Highway Trust Fund (SHTF) revenue is generated primarily by statewide fuel taxes and vehicle registration fees. SHTF revenue is allocated to counties based on their share of statewide vehicle registrations, and to cities based on their share of population in all cities in the state. These funds must be used for roadway-related expenses, but they can be used for capital or OM&P costs. ODOT's *Financial Assumptions* includes four scenarios for future statewide SHTF revenue:

- Continuation of existing trends (no change to the state gas tax or vehicle registration fee).
- A $15 increase in the biennial vehicle registration fee every eight years.
- A $0.01 per gallon increase in the state gas tax every year from 2006 through 2035.
- The combined effect of both the state gas tax increase and the vehicle registration fee increase.

For all of the scenarios, because ODOT does not disaggregate the SHTF forecasts beyond the statewide total allocations to counties and cities, to forecast

SHTF revenue allocated to counties and cities in the Metro region, we assumed that their share will remain at their current levels between 2007 and 2035 (39% of the statewide county share, and 45% of the statewide city share). This is a reasonable assumption because the Oregon Office of Economic Analysis (April 2004) predicts the Metro region as a whole will grow only slightly faster than the state as a whole between 2005 and 2035.

The result of each of these scenarios for the amount of State Highway Fund revenue allocated to Metro region's cities and counties is shown in Table 3-5. The assumptions behind estimates for each scenario in Table 3-5 is described in more detail in the following sections.

Table 3-5. Annual allocation of State Highway Trust Fund revenue to cities and counties in the Metro region under various scenarios (millions of 2007 dollars)

Year	Existing Trends	Registration Fee Increase	Gas Tax Increase	Registration Fee + Gas Tax Increase
2007	$112.8	$122.8	$127.7	$250.5
2008	$118.5	$118.5	$128.0	$246.5
2009	$116.7	$116.7	$130.7	$247.4
2010	$115.3	$121.5	$133.8	$255.3
2011	$114.7	$120.7	$137.5	$258.2
2012	$112.3	$118.2	$139.3	$257.5
2013	$110.1	$115.8	$141.1	$256.9
2014	$107.8	$113.4	$142.8	$256.2
2015	$105.6	$111.1	$144.5	$255.6
2016	$103.5	$108.8	$146.1	$254.9
2017	$101.4	$106.5	$147.6	$254.1
2018	$99.3	$109.3	$149.0	$258.3
2019	$97.3	$107.1	$150.4	$257.5
2020	$95.3	$104.8	$151.8	$256.6
2021	$93.4	$102.6	$153.0	$255.6
2022	$91.5	$100.5	$154.3	$254.8
2023	$89.6	$98.4	$155.4	$253.8
2024	$87.8	$96.3	$156.5	$252.8
2025	$86.0	$94.3	$157.6	$251.9
2026	$84.2	$96.4	$158.6	$255.0
2027	$82.5	$94.3	$159.5	$253.8
2028	$80.8	$92.4	$160.4	$252.8
2029	$79.2	$90.4	$161.2	$251.6
2030	$77.6	$88.5	$162.0	$250.5
2031	$76.0	$86.6	$162.8	$249.4
2032	$74.4	$84.8	$163.6	$248.4
2033	$72.9	$83.0	$164.5	$247.5
2034	$71.4	$84.5	$165.6	$250.1
2035	$70.0	$82.7	$166.7	$249.4
Total	**$2,727.9**	**$2,970.9**	**$4,372.0**	**$7,342.9**
Ann Avg	**$94.1**	**$102.4**	**$150.8**	**$253.2**

Source: Existing Trends based on ODOT, *Summary of Transportation Economic and Revenue Forecasts*, June 2006.. For analysis purposes, "existing trends" is considered as existing resources. Other scenarios from ODOT, *Financial Assumptions*. Conversion to 2007 dollars by ECONorthwest.

For the purposes of this analysis, we apply these estimates to the funding scenarios as follows: E ($2,728 million), E+ ($4,372 million, taking the higher of the gas tax or vehicle registration fee), and E++ ($7,343 million, increase both the gas tax and vehicle registration fee).

Existing Trends: no change to gas tax or vehicle registration fees

ODOT's *Financial Assumptions* show that assuming no change in the gas tax or vehicle registration fees would result in only modest revenue increases that are well below the expected level inflation. As a result, the constant dollar value of the State Highway Trust Fund would decline over time. ODOT finds that this

would result in a sharp decline in the condition of pavement and bridges in the state system, and therefore rejects this scenario in its *Financial Assumptions*.

Despite being rejected in ODOT's *Financial Assumptions*, this scenario is modeled in ODOT's *Summary of Transportation Economic and Revenue Forecasts*[9]. This scenario results in total State Highway Trust Fund apportionments to cities and counties increasing an average of 1% per year from FY06 to FY11. The Existing Trends forecast in Table 3-5 assumes that total revenue for county and city apportionments continues to grow at 1% per year beyond 2011. With expected increases in overall inflation at 3.1% per year, this assumption for growth of State Highway Fund revenue results in declining annual revenue available for apportionment to counties and cities in constant dollars.

In constant 2007 dollars, the level of annual State Highway Trust Fund revenue allocated to counties and cities in the Metro region under this scenario would decrease from $122.8 million in 2007 to $70.0 million in 2035. This scenario results in total SHTF funding in the region of $2.7 billion over the planning period for the RTP.

Registration Fee Increase: $15 increase in biennial vehicle registration fee every 8 years

ODOT presents this scenario as a means to increasing funding available for modernization projects that improve the capacity of the existing transportation system. Based on ODOT's estimates of the statewide revenues expected from an $15 increase in vehicle registration fees every eight years, and assuming no change in the share of State Highway Trust Fund revenue allocated to counties and cities in the Metro region, this scenario results in declining annual State Highway Trust Fund revenue in constant dollars. Table 3-5 shows that annual State Highway Trust Fund revenue allocated to counties and cities in the region would decline from $122.8 million in 2007 to $82.7 million in 2035 in constant 2007 dollars. This scenario results in total SHTF funding in the region of $2.9 billion over the planning period for the RTP.

Gas Tax Increase: $0.01 per gallon annual increase in state gas tax

ODOT presents this scenario as a means to increasing funding for OM&P expenditures. Based on ODOT's estimates of the statewide revenues expected from this gas tax increase, and assuming no change in the share of State Highway Trust Fund revenue allocated to counties and cities in the Metro region, this scenario results in increasing annual revenue in constant dollars. Table 3-5 shows that annual SHTF revenue allocated to counties and cities in the region would increase from $127.7 million in 2007 to $166.7 million (in 2007$) in 2035. This scenario results in total State Highway Trust Fund funding in the region of $4.4 billion over the planning period for the RTP.

[9] ODOT Financial Services. Summary of Transportation Economic and Revenue Forecasts. June 2006.

Registration Fee + Gas Tax Increase: combined effect of both increases

Based on ODOT's estimates of the statewide revenues expected from an increase in vehicle registration fees and a gas tax increase, and assuming no change in the share of State Highway Trust Fund revenue allocated to counties and cities in the Metro region, this scenario results in steady annual revenue in constant dollars. Table 3-5 shows that annual State Highway Trust Fund revenue allocated to counties and cities in the region in this scenario would hover at around from $250 million annually (in 2007$) over the planning period. This scenario results in total SHTF funding in the region of $7.3 billion from 2007 to 2035.

LOCALLY-GENERATED REVENUES

Chapter 2 shows the level of revenue generated by counties and cities in the Metro region from local revenue sources. For the whole Metro region, Table 2-9 shows that local revenue sources generated an average of $173.3 million or 51% of annual road-related revenue available to counties and cities between 2003 and 2005. The largest local revenue sources, and the average annual amount they generated for counties and cities in the Metro region between 2003 and 2005, include:

- Property taxes and transfers from non-road funds ($45.0 million)
- System Development Charges and Transportation Impact Fees ($22.8 million)
- Special Area Assessments ($12.7 million)
- Local fuel taxes ($8.9 million)
- Transportation Utility Fees ($2.2 million)
- Franchise Fees ($1.2 million)
- Urban renewal ($10 to 20 million)
- Private developer contributions ($10 million)

This section identifies assumptions for estimating the amount of funding from these local sources that could be reasonably available to counties and cities in the Metro region over the planning period for the RTP.

General property taxes and transfers from non-road funds

Transfers from non-road funds, primarily the General Fund, is a major source of road-related revenue for counties and cities in the Metro region. Revenue in the General Fund of counties and cities is primarily from property taxes, but the General Fund and other non-road funds can include revenue from a variety of sources. Data on road-related revenues and expenditures in counties and cities in the Metro region shows that transfers from non-road funds, and property tax revenue dedicated explicitly for road expenditures, generated annual revenue for counties and cities averaging $45 million between 2002 and 2004.

A major portion of this funding is from Washington County's Major Streets Transportation Improvement Program (MSTIP). Originally a serial property tax levy dedicated for transportation needs, property tax legislation in the late 1990s made this levy part of the County's permanent taxing rate. Revenue from this levy now goes to the County's General Fund. Washington County transfers substantial revenue from non-road funds for road-related expenditures, an average of $23.1 million per year between 2005 and 2007. Because it is not part of the County's permanent rate, revenue from the MSTIP levy is no longer required to be used for road-related expenditures. The 2004 RTP estimates it will continue to provide an average of $14 million per year in constant dollars.

Revenue in the General Fund can be spent on a wide variety of public needs, not only roads or transportation. Thus, future funding for roads from transfers from non-road funds depends on policy decisions by elected officials on how much funding to transfer. Given the competing demands for public funding, future allocations of non-road funds for road-related expenditures is difficult to predict. As a baseline assumption, we can assume that the current allocation of non-road funds to roads will continue in the region—while some jurisdictions may choose to transfer less funding to roads, others may choose to transfer more.

The largest source of revenue in the General Fund of local jurisdictions is from property taxes. Growth in property tax revenue is partially limited by Oregon laws that limit non-school permanent tax rates to $10 per $1,000 assessed value, but voters can approve short-term local option levies. In addition, increases in the assessed value of existing property is limited to 3% per year, unless the property is substantially improved or has a change in zoning.

Data from the Oregon Department of Revenue[10] shows that total assessed value in Clackamas, Multnomah, and Washington counties grew at an average annual rate of 5.4% between 1999-00 and 2005-06, and total property taxes imposed grew at an average annual rate of 5.3% in the same period (in nominal dollars). We applied this growth rate to the current level of road-related funding from non-road funds in counties and cities in the Metro region—$45 million annually—to estimate the level of future funding in the region from this source. This assumption results in annual revenue from non-road funds in the region increasing from $45 million in 2007 to $83.7 million in 2035, for total revenue of $1.8 billion (in 2007$) over the planning period.

System Development Charges and Transportation Impact Fees

Most cities and counties within the Metro region have System Development Charges (SDCs) or Traffic Impact Fees (TIFs) that are paid by new development for infrastructure needed to serve demand generated by that new development. Revenues from SDCs are limited to use for expanding transportation infrastructure to accommodate growth. SDC revenue cannot be used to address

[10] State of Oregon, Department of Revenue. *Oregon Property Tax Statistics*. Fiscal Year 2000-01 and 2005-06. Table A.2.

deficiencies in the transportation system that are not caused by growth, or for OM&P expenditures.

Annual revenues from SDCs and TIFs vary across the jurisdictions in the region due to various levels of growth and development in those jurisdictions as well as the level of charges and fees in those jurisdictions. Data on road-related revenues and expenditures in counties and cities in the Metro region shows that SDCs and TIFs generated revenue averaging $22.8 million per year between 2002 and 2004.

In theory, SDCs and TIFs can be set to charge the full cost of infrastructure needed to serve demand generated by growth and development in a community. In practice, however, revenue from these sources is often short of the full cost of infrastructure needed to serve growth for several reasons. First, SDC and TIF methodologies that are used to establish rates often do not include the full cost of all projects needed to serve demand from growth, in part because not all of the needed projects are known ahead of time. Second, many jurisdictions, by policy, set their SDC and TIF rates at a level below that needed for full cost recovery. This report does not assess the ability of SDCs and TIFs in each jurisdiction to fully fund transportation infrastructure costs needed to serve demand generated by growth and development.

Future revenue from SDCs and TIFs, therefore, depend on the level of future growth as well as policy decisions by elected officials on what rates to charge. In addition, most SDC and TIF legislation allows automatic increases in rates to reflect increases in the cost of road construction, which have grown at an average annual rate of 4.1% between 1987 and 2005 in nominal dollars.[11]

Population in the three counties of the Metro region grew at an average annual rate of 1.3% between 2002 and 2004, the same rate of growth as predicted by the state Office of Economic Analysis for these counties between 2005 and 2035. This the current level of SDC revenue in the region was generated from a level of growth that is expected to continue in the region over the planning period. Thus, without policy decisions to increase SDC or TIF rates, growth in the region should continue to generate SDC and TIF revenue at the current level, with increases to reflect the increases in underlying road construction costs.

This assumption results in annual revenue from SDCs and TIFs in the region increasing from $22.8 million in 2007 to $29.9 million in 2035, for total revenue of $760.6 million over the planning period for the RTP (in 2007 dollars). Additional funding from SDC and TIF revenue could be available if construction costs increase at a rate higher than 4.1% per year or from policy decisions by elected officials to implement SDCs/TIFs or increase the recovery rate of the charges.

[11] Oregon Department of Transportation. "Oregon Highway Construction Cost Trends," 1987–2006 (second quarter). ODOT's construction cost index increased by 67% between the first and second quarter of 2006, but we do not expect this high rate of increases to continue in the long-run.

Special area assessments

Special area assessments can be used for capital projects or maintenance of the existing system within the assessment area. Assessment areas for capital improvements are called Local Improvement Districts (LIDs) and those for maintenance are called Road Maintenance Districts. Seven cities in the Metro region reported using LIDs or other special assessments (Portland, Oregon City, Lake Oswego, Wilsonville, Tigard, Hillsboro, and Beaverton). All of these cities except Tigard received less than $1 million annually from this source. In addition, it is known that Washington County has an Urban Road Maintenance District (URMD), but it is not clear where revenue from this source is reported in the ODOT Local Finance data used in Chapter 2. That data shows that counties and cities in the Metro region received total revenue averaging $12.7 million per year between 2002 and 2004 from Special Area Assessments.

We expect counties and cities in the Metro region to continue to use Special Area Assessments to fund transportation maintenance and improvement projects. At a minimum, funding from this source should keep pace with inflation, continuing to average contributions of $12.7 million per year for total revenue of $367.1 million over the planning period (in 2007 dollars).

Local fuel taxes

Counties and cities in Oregon are allowed to implement a local fuel tax if approved by voters. Revenue from such a tax can be used for capital projects and OM&P.

Multnomah County and Washington County are the only two counties in Oregon with this local fuels tax, at 3 cents and 1 cent per gallon respectively on gasoline and gasoline blends. Currently 11 cities in Oregon also have a local gas tax, ranging from 1 cent to 5 cents per gallon.[12] County gas taxes are charged in addition to state gas taxes, and city gas taxes are charged in addition to county and state taxes.

While none of the cities listed by ODOT as having a local fuel tax are in the Metro region, four cities reported revenue from a fuel tax in the ODOT Local Finance data used in Chapter 2: Beaverton, Forest Grove, Sherwood, and Tigard. (All cities in Washington County, however, do share gas tax revenues, although not all cites reported revenue from fuel taxes.) Overall, this revenue source contributed an average of $8.9 million per year for jurisdictions in the Metro region between 2002 and 2004.

If this tax rate is not increased, and fuel sales remain constant (reflecting a balance between population growth and increased vehicle fuel efficiency), the amount of annual revenue from local gas taxes will decrease to less than half the current level by 2035, from $8.9 million to $3.8 million. To keep up with

[12] Oregon cities with a local gas tax are Woodburn, Eugene, Springfield, Cottage Grove, Veneta, Tillamook, The Dalles, Stanfield, Sandy, Oakridge, and Dundee. Oregon Department of Transportation, Fuels Tax Group. "Required Gasoline Disclosures." http://www.oregon.gov/ODOT/CS/FTG/reqgasdiscl.shtml. Accessed October 9, 2006.

inflation, Washington County's gas tax would need to increase to 2.4 cents per gallon by 2035, and Multnomah County's would need to increase to 7 cents per gallon.

Transportation Utility Fee

Transportation utility fees, also known as street maintenance fees, are charged to all residents and businesses in a jurisdiction on a monthly bases. These fees are typically charged in proportion to the property's expected trip generation. Transportation utility or street maintenance fees do not have to be approved by voters; they can be approved by ordinance. Since these fees are charged for street maintenance, they are dedicated to use for street OM&P needs.

One county and three cities in the Metro region reported revenue from a Transportation Utility Fee in the ODOT Local Finance data used in Chapter 2. One additional city in the Metro region reports charging a Transportation Utility Fee, but no revenue figures from this fee are available. Average rates and total revenue for cities in the Metro region with a Transportation Utility Fee are:

- Wilsonville ($4 per month for a single-family housing unit, $2.60 per month for a multi-family unit, and varying amounts for commercial development): $549,000 received in FY05.
- Tualatin ($3.42 per month for a single-family home, $2.86 per month for a multi-family unit, and varying rates per square foot for other types of development): $663,000 received in FY05.
- Tigard ($2.18 per month for a housing unit, $0.78 per parking space per month for non-residential): implemented April 2004--no revenue figures available.
- Lake Oswego (unknown rate): $959,000 received in FY05.

ODOT Local Finance data shows that Transportation Utility Fees generated an average of $2.1 million per year for jurisdictions in the Metro region between 2002 and 2004. If these fees are increased periodically to account for inflation, they will continue to generate an average of $2.1 million per year in the Metro region, for total funding of $62.2 million over the planning period (in constant dollars). It is likely, however, that additional jurisdictions in the Metro region will adopt Transportation Utility Fees to address the growing demand for maintenance of the existing street system, generating additional revenue for transportation in the Metro region.

Franchise Fees

Franchise fees are charged to utility companies for their use of public right-of-way. Since most of this right-of-way is on public streets, Franchise Fee revenue is often dedicated to streets maintenance and improvement projects, but using these funds for streets is not mandatory. Some jurisdictions track revenue from Franchise Fees directly in their Road Fund, while others send this revenue to their General Fund and make transfers from that fund to the Road Fund for road expenditures.

ODOT Local Finance data shows that Franchise Fees generated an average of $1.2 million per year for jurisdictions in the Metro region between 2002 and 2004. If these fees are increased periodically to account for inflation, they will continue to generate an average of $1.2 million per year in the Metro region, for total funding of $35.5 million over the planning period (in constant dollars).

Private sector contribution

Most private development makes some contribution to the provision of transportation infrastructure. This contribution is most often made as a Condition of Approval during the permitting process of the development application. Conditions of Approval typically address three categories of transportation improvement: safety, site access impacts, and off-site capacity impacts. When the improvement has previously been identified in a jurisdiction's Capital Improvement Plan and is incorporated into the rate calculation for System Development Charges, the new development may be granted a credit for the conditioned improvements,. Such credits are typically for off-site capacity improvements and are taken against the systems development charge or transportation impact fee that would otherwise be paid.

From a funding perspective, any development, large or small, that produces improvements that have been anticipated in a Transportation System Plan or Capital Improvement Plan and that the eligible for credit (SDC or TIF) has already been accounted for. The question of interest in our investigation was the amount of funding that the private sector is contributing for he expansion of the transportation system, typically through the land-development process, that is not otherwise accounted for through SDC or TIF funding. We found no definitive answer is available.

Here is some of what is known. As more and more of the regional system approaches capacity, more and more development projects, of any size, are being conditioned with "non-eligible" improvements. Small-scale developments are most likely to trigger improvement needs at the intersection level (additional turn lanes, new traffic signals, etc.). These investments can range from $50,000 to more than $500,000 per small-scale development. Large-scale developments are triggering more significant improvement needs and at greater distances from the site (again, because the system as a whole is approaching capacity). Such developments may make transportation investments in intersection, corridor, and even interchange improvements. These investments can range from $2 million to $10 million per large-scale development project. Again, these numbers are above and beyond the conditioned improvements that are eligible for credit.

Local agencies throughout the region experience scores of development applications on an annual basis. We estimate that there are on the order 10 to 30 large-scale development applications that occur annually in the region. Unfortunately, no standardized data exists to readily determine the amount of development funding coming from the private sector local and regional transportation system improvements. Further research is necessary to estimate or quantify this. For the purposes of this analysis, we believe that the private contribution is bounded by saying that somewhere between $5 million and $100

million are contributed annually by the private sector for transportation improvements, separate from any SDC/TIF contribution.

That is a big range. Extrapolated over the planning period, that yields estimate of roughly $150 million to $3 billion over the planning period (2007$). There is a lot of uncertainty here: we are looking out over almost 30 years. For the purpose of this analysis, we assume private sector contributions are reasonably available funding sources, and we use $150 million for the E revenue forecast (roughly $5 million per year), $300 million for the E+ revenue forecast (roughly $10 million per year), $600 million for the E++ revenue forecast (roughly $20 million per year).

Urban Renewal Funding

Based on the current RTP and preliminary research of local urban renewal funds, ECO estimates that on average about $10 million per year is the existing trend (E forecast) for projects of regional significance over the planning period, a total of roughly $300 million (2007$). A number of projects have received urban renewal funds from PDC, including I-205/Mall LRT, South Waterfront / North Macadam, Burnside/Couch couplet, streetcar, and the Interstate MAX.

We do not have a strong basis for estimating increases for E+ and E++ revenue levels. We think it is reasonable to expect the levels to increase; among other things, new urban renewal districts are being considered in newly developing areas at the urban fringe as a way of financing infrastructure, which means primarily transportation. ECO assumes that urban renewal funds will continue contribute to the regional system on the order of roughly $10 to $20 million per year, which we convert to total revenue of $450 million for the E+ revenue scenario and $600 million for the E++ revenue scenario over the planning period.

Other local funding sources not covered above

Chapter 2 shows that local funding sources generated an average of $173.3 million annually for counties and cities in the Metro region between 2002 and 2004. Of this revenue, $92.7 or 54% is generated by the individual funding sources considered in this section: transfers from non-road funds, SDCs/TIFs, Special Area Assessments, Fuel Taxes, Transportation Utility Fees, and Franchise Fees. $43.1 million or 25% is from the Sale of Bonds and Notes and transfers between cities and counties in the region. The remaining $37.5 million or 22% of annual local funding is from other sources, primarily from parking fees and fines, interest income, permit fees, land sales, and other sources. Assuming that funding from these other sources grows at the rate of inflation, they would continue to contribute an average of $37.5 million for road-related expenditures in the Metro region, for a total of $1.1 billion over the planning period (in 2007$).

Summary for all local funding sources

Table 3-6 summaries all the previous discussion of local funding sources. For the purposes of this analysis, we use the estimate in Table 3-6 for the estimate of

the E revenue forecast: $4,876 million over the planning period (average of $168 million per year). For the E+ revenue forecast at the local level, and we assume an increases in private development sources ($20 million per year) and urban renewal funds ($15 million per year) would raise local sources to about $5.3 billion. For the E++ revenue forecast at the local level, potential SDC increases (assumed at 10%) plus additional increases in private development funds and urban renewal boost the forecast revenue to $5.8 billion.

Table 3-6. Summary of estimated Existing (E) road-related revenue to counties and cities in the Metro region from local sources, 2007–2035, (millions of 2007$)

Year	General Funds	SDC/TIF	Special Area Assessment	Local Gas Tax	Transportation Utility Fees	Franchise Fees	Private Development	Urban Renewal	Other Local Sources	Total
2007	$45.0	$22.8	$12.7	$8.9	$2.1	$1.2	$10.0	$10.0	$37.5	$150.2
2008	$46.0	$23.1	$12.7	$8.6	$2.1	$1.2	$10.0	$10.0	$37.5	$151.2
2009	$47.0	$23.3	$12.7	$8.4	$2.1	$1.2	$10.0	$10.0	$37.5	$152.2
2010	$48.1	$23.5	$12.7	$8.1	$2.1	$1.2	$10.0	$10.0	$37.5	$153.2
2011	$49.1	$23.7	$12.7	$7.9	$2.1	$1.2	$10.0	$10.0	$37.5	$154.2
2012	$50.2	$24.0	$12.7	$7.6	$2.1	$1.2	$10.0	$10.0	$37.5	$155.3
2013	$51.4	$24.2	$12.7	$7.4	$2.1	$1.2	$10.0	$10.0	$37.5	$156.5
2014	$52.5	$24.4	$12.7	$7.2	$2.1	$1.2	$10.0	$10.0	$37.5	$157.6
2015	$53.7	$24.7	$12.7	$7.0	$2.1	$1.2	$10.0	$10.0	$37.5	$158.9
2016	$54.9	$24.9	$12.7	$6.8	$2.1	$1.2	$10.0	$10.0	$37.5	$160.1
2017	$56.1	$25.2	$12.7	$6.6	$2.1	$1.2	$10.0	$10.0	$37.5	$161.4
2018	$57.4	$25.4	$12.7	$6.4	$2.1	$1.2	$10.0	$10.0	$37.5	$162.7
2019	$58.7	$25.6	$12.7	$6.2	$2.1	$1.2	$10.0	$10.0	$37.5	$164.0
2020	$60.0	$25.9	$12.7	$6.0	$2.1	$1.2	$10.0	$10.0	$37.5	$165.4
2021	$61.4	$26.1	$12.7	$5.8	$2.1	$1.2	$10.0	$10.0	$37.5	$166.8
2022	$62.7	$26.4	$12.7	$5.6	$2.1	$1.2	$10.0	$10.0	$37.5	$168.2
2023	$64.1	$26.7	$12.7	$5.5	$2.1	$1.2	$10.0	$10.0	$37.5	$169.8
2024	$65.6	$26.9	$12.7	$5.3	$2.1	$1.2	$10.0	$10.0	$37.5	$171.3
2025	$67.1	$27.2	$12.7	$5.1	$2.1	$1.2	$10.0	$10.0	$37.5	$172.9
2026	$68.6	$27.4	$12.7	$5.0	$2.1	$1.2	$10.0	$10.0	$37.5	$174.5
2027	$70.1	$27.7	$12.7	$4.8	$2.1	$1.2	$10.0	$10.0	$37.5	$176.1
2028	$71.7	$28.0	$12.7	$4.7	$2.1	$1.2	$10.0	$10.0	$37.5	$177.9
2029	$73.3	$28.2	$12.7	$4.6	$2.1	$1.2	$10.0	$10.0	$37.5	$179.6
2030	$74.9	$28.5	$12.7	$4.4	$2.1	$1.2	$10.0	$10.0	$37.5	$181.3
2031	$76.6	$28.8	$12.7	$4.3	$2.1	$1.2	$10.0	$10.0	$37.5	$183.2
2032	$78.3	$29.1	$12.7	$4.2	$2.1	$1.2	$10.0	$10.0	$37.5	$185.1
2033	$80.1	$29.4	$12.7	$4.0	$2.1	$1.2	$10.0	$10.0	$37.5	$187.0
2034	$81.9	$29.6	$12.7	$3.9	$2.1	$1.2	$10.0	$10.0	$37.5	$188.9
2035	$83.7	$29.9	$12.7	$3.8	$2.1	$1.2	$10.0	$10.0	$37.5	$190.9
Total	**$1,810.2**	**$760.6**	**$368.3**	**$174.1**	**$60.9**	**$34.8**	**$290.0**	**$290.0**	**$1,087.5**	**$4,876.4**
Ann Avg	**$62.4**	**$26.2**	**$12.7**	**$6.0**	**$2.1**	**$1.2**	**$10.0**	**$10.0**	**$37.5**	**$168.2**

Source: ECONorthwest, from assumptions described in this section.

SUMMARY OF FORECASTED FUNDING FOR ROADS

This chapter estimates the amount of revenue at the state, county, and local level that could be reasonably expected to be available for road-related expenses in the Metro region from 2007 to 2035. An aspect of funding that will have an important impact on planning for the RTP is that revenue from some funding sources have restrictions on their use. Revenue from SDCs, for example, can only be used for capital projects that expand facilities to accommodate demand generated by growth. While many road-related revenue sources have some restrictions that limit their use, and some have very specific restrictions, in general funding can be classified into capital only, OM&P only, and flexible.

Table 3-7 summarizes the Existing (E), Existing + Conservative (E+), and Existing + Optimistic (E++) estimate of revenues from the various federal, state, and local resources. Table 3-8 summarizes revenue available for road-related

expenditures in the Metro region by type of restriction for each of the three sets of assumptions used in this chapter to establish the range of revenue that is reasonably available in the region.

Table 3-7. Summary of "reasonably available" road-related revenues available for expenditures in the Metro region, 2007–2035 (millions 2007$)

Table number	Funding Source	Existing (E)	E+	E++
3-1	Modernization funds for ODOT	$276	$276	$415
n/a	OM&P funds for ODOT	$3,161	$3,161	$4,197
3-2	HPPP and other discretionary revenue	$315	$588	$671
3-3	STP allocation to TMAs	$483	$483	$483
3-4	Other highway funds	$653	$800	$916
3-5	State HTF allocations to cities and counties	$2,728	$4,372	$7,343
3-6	Local sources	$4,876	$5,311	$5,823
Total		**$12,492**	**$14,991**	**$19,846**

Source: Compiled from Tables 3.1 through 3.6.

E+ include all of the E revenues, plus increases in:

- Federal HPPP funds and other discretionary funds based on the region's population
- Other federal highway funds as estimated by the 2004 RTP (about $800 million)
- State Highway Trust Fund allocation through gas tax increase.
- Local sources by assumed increases in private development contributions and urban renewal.

E++ include all of the E+ revenues, plus increases in:

- Federal HPPP funds and other discretionary funds based on SAFTEA-LU allocation
- Other federal highway funds as estimated by share of recent STIP funding in the region
- State Highway Trust Fund allocation through gas tax increase plus higher registration fees.
- Local sources through assumed increases in SDCs (by 10%), private development contributions, and urban renewal.

Some important conclusions from Table 3-7:

- Total funding available over the planning period (29 years) for road-related expenditures in the Metro region is roughly between $12 and $20 billion (2007$).
- The difference between the conservative and optimistic estimates of "reasonably available revenue" are nearly $5 billion, or an average of about $170 million (2007$) per year.

Table 3-8 shows the same total funding subdivided a different way. It shows that funding that must be spent on OM&P relatively small. The bulk of the funding is flexible and could be spent on either OM&P or capital. The amount that must be spent on capital (the bulk of which comes from ODOT

modernization, federal funding programs, and local SDCs) leaves two to three times as much that could be spent on OM&P. Together, these points suggest that the region has all the latitude it needs to be allowed to allocate funds to capital or OM&P as it so chooses.

Table 3-8. Summary of road-related revenues available for state and local expenditures in the Metro region by specific use, 2007–2035 (millions of 2007$)

	Existing (E)				E+				E++			
	Capital Only	OM&P only	Flexible	Total	Capital Only	OM&P only	Flexible	Total	Capital Only	OM&P only	Flexible	Total
State	$590	$3,161	$33	$3,784	$864	$3,161	$40	$4,065	$947	$3,161	$1,222	$5,329
Local	$1,831	$61	$6,816	$8,708	$2,376	$61	$8,490	$10,926	$2,973	$61	$11,484	$14,518
Total	**$2,421**	**$3,222**	**$6,849**	**$12,491**	**$3,240**	**$3,222**	**$8,530**	**$14,991**	**$3,920**	**$3,222**	**$12,705**	**$19,847**

Source: ECONorthwest, from assumptions and methods described in this chapter.

Note, in E++, assumed new revenue for ODOT (the state's share of new revenue) generated from periodic increases in vehicle registration fees increases and increases gas tax revenues are flexible funds; they can be spent on either modernization or OM&P. ODOT assumes that revenue from VRF will be used for modernization, and revenue from gas taxes for OM&P. We show that distinction at the beginning of this chapter and is also reflected in Table 3.8. However, for the purposes of ECO's analysis, we do not make that distinction here.

FUNDING FOR TRANSIT SERVICE IN THE METRO REGION

This section forecasts various transit-related funding sources at the federal, state, and local level from 2007 to 2035. The overview separately looks at the federal, state, and local level of funding and how they contribute to projected future funding scenarios.

To the extent feasible, ECO projects possible E, E+, and E++ revenue funding levels. The main shift from one funding level to another is primarily based on growth of the current transit system. The main assumptions for E, E+, and E++ funding levels are:

- **Existing sources (E)** are based on the existing system and current levels of service.
- **Existing plus conservative expansion (E+)** is based on committed expansion of the transit system, including I-205/Portland Mall light rail Washington County Commuter Rail, and LIFT, and projected operations costs. This level also includes likely federal funding distributed to the region.
- **Existing plus optimistic expansion (E++)** based on the assumption that "New Start" funds can cover 60% of all new transit capital projects, i.e., Milwaukie and Columbia River Crossing light rail projects, among others. Projected operating costs are also roughly estimated.

The primary source of assumptions for future levels of revenue from federal and state sources in the Metro region is ODOT's *Financial Assumptions for the Development of Metropolitan Transportation Plans, 2005-2030*. The primary source for future levels of revenue from local sources is derived from TriMet's *Fiscal Year 2006 Financial Issues Report #1*, *Financial Analysis and Forecast*, and the City of Wilsonville *Transit Master Plan* (for SMART).

FEDERAL TRANSIT AUTHORITY FUNDS

ODOT's *Financial Assumptions* document provides forecasts of the formula-based FTA Section 5307 funds and the discretionary FTA Section 5309 funds for the Portland area.

FTA Section 5307 (Urban Formula Funds) funding provides flexible spending for transit-related expenditures in large urban areas. These funds are used to finance capital equipment purchases and to finance preventive maintenance on existing capital equipment. In areas having a population of less than 200,000, these funds may be used to finance transit operations.

ODOT's financial assumptions estimate that TriMet's allocation will increase at just over the rate of inflation from 2010 onwards, after the programmed funding from the current STIP. This means TriMet's Section 5307 revenue rises slightly, from $33.6 million in 2007 to $37.9 million (2007$) in 2035.

Table 3-9. Metro share of projected section 5307 formula funds, 2007–2035 (millions of 2007 dollars)

Year	Estimated Revenue
2007	$33.6
2008	$35.3
2009	$36.4
2010	$36.5
2011	$36.5
2012	$36.6
2013	$36.6
2014	$36.7
2015	$36.8
2016	$36.8
2017	$36.9
2018	$36.9
2019	$37.0
2020	$37.0
2021	$37.1
2022	$37.2
2023	$37.2
2024	$37.3
2025	$37.3
2026	$37.4
2027	$37.5
2028	$37.5
2029	$37.6
2030	$37.6
2031	$37.7
2032	$37.7
2033	$37.8
2034	$37.9
2035	$37.9
Total	**$1,072.4**
Ann Avg	**$37.0**

Source: ODOT *Financial Assumptions* document; Oregon Public Transit Division in consultation with TriMet. Data provided in "Projection of Section 5307 (formula) Funds" spreadsheet, March 2006. Conversion to 2007$ by ECONorthwest.

Table 3-9 shows 5307 transit funds distributed to the region will remain relatively stable. Annual average growth rate of 5307 funds are expected to be less than 1%.

Given that these are projected future sources, ECO assumes no funding from this source for Existing sources (E)

However, given the stability of these funds, $1 billion (2007$) in 5307 flexible funds for transit is projected for the Existing+Conservative (E+) expansion funding level. We found nothing more in the ODOT documents to give us a specific basis for making an additional forecast (for E++) for 5307 funds distributed to the region, thus we assume the same $1 billion for the Existing+Optimistic (E++) funding level.

FTA Section 5309 (Major Capital Investments [New Starts & Small Starts] Grants) funding provides federal assistance for transit capital investments only, including modernization of existing rail systems, new and replacement buses and facilities, and new fixed guideway systems ("New Starts"). Transit providers must apply for these capital improvement funds. The transit provider may receive these funds if they can demonstrate that operations for the new project are feasible.

ODOT's *Financial Assumptions* report that 5309 requests for non-LRT items (primarily bus replacement) have a proven success record; in part because FTA considers regional distribution of these funds. Most future non-LRT Section 5309 requests are expected to be modest.

Table 3-10 shows ODOT's projections for these funds that are based on previous estimates reflecting 50% federal participation for Washington Commuter Rail and 60% for the costs of I-205/Mall and Milwaukie light rail transit projects. Some additional funding was forecast available for "Small Starts" projects.

ODOT projects TriMet to receive discretionary distributions for rehabilitation of its light rail transit (LRT) system. In constant 2007 dollars, these revenues are expected to climb from $5.5 million in 2007 to $8.0 million (2007$) in 2035.

Table 3-10. Metro share of projected section 5309 formula funds and light rail rehabilitation revenue, 2007–2035 (millions of 2007$)

Year	Estimated Revenue	TriMet LRT Formula Rehabilitation
2007	$70.5	$5.5
2008	$89.5	$6.1
2009	$87.7	$6.5
2010	$81.9	$6.5
2011	$89.6	$7.3
2012	$86.9	$8.2
2013	$84.4	$8.1
2014	$61.7	$8.1
2015	$32.5	$8.1
2016	$42.6	$8.0
2017	$41.1	$8.0
2018	$55.3	$8.0
2019	$1.7	$7.9
2020	$1.7	$7.9
2021	$1.7	$7.8
2022	$1.7	$7.8
2023	$1.7	$7.8
2024	$1.7	$7.8
2025	$1.7	$7.8
2026	$1.7	$7.9
2027	$1.7	$7.9
2028	$1.7	$7.9
2029	$1.7	$7.9
2030	$1.7	$7.9
2031	$1.7	$7.9
2032	$1.7	$7.9
2033	$1.7	$7.9
2034	$1.7	$8.0
2035	$1.7	$8.0
Total	**$852.5**	**$222.5**
Ann Avg	**$29.4**	**$7.7**

Source: ODOT *Financial Assumptions* document; Oregon Public Transit Division in consultation with TriMet. Data provided in "Projection of Section 5307 (formula) Funds" spreadsheet, March 2006. Conversion to 2007$ by ECONorthwest.

Table 3-10 shows the trends in federal capital funding for transit in the region and available federal revenue for light rail maintenance. Funds already committed to future light rail projects are expected to be available for expenditure through 2018. Funding drops off thereafter because no additional funds have been identified or earmarked for projects beyond 2018.

The ODOT *Financial Assumptions* estimate that LRT rehabilitation funds are projected to remain relatively steady throughout the planning period. However, they appear to be lower than expected, as funds for light rail maintenance are typically set at 60% of planned light and streetcar projects.

From this projection, ECO assumes no level of funding for Existing sources (E). Any current funds from this source are accounted for in the analysis of the local revenues.

Given the Portland metropolitan area's notable success in obtaining Section 5309 funding to finance LRT construction and the region's strong interest in new projects, the ODOT committee agreed to assume that the Section 5309 component of the region's funding strategy would likely be successful. Thus, ECO estimates about $1 billion (2007$) for new transit projects for Existing+Conservative (E+) expansion levels of funding.

For the E++ level of funding, ECO assumes that "New Starts" funds would be available for anticipated transit capital projects yet without committed funding. "New Starts" typically provides 50% to 60% of transit-related capital expenditures. Outstanding funds must be matched at the local level. Assuming 60% of the cost of all the major transit projects in the region, about $4.2 billion (see Chapter 4 for more detail), ECO projects about $2.5 billion for capital improvements at the E++ level of funding.

In summary:

- ECO estimates $1 billion (2007$) from Section 5307 flexible funds for transit-related expenditures in 2007 to 2035. Given the stability of this funding source, we assume $1 billion for E+ and E++ funding levels. We assume no funding for E from this projection; existing funds from source are aggregated in the local resources section.
- ECO estimates about $1 billion (2007$) from Section 5309 (capital funds) for transit-related capital projects. We apply this $1 billion to the E+ level of funding. For E++, ECO estimates $2.5 billion as potentially available. We assume no funding for E from this projection; existing funds from source are aggregated in the local resources section.

STATE TRANSIT FUNDING

ODOT also forecasts transit support from the state's Special Transportation Fund (STF), which is used primarily for operation of transit systems for the elderly and disabled (including Americans with Disabilities Act compliance on general services). The STF is funded roughly half by a 2 cents per pack cigarette tax and roughly half by miscellaneous unrestricted state revenues. ODOT assumes that cigarette tax revenue will remain constant after 2011, and that the rest of the STF revenue will increase with inflation throughout the forecast period, for an average increase of around 2% annually. In constant 2007 dollars, TriMet's revenues are expected to decrease from roughly $2.7 million in 2007 to $2.1 million (2007$) in 2035.

Additionally, ODOT assumes that the state will continue to supplement its support of transit capital programs in the Metro region with revenue that is now being devoted to repayment of lottery-backed bonds that paid for the Portland area's light rail system in the 1990s. The region, however, is expects to receive

only a portion of these funds as other areas in the state are assumed to receive some of these funds.

Table 3-11 shows assumed state support for urban transit. ODOT's anticipates that the region will receive $3.9 million (2007$) beginning in 2010 and steadily decline to $2.5 million (2007$) by 2035 for capital programs.

Table 3-11. Estimate of state revenue for regional transit, 2007–2035 (millions of 2007$)

Year	State Special Transportation Fund (STF)	State support of urban transit capital programs
2007	$2.7	$0.0
2008	$2.7	$0.0
2009	$2.7	$0.0
2010	$2.6	$3.9
2011	$2.6	$5.3
2012	$2.6	$5.1
2013	$2.6	$5.0
2014	$2.5	$4.8
2015	$2.5	$4.7
2016	$2.5	$4.5
2017	$2.4	$4.4
2018	$2.4	$4.3
2019	$2.4	$4.1
2020	$2.4	$4.0
2021	$2.3	$3.9
2022	$2.3	$3.8
2023	$2.3	$3.7
2024	$2.3	$3.6
2025	$2.2	$3.5
2026	$2.2	$3.3
2027	$2.2	$3.2
2028	$2.2	$3.1
2029	$2.2	$3.1
2030	$2.1	$3.0
2031	$2.1	$2.9
2032	$2.1	$2.8
2033	$2.1	$2.7
2034	$2.1	$2.6
2035	$2.0	$2.5
Total	**$68.3**	**$97.8**
Ann Avg	**$2.4**	**$3.4**

Source: ODOT *Financial Assumptions* document; Oregon Public Transit Division in consultation with TriMet. Data provided in "Special Transportation Fund" and "State Support of Urban Transit Capital Programs" spreadsheets, March 2006. Conversion to 2007$ by ECONorthwest.

Table 3-11 shows ODOT's combined projections of transit operations and capital in the Metro region receiving about $6 million (2007$) annually from STF monies and funds to support urban transit capital programs. The two sources combined yield $166 million (2007$) by 2035.

For this analysis we use $166 million for the E level of funding. We found nothing more in the ODOT documents to give us a specific basis for making a new forecast for the E+ and E++ level of funding. Thus, we apply the forecasted $166 million across the board for the three levels of funding.

LOCAL TRANSIT FUNDING

The Portland area's TriMet regional transit system relies on a variety of revenue sources for its operational funding, but consisting primarily of employer payroll taxes and passenger revenues. Together, these two sources provide about 80% of TriMet's revenue for operations. Other revenue sources include self-employment tax, state in-lieu (of tax) payments, interest, cigarette tax, and anticipated steady increases in the payroll tax. A variety of smaller funding sources, notably Washington County contribution toward Commuter Rail operations, Oregon Medical Assistance Program (OMAP) revenues, and advertising revenues, also provide operational funding for TriMet.

TriMet also receives operating and capital grants from federal, state, and local sources. They are not included here as they are accounted for in previous sections.

SMART relies primarily on a payroll tax to fund much of its operations. Two other sources, sale of surplus property and farebox revenue from the Salem to Wilsonville route, are small in comparison.

ECO's analysis of forecast data from TriMet and SMART estimates that about $14.5 to $15 billion (2007$) to be available through 2035 for operations. The funds come from a variety of sources, but primarily payroll taxes and passenger revenue.

Table 3-12 shows the projected revenue from local sources for E, E+, and E++ funding levels. We report E and E+ as have the same funding level of about $14.5 billion (2007$); the data from which the estimated funding was derived included aggregated passenger revenues for various new levels of service, including committed rail and light rail projects. To clearly differentiate from the E and E+ levels, further analysis would be required to disaggregate the revenue generated from the Washington County Commuter Rail and I-205/Mall light rail projects and back them out of the total. Thus, the actual Existing (E) level of funding is lower than reported.

For the E++ level of funding, operations revenue generated from major transit projects that currently do not have committed funding for construction (about $12 million per year beginning in 2013) are combined with the E/E+ revenue. This yields a funding level of about $15 billion (2007$). The TriMet data already includes an increase of about 3% a year in transit operations. ECO assumes an additional 1.5% to account for the 2004 RTP's assumption of 4.5% growth per year in regional transit services.

Table 3-12. Summary of estimated E, E+, & E++ locally-generated revenue for TriMet and SMART, 2007–2035 (millions of 2007$)

	E	E+	E++
Revenue	$14,501	$14,501	$15,129

Source: TriMet, FY 2006 Financial Issues Report #1, Financial Analysis and Forecast. TriMet. Fall 2005; City of Wilsonville Transit Master Plan, October 2006. Data calculations and conversion (to 2007$) by ECONorthwest.

Note: The "E" level of funding should be less than the reported figure. Additional analysis is need to disaggregate assumed various new levels of increased transit service. For the purposes of this analysis, it is sufficient to have just a comparable figure between E+ and E++.

SUMMARY OF FORECASTED FUNDING FOR TRANSIT

This section described the amount of revenue at the federal, state, and local level that could be reasonably expected to be available for transit-related expenses in the Metro region from 2007 to 2035. The story told by these forecasts can be summarized as follows:

- Flexible funding for transit from federal sources are expected to keep up with inflation. However, funds restricted for capital expenditures are uneven from 2007-2035. While some funds for capital expenditures will eventually decline by 2035, funds earmarked for light rail transit capital are expected to increase slightly.
- Funding from the state will generally grow in step with inflation.
- Local funding, primarily from payroll taxes are expected to grow in line with inflation and employment growth.

Table 3-13. Summary of estimated revenue for transit-related projects in the Metro region by various funding sources and project type, 2007–2035 (millions 2007$)

	Existing (E)				E+				E++			
	O&M only	Capital Only	Flexible	Total	O&M only	Capital Only	Flexible	Total	O&M only	Capital Only	Flexible	Total
Federal	$0	$0	$0	$0	$0	$1,075	$1,072	$2,147	$0	$2,500	$1,072	$3,572
State	$0	$98	$68	$166	$0	$98	$68	$166	$0	$98	$68	$166
Local	$0	$0	$14,501	$14,501	$0	$0	$14,501	$14,501	$0	$0	$15,129	$15,129
Total	**$0**	**$98**	**$14,569**	**$14,667**	**$0**	**$1,173**	**$15,641**	**$16,814**	**$0**	**$2,598**	**$16,270**	**$18,867**

Source: Data compiled from Tables 3-9 to 3-12. Original data sources include ODOT, *Financial Assumptions* document, updated March 2006; TriMet, FY 2006 Financial Issues Report #1, Financial Analysis and Forecast, Fall 2005; and City of Wilsonville Transit Master Plan, October 2006. Data calculations and conversion (to 2007$) by ECONorthwest.

Table 3-13 shows ECO's analysis of data from ODOT, TriMet, and SMART that forecasts available revenue for transit-related expenditures in the region. Overall, ECO's analysis of various data sources estimates $17 billion (E) to potentially about $19 billion (E++) in funding available for all transit-related projects. In this analysis, results for E and E+ remain the same. Further analysis and disaggregation of local data would

While no actual funds must specifically be spent on operations and maintenance, flexible funds are used primarily for operations and maintenance. ECO estimates about $1.2 to potentially $2.5 billion ($2007) in capital-only funds. Flexible funds from the federal government are projected to be about $1.1

billion (2007$). While these particular flexible funds may be used for OM&P, they are often used for capital expenditures. Local resources are primarily flexible funds derived mostly from payroll taxes and farebox revenue. Local flexible funds, in contrast, are used primarily for operations and maintenance.

SUMMARY FOR ALL SOURCES OF REVENUE

Table 3-7 and Table 3-13 summarize revenues for road-related and transit-related investments, respectively. Table 3-14 combines those estimates.

Table 3-14. Summary of estimated available revenue for road-related and transit-related modernization and OM&P activities in the Metro region, 2007-2035 (in billions of 2007$)

	E	E+	E++
Road	**$12.5**	**$15.0**	**$19.8**
Modernization	$2.4	$3.2	$3.9
OM&P	$3.2	$3.2	$3.2
Flexible	$6.8	$8.5	$12.7
Transit	**$14.7**	**$16.8**	**$18.8**
Modernization	$0.1	$1.2	$2.5
O&M	$0.0	$0.0	$0.0
Flexible	$14.6	$15.6	$16.3
Total	**$27.2**	**$31.8**	**$38.6**
Modernization	$2.5	$4.4	$6.4
O&M	$3.2	$3.2	$3.2
Flexible	$21.4	$24.1	$29.0
Grand Total	**$27.2**	**$31.8**	**$38.6**

Source: ECONorthwest. Based on Table 3-7 and Table 3-13 in this chapter.

Chapter 4 Future Transportation Costs in the Metro Region

This chapter describes the costs associated with maintaining, preserving, and improving the region's transportation system between 2007 and 2035. The focus of this chapter is on *the regional transportation system*; it does not account for costs associated with local streets. The regional transportation system includes freeways and highways, major arterials, major collectors, and the regional transit system. .

The system for which costs are estimated is the Regional Transportation Plan's "*preferred system*,". This means that the system costs are not "financially constrained" by "reasonably available" revenue. The "funding gap" identified in Chapter 5 compares the "financial constrained" revenues described in Chapter 3 to the "preferred system" costs described in this Chapter 4.

Information on the 2007-2035 project list to be included in the current RTP update will not be until Spring 2007. Thus, this chapter provides only a preliminary and approximate estimate of the preferred regional transportation system costs. It is based on costs identified in the 2004 RTP, as adjusted, and initial thinking on projects that may be included in the preferred system. The goal of this *Preliminary Financial Analysis* is to illustrate the order of magnitude of the likely capital, operations, preservation and maintenance costs of the future regional transportation system so that they can be compared, in Chapter 5, to likely revenues to estimate the "funding gap."

This chapter shows cost estimates for the "highway/road" and "transit" systems , and within each system it shows separately the cost of anticipated "capital improvements" and the cost of "operation, maintenance and preservation".

COSTS FOR THE HIGHWAY AND ROAD SYSTEM

CAPITAL IMPROVEMENTS

The cost of road/highway capital improvements are estimated considering (1) estimated costs of the "projects of statewide significance" within the region, (2) local survey responses of future capital costs, (3) the improvements identified in the current RTP, and (4) reasonable expansions to the regional system not covered in the other categories.

REGIONAL MODERNIZATION PROJECTS OF STATEWIDE SIGNIFICANCE

In 2002, The Oregon Transportation Commission adopted a list of "Projects of Statewide Significance."[1] Table 4-1 shows the five "projects of statewide

[1] See Table E-12 in Appendix E for complete documentation of the funding adequacy of "Projects of Statewide Significance."

significance" located in the region and preliminary cost estimates (in 2007$) for these projects:

Table 4-1. Estimated capital costs for "projects of statewide significance" in the Portland Region, 2007 (millions of 2007$)

Project	Estimated Cost (2007$)
1-5 Columbia River Crossing (in cooperation with the state of Washington)	$1,128.0
I-205 improvements	$1,297.2
Sunrise Corridor (to Damascus)	$590.0
I-5 / 99W Connector	$601.0
I-5 / I-405 loop in Central Portland	$291.0
Total	**$3,907.2**

Source: ODOT, "Projects of Statewide Significance" document, 5/31/06.
Conversion to 2007$ by ECONorthwest using construction cost index.

These cost estimates are based on best available data from ODOT. *Given the standard uncertain of preliminary estimates and the steadily increasing labor and construction costs, the costs of these projects could increase substantially by the time construction begins on any one of these projects.* Even at a conservative estimate of about $3.9 billion (2007$) for all five projects, financing these projects through the normal STIP process is impractical. After debt payments, about $49 million a year is available through STIP funds *for the entire state*. If those funds were even available to dedicate to just one project, it would take decades to complete the project and defer action on projects elsewhere in the state and region.

We do not address as part of this financial analysis how important these projects are relative to other projects. We simply note that:

- These projects have been identified as important segments of the state highway system for the mobility of people and freight.
- Together the five projects are estimated to require on the order of 30% to 40% of the region's total highway budget for the next 30 years.
- Funding through the STIP is severely limited.
- Completion of these large projects will require other funding sources.

OTHER REGIONAL MODERNIZATION PROJECTS

"Other regional modernization projects" include all other construction expenditures on the regional road/highway system (freeways, arterials, major collectors) between 2007-2035. Because it is difficult to identify the projects within this category, much less estimate their costs, ECO looked various sources of data to get a broad brush picture of costs. These sources included data from surveys of local jurisdictions and agencies, a sample of local Transportation System Plans, and the previous 2004 RTP.

Recently ODOT surveyed local governments around the state regarding transportation finance. For the Portland region, all three counties and 18 cities responded to the survey; the five non-respondents were some of the smallest cities in the region. Thus, the survey appears to provide a reasonable estimate of capital expenditures on the road/highway system (although costs may be slightly underestimated) by cities and counties.

The survey indicated that about $200 million a year was expended by local governments in the region on all road-related capital projects from FY2002/03–FY2004/05. The total value of a stream of $200 million (in 2007$) per year in expenditures from 2007–2035 is about $5.8 billion (2007$). The survey data, however, do not differentiate between what was expended on the *regional system* versus the *local system*. As part of this study, Kittelson and Associates, Inc., transportation engineers and subconsultants to ECO, analyzed a sample of local TSPs and their project costs. The sample included the largest of the region's jurisdictions. The study found that 68% of total estimated transportation costs by cities and counties were for improvements on the regional system. Applying that percentage to the $5.8 billion (the estimate derived from local surveys in the previous paragraph) yields an estimate of expenditures on the regional system by cities and counties between 2007 and 2035 of $3.9 billion.

Looking at another measure of potential capital costs for modernizing the road/highway system beyond the projects of statewide significance, the current RTP estimated construction and improvement of city- and county-owned regional road facilities to cost, coincidentally, $3.9 billion (2007$) *through 2020*.[2] This does not include recent urban growth boundary expansion areas, especially the city of Damascus, and, more important, covers only about ½ of our planning period. Thus, the estimate from this source suggests "other regional modernization" costs total on the order of $7–8 billion (2007$) for the planning period.

From what we were able to review, we would give slightly more weight to the ODOT survey, which seems like a relatively solid estimate for the present. But clearly the costs could escalate in the future with anticipated rising construction costs and expansion of the region. For the purposes of this analysis we take a mid-point estimate of $6 billion (in 2007$) for the total capital cost of "other regional modernization" projects

OPERATIONS, MAINTENANCE, AND PRESERVATION (OM&P)

There are a number of ways to approach estimating future operation, maintenance, and preservation costs of the regional road/highway system. For this study, OM&P costs are estimated based on the costs shown in the current RTP, new estimates derived from local surveys, case studies, and recent reports published on the impacts of deferred maintenance..

[2] Figure reported in 2004 RTP in 1998$ converted to 2007$. Applied conversion factor based on construction cost index historical data from Engineering News Record (ENR). The 2007 index is estimated based using the ENR data.

STATE HIGHWAYS

ECO used 2004 RTP estimates as base data for estimating the cost of operations, maintenance, and preservation on state highways in the region from 2007–2035. ECO updated those costs to 2007 dollars. The result is a relatively steady cost, in real terms, of about $180 million per year. The actual calculations were a little more complicated.[3]

The total value of that stream of cost is about $5 billion (2007$). That number needs some qualifications. The biggest problem is that ECO could not determine from the RTP the level of OM&P that this cost estimate provides.

ODOT's *Transportation Needs Analysis, 2005 – 2030 Summary Report* (June 2005) says:

> The *1999 Oregon Highway Plan* establishes preservation goals and priorities. The plan gives funding priority to Interstate pavement condition and to maintaining Statewide Highways at a higher condition level than Regional and District Highways. District Highways are to be preserved at 60 percent fair-or-better or higher. If there is no increase in state funding, low volume Regional and District Highways are to receive thin treatments rather than thicker rehabilitation pavement treatments. With significantly increased funding, the state's goal is to maintain average pavement condition at an optimal level of 90 percent fair-or-better.

On page 49, the ODOT report notes average annual expenditures on Preservation of $118 million per year (average, 2001 – 2007) and an estimated "Feasible Preservation Need" of $160 million per year. That means expenditures are roughly 75% of need; alternatively, it means that need is about 35% greater than expenditure.

That estimate is clearly a rough one and, moreover, it is for Preservation only, not Operation and Maintenance. Preservation (which borders on construction) is likely to have costs growing more rapidly and, thus, to be more underfunded than Operations and Maintenance. But it suggests if the estimate in the RTP does not include a consideration of larger needs, then it might need to be inflated by another 25% to 50%, and the total cost for OM&P on state highways in the region might be in the range of $7 to $8 billion (2007$).

For the purposes of this analysis, we increase the inflation-adjusted estimates from the 2004 RTP, assuming some underfunding of OM&P and use $6 billion in total cost for the planning period.

[3] Cost figures from the 2004 RTP were converted to constant 2007 dollars (2007$) for use in this report. ECO started with nominal present and future value of OM&P costs for the state-highway component of the regional transportation system reported in the 2004 RTP: $135 million in 2000, $199 million in 2010, and $270 million in 2020. ECO then derived growth rates from those point estimates (2000 to 2010 3.95% annual average growth rate between 2000 to 2010 and 3.01% between 2010 to 2020) and created annual estimates of cost based on those growth rates. Costs per year after 2020 were extrapolated to 2035 using the 2010-2020 annual average growth rate. The annual costs in nominal dollars were then converted to 2007$ based on a 3.1% discount rate.

OTHER REGIONAL ROADS

Using 2004 RTP figures as base data, ECO estimated OM&P costs for locally-owned parts of the regional roadway.

OM&P costs for regional roads will vary depending on levels of maintenance and preservation. At the 90%-level of OM&P (90% of the system fair or better), 2004 RTP data (converted to 2007$) suggest that OM&P costs for roads owned by cities and counties will increase from $230 million per year in 2007 to $245 million per year (2007$) in 2020 and climb to more than $260 million (2007$) in 2035. This results in an average of over $240 million (2007$) per year and a total of about $7 billion over the 2007-2035 planning period.

If one assumes that the status quo level of OM&P and the current backlog of deficient pavement will continue throughout the planning period, the OM&P cost on city and county owned roads will be about $5 billion (2007$) over the planning period. ECO estimated costs to increase from about $160 million per year in 2007 to $167 million (2007$) per year in 2020. By 2035, OM&P for regional roadways to rise from nearly $180 million (2007$) per year. On average, this results in about $170 million (2007$) per year during the planning period.

ECO also looked at other sources to get a broader sense of OM&P expenditures in the region and corroborate the estimated costs from the 2004 RTP:

- A review of the Critical Investments in Transportation from ODOT suggests that cities (statewide) expend about a third of what is needed to adequately maintain and preserve local paved roads.
- Based on analysis of ODOT data from surveys of Oregon cities and counties in 2006, transportation engineers at Kittelson and Associates, Inc., estimated OM&P costs in the three-county Metro area to be about $100 million per year. The consultant's analysis estimated that the region as a whole is spending only about half that amount on OM&P that engineers would estimate as efficient.
- In another analysis, using available data received from local jurisdictions reporting OM&P *needs and expenditures*, ECO found that about 70% of OM&P needs are met in Washington County. The survey respondents reported a need of about $730 million in OM&P through 2025 with a shortfall of about $200 million representing their greater use of local funding sources.[4]

In summary, the consensus appears to be that OM&P for roads is under-funded, and that the amount spent might equal anywhere from 1/3 to 2/3 of what an engineering study might estimate as the efficient (least-cost, on a lifecycle basis) level of OM&P.

[4] See Table E-11 in Appendix E for raw data and documentation of Washington County's estimated needs and expenditures.

We can apply those percentages to ECO's evaluation of ODOT's survey data of local jurisdictions (21 jurisdictions in the Portland region provided data for OM&P expenditure), which found that an average total of $154 million per year (adjusted to 2007$) was expended in the region on OM&P from 2002–2005.[5] If that amount is 50% of the need (between 1/3 and 2/3), then the need is double that amount: about $300 million per year: in rough terms, $8–9 billion total over the planning period.

Thus, there is a lot of uncertainty in many critical elements of an estimate of the amount of money needed for OM&P: about what is being spent now, current backlogs, the rate at which new improvements will be added to the system (that will then need to be maintained), the rate of cost escalation, and the desired and policy-approved future level of OM&P. For the purposes of this analysis, we think the range for the total cost of an efficient level of OM&P over the planning period is $5 to $9 billion, and we use $7 billion as the average estimate. A discussion as part of the RTP process of what is the appropriate amount to provide for OM&P is essential. Under federal guidelines, cities and counties are given the discretion determine what is an "adequate" level of OM&P.

COSTS FOR THE TRANSIT SYSTEM

The transit system in the region is provided by TriMet throughout most of the 3-county region and South Metro Area Rapid Transit (SMART) in the Wilsonville area. Costs in this section are estimated using data reported in the 2004 RTP, TriMet's FY2006 Financial Issues Report #1, Financial Analysis and Forecast (Fall 2005) and the City of Wilsonville's Transit Master Plan (October 2006).

CAPITAL IMPROVEMENTS

Based on the 2004 RTP, transit capital costs are estimated at about $5.8 billion (converted to 2007$) from 2000 to 2020. This includes costs for planned light rail, commuter rail, and streetcar rail systems. It also includes acquisition of additional buses and expanded maintenance facilities, right-of-way improvements and newer upgraded transit centers and park-and-ride lots. Anticipating potential other capital costs through 2035, modernization costs will likely exceed $6 billion (2007$). If capital costs rise at the same rate (the 2000 to 2020 rate) through 2035, then capital costs could conceivably reach $10 billion (2007$). Knowing that capital costs are affected by major projects rather than by a year-by-year rate of growth, we use this estimate only as a bookend, high limit, cost estimate.

To obtain more detail about future transit-related modernization costs, ECO researched and reviewed a variety of sources, primarily, but not limited to, TriMet's Financial Issues Report #1 FY2006 and SMART's transportation plan (October 2006 draft). From the various data sources, ECO estimated over $4 billion in transit-related capital costs, including non-project capital improvements,

[5] See Tables E-7 A, B and C in Appendix E for a breakdown of capital and OM&P expenditures for individual jurisdictions.

over the planning period. Table 4-2 summarizes the estimated costs for anticipated projects and other capital-related costs.

Table 4-2. Estimated transit-related capital expenditures for TriMet and SMART, 2007–2035 (millions 2007$)

Cost Category	Estimated Cost
Total Regional Transit Capital Costs	**$4,186.5**
TriMet capital expenditures	***$4,151.0***
Major Capital Projects	*$2,711.0*
Columbia River Crossing LRT	$600.0
Milwaukie LRT	$637.0
Washington County Commuter Rail	$117.0
I-205/Mall LRT	$557.0
South Corridor bus capital projects	$260.0
Eastside Streetcar (all segments)	$440.0
Portland to Lake Oswego Streetcar	$100.0
Non-Project Capital Costs	*$1,440.0*
Replacement	$1,082.2
Improvement	$357.9
SMART capital expenditures	***$35.5***
Major Capital Projects	*$8.8*
Non-Project Capital Costs	*$26.7*

Source: Various. TriMet, FY 2006 Financial Issues Report #1, Financial Analysis and Forecast. TriMet. Fall 2005; City of Wilsonville Transit Master Plan, October 2006. Metro 2004 RTP. Eastside PAC Meeting minutes, November 16, 2005.Transportation Research Board, Transportation Research Circular, Number E-C058, November 2003. Data calculations and conversion (to 2007$) by ECONorthwest.

Similar to modernization of roads, transit-related modernization costs are likely to rise with increasing construction costs and expansion of the region. Thus, for the purposes of this analysis we take the average between the high estimate of $10 billion and low of $4 billion estimate —about $7 billion (in 2007$)— for overall transit-related modernization costs.

OPERATIONS AND MAINTENANCE[6]

Based on the 2004 RTP data, adjusted to 2007 constant dollars, transit-related capital costs are estimated at about $18.8 billion from 2007 to 2035. ECO's analysis and conversion of the 2004 RTP figures results in approximately $400 million in transit-related operations costs in 2007 and rising to nearly $1 billion (2007$) in 2035. Over the planning period, ECO adjusted data from the 2004 RTP resulting in operations costs of about $650 million (2007$) per year on average.

ECO also looked at TriMet's FY 2006 finance data to get a sense of the breakdown in operations costs. The data include roughly 3% annual increase in bus service and operations budget for rail lines with committed funding. From this

[6] Preservation is a term used for road evaluation (OM&P) but not for transit (O&M).

data set, however, the calculated total cost of O&M activities—about $13.5 billion (2007$). However, these data do not include operations costs for major capital projects that, as of this time, have no committed funding for construction. It also does not account for a portion of the 4.5% increase in transit service called for by the RTP.

To avoid underestimating transit operations costs, ECO accounts for the following:

- Projected operations costs (about $275 million in 2007$ beginning in 2013 through 2035) of transit-related modernization projects without committed funding
- Adjustment in annual transit service increase to account for portion of the total 4.5% increase in service called for by the RTP not counted in the TriMet data.

Given that, ECO's analysis of the available data in TriMet's FY2006 report plus taking into account factors not included in that report resulted in a total of over $14 billion (2007$) in operations and maintenance costs for transit.

From the City of Wilsonville Transit Master Plan (the SMART transportation plan, October 2006 draft), the data indicates expected steady increases in transit operation, maintenance, and preservation costs. Over the planning period, ECO estimates about $160 million (2007$) to maintain SMART's current level of service.

SMART's Transit Master Plan reported the agency's 2007 expense budget to increase by an annual average of 8.4% (nominal) over the next 20 years.[7] ECO extrapolated the costs to 2035. Further analysis and conversion of nominal data to constant 2007 dollars lead to estimates of operations expenses of over $5 million (2007$) per year on average, with a present value of about $158 million over the planning period. To maintain SMART's current level of service over the planning period, this means an increase of operations expenses (in constant dollars) of about 5% per year.

Overall, for the region, transit-related operations and maintenance costs are expected to range from about $14 billion and $19 billion. For this analysis, ECO takes the average between the two results, about $16.5 billion (2007$) in transit-related costs over the planning period.

SUMMARY OF ROADWAY AND TRANSIT COSTS

This chapter provides estimates of capital and OM&P costs for the regional road and transit system between 2007–2035. Table 4-3 summarizes these estimated costs

[7] City of Wilsonville Transit Master Plan, October 2006.

Table 4-3. Summary of estimated total costs for road and transit in the region, by OM&P and capital improvements, 2007–2035 (billions 2007$)

Project Type	OM&P	Capital	Total
Roads and Highways	**$12.3**	**$9.9**	**$22.2**
State	$5.3	$3.9	$9.2
Local	$7.0	$6.0	$13.0
Transit	**$16.5**	**$7.0**	**$23.5**
Total	**$28.8**	**$16.9**	**$45.7**
% Total	**63%**	**37%**	**100%**

Source: Estimates calculated by ECONorthwest based on data from ODOT, TriMet, SMART, local TSPs, and local surveys.

From 2007 to 2035, all costs—OM&P and capital—are projected to exceed $45 billion (2007$). Over 60% of that cost is comprised of OM&P for both road and transit facilities, about $29 billion (2007$). Combined road-related and transit-related capital costs make up nearly $17 billion (2007$) in costs.

Specific to roads and highways, over $12 billion is expected to be spent on OM&P. Modernization expenditures are estimated at about $10 billion (2007$). Together the five projects of statewide significance located in the region are estimated to cost about $4 billion (2007$). City and county-owned road projects on the regional system are projected to cost about $6 billion (2007$). Project-specific analyses, beyond the scope of ECO's analysis, may report higher figures.

Considering transit costs, OM&P for transit is projected to cost nearly $17 billion (2007$) from 2007–2035. ECO's analysis of various sources of data, including the 2004 RTP and forecast data from TriMet and SMART, show transit-related capital expenditures at about $7 billion (2007$) over the planning period.

Chapter 5 Funding the Transportation System in the Metro Region

Chapter 3 provides estimates of revenues that are probably or possibly available for transportation projects in 2007–2035. Chapter 4 provides estimates of costs of major improvements to the regional transportation system and OM&P costs in the years ahead. This chapter compares those estimates in various ways to provide (1) an estimate of the difference between the costs of projects and programs included in the 2004 RTP and the revenues available (referred to as the "funding gap"),[1] and (2) ideas about broad strategies for filling the funding gap.

OVERVIEW

The main objective of this report is to get a rough idea of how big the gap is between "reasonably available revenues" and the likely costs of transportation investments over the planning period (to 2035). In this report, we are just looking for rough estimates to provide some context for the work that will be done in the first two quarters of 2007 to get to a list of transportation investments whose costs are equal to refined estimates of, and political decisions about, reasonably available revenues.

As part of the development of the RTP in 2007, updated system costs will be established through project and program proposals that best meet the identified desired outcomes for the region's transportation system (Phase 3 of the 2035 RTP update). The process of identifying projects and programs may result in reduced RTP system costs through increased transportation service efficiencies, fewer overall projects, or reductions in project scopes.

Though cost-cutting measures (e.g. reducing the number, size or attributes of projects proposed for inclusion in the RTP) will be an inevitable part of the RTP process in 2007, *they are not part of the analysis in this chapter*. This analysis uses planning-level cost estimates as described in Chapter 3; it has no basis for estimating how those costs might be reduced by more efficient management or construction techniques. Moreover, the best evidence suggests that overruns are more likely than efficiency gains.[2]

At the level of generality of the 2004 RTP cost estimates, we have no basis for estimating how the projects might be redefined to make them more cost-effective

[1] There is a theoretical possibility that available revenues could exceed the costs of desired projects. That possibility has never been a reality in any regional transportation project that we are aware of and, as Chapters 3 and 4 show, is not the case in the Portland region.

[2] Flyvbjerg, Bent, Mette K. Skamris Holm, and Søren L. Buhl, 2002, "Underestimating Costs in Public Works Projects: Error or Lie?" Journal of the American Planning Association, vol. 68, no. 3, 279-295 found that, on average, comparable works come in over budget 9 times out of 10, but only by about 28 percent above initial estimates. Of the 258 projects studied, all completed over the past 70 years, the researchers found that rail projects typically see the greatest overruns, usually costing about 45 percent more than the public was told at the outset.

and no formal process to reference for retaining or dropping full projects. Thus, on the cost side we keep it simple and approximate. In this report we *focus on issues affecting the size of the gap and strategies to be pursued to fund the transportation system for the Metro region in various ways*. We point out, later in this chapter, three big issues that decisionmakers will have to address as they discuss funding the transportation system for the Metro region.

PRELIMINARY ESTIMATES OF THE FUNDING GAP

OVERVIEW

Chapters 3 and 4 give us the information we need to get a sense of the shortfall between available resources and expected costs between 2007 and 2035. We note that the estimate is *preliminary* because the funding gap will, by definition, change over the next six months of the RTP evaluation. Ultimately, again by definition, the financially constrained RTP must have investments (costs) that are balanced by "reasonably available" revenues; balance means no funding gap.

Chapter 3 shows that roughly $15 to $18.6 billion of "reasonably available" revenue is available for road-related expenditures (OM&P activities and modernization projects) over the planning period. Chapter 4 shows estimates cost for road-related projects and OM&P at about $22.2 billion. Thus, our estimates suggest a funding shortfall, in rough terms, in the range about $4 – $7 billion for road-related projects over the planning period.

Over $17 billion (2007$) of "reasonably available" revenue is estimated to be available for transit-related expenditures (O&M activities and modernization projects) over the planning period. Total transit-related costs are projected to be about $23 billion. Thus, our estimates suggest a potential funding shortfall, in rough terms, of approximately $6 billion for transit-related projects.

Depending on the selection of regional projects, the combined road and transit funding gap could be between $10 and $13 billion over the planning period. That gap changes if (a) new revenue sources are secured, (b) costs are reduced (by changing the type, size, or implementation of projects, or by doing fewer of them), or (c) both.

ROADS AND HIGHWAYS

Table 5-1 shows a range of estimates of the potential funding gap for road-related projects. It arbitrarily scales back the total forecast of cost to give an idea of the size of the cost reductions that would be required to close the funding gap (assuming no new revenue sources beyond those already included in the E++ funding scenario).

Table 5-1: Estimated funding gaps for road-related capital investments (modernization only), given different levels of revenue and road-related cost, 2007–2035 (in billions of 2007$)

		Estimated Revenue		
Cost Levels	Cost	Existing (E) $2.4	Existing+ Conservative (E+) $3.2	Existing+ Optimistic (E++) $3.9
		Funding Gaps		
Estimated total costs	**$9.9**	-$7.5	-$6.7	-$6.0
80% of estimated costs	**$7.9**	-$5.5	-$4.7	-$4.0
60% of estimated costs	**$5.9**	-$3.5	-$2.7	-$2.0

Source: Table constructed using *capital-only* costs of roads and highways from Table 4-3 and estimated total of various levels of road-related *capital-only* revenues from Table 3-8. The funding gap is estimated revenues (column headings) minus costs (row headings).

All costs and revenues are in 2007 dollars. Figures in chart displayed as negative figures are the funding gaps.

We emphasize that Table 5-1 is illustrative only. Selection of a set of future projects is a topic for analysis in Winter and Spring 2007. Developing a project list that makes up 60% to 80% of the total estimated costs of all projects could be a part of the exercise. The process will help determine what set of projects should make up the updated RTP project list.

Our interpretation of Table 5-1 is:

- Existing plus conservative expansion of revenue (E+) and existing plus optimistic expansion of revenue (E++) would still fall short of covering all of the estimated road-related capital costs.
- Even at 80% and 60% of total capital costs, potential funding gaps remain.

Costs of OM&P will grow as the transportation system grows. Recall from Chapter 3 that the revenue that is specifically and only for OM&P is small percentage of total revenue. But OM&P costs are estimated to be over half of overall road-related costs during the planning period (Table 4-3). Given that, deciding how much will be expended on OM&P at the local level will have a direct influence on the amount of money that is available to built modernization projects.

Table 5-2 gives a more detailed view of the funding gap for roads, using the existing + conservative (E+) expansion of revenue as an example. It shows the gap (right-hand column, labeled "Deficit") for State and Local sources, divided out by capital, OM&P, and flexible.

Table 5-2: Funding deficit or surplus between estimated road-related costs and Existing + Conservative (E+) expansion of revenue by OM&P activities and modernization projects at state and local levels (billions of 2007$)

Cost Type	Estimated Cost	Revenue Type	Estimated Revenue	Deficit or surplus
State	**$9.2**		**$4.0**	**-$5.2**
State OM&P	$5.3	OM&P	$3.1	**-$2.2**
State modernization	$3.9	capital only	$0.8	**-$3.1**
n/a	$0.0	flexible	$0.04	$0.04
Local	**$13.0**		**$10.9**	**-$2.1**
Local OM&P	$7.0	OM&P	$0.1	**-$6.9**
Local modernization	$6.0	capital only	$2.4	**-$3.6**
n/a		flexible	$8.5	$8.5
Total	**$22.2**		**$14.9**	**-$7.3**

Source: Table constructed using total OM&P and capital costs for roads and highways from Table 4-3 and the existing+conservative expansion (E+) total of road-related revenues from Table 3-8. The funding deficit or surplus is estimated revenues minus estimated costs.

The projected funding deficit or surplus at the Existing + Conservative (E+) level of revenue is shown in Table 5-2. At E+ levels of revenue, both state and local governments will still have funding gaps.

ECO created similar tables for the E and E++ revenue scenarios, and evaluated the differences. The key points:

- There is almost no difference in the gap for State OM&P or modernization. In other words, E+ and E++ add no revenue to state sources. That conclusion derives from the assumption we made in Chapter 3.
- There is almost no difference in the gap for Local OM&P or modernization. In other words, E+ and E++ add very little revenue to local funds that *must* be spent on OM&P. The gap seems large because most funds have flexibility, although a lot of flexible funding is spent on OM&P. How much of flexible funding should be spent on local OM&P or local modernization projects is an important question to be determined by the region's policymakers.
- At the local level, the E++ level of revenue—assuming the projected increase in flexible funds through assumed SDC rate increases, larger private developer contributions, and increase in urban renewal funds—can help cover the gaps in OM&P and modernization projects and potentially create a surplus in local funding.

TRANSIT

For transit, O&M will play a major role in affecting the balance between available funds and anticipated costs. The majority of the total transit costs is attributable to operations and maintenance, and ranges from a total of $13.5 – $19 billion, (on average about $16 billion) during the planning period (2007$). The

estimates from Chapter 4 are for over $4 billion for transit-related modernization costs.

Table 5-3 shows the specific funding gaps for O&M activities and modernization projects for transit-related projects of the projected E++ funding level, which includes costs and expected revenue for all anticipated transit projects.

Table 5-3: Funding gaps between transit-related costs and estimated revenue by O&M activities and modernization projects (billions of 2007$)

Cost Type	Estimated Cost	Revenue Type	Estimated Revenue	Deficit or surplus
Transit	**$23.5**		**$18.8**	**-$4.7**
Transit O&M	$16.5	O&M	$0.0	-$16.5
Transit modernization	$7.0	capital only	$2.5	-$4.5
n/a		flexible	$16.3	$16.3

Source: Table constructed using transit-related total O&M and capital costs in Table 4-3 and the estimated available revenue for transit-related projects from Table 3-13. The funding deficit or surplus is "estimated revenue" minus "estimated costs."

For the E++ level of funding, ECO's analysis shows an overall funding shortfall of about $5 billion (2007$). The funding gap between estimated O&M costs and dedicated O&M revenues is $16.5 billion (2007$), much of which would be covered by the projected $16.3 billion (2007$) in flexible funds. A gap of about $4.5 billion (2007$) for modernization projects exists, even assuming 60% of "New Starts" funding.

For E and E+, the funding gaps are $8.8 billion (2007$) and $6.7 billion (2007$) respectively. The shortfalls, however, are somewhat artificial. The RTP preferred system lists transit projects in the future for which federal contributions have yet to be secured: some may be too far out to even try yet. Those projects are unlikely to get built without a federal contribution to the revenue side that is not included on the revenue side of the E or E+. Ultimately, either the federal revenue will be secured and the revenue estimate will increase, or it won't be and the costs will decrease: either circumstances closes the gap.

SUMMARY

Table 5-4 summarizes the funding gaps at various levels of revenue (E, E+, and E++).

Table 5-4: Summary of funding gaps for road-related and transit-related OM&P activities and modernization projects (in billions of 2007$)

	Funding Gap		
Cost Type	**E**	**E+**	**E++**
State	**-$5.5**	**-$5.1**	**-$3.9**
State OM&P	-$2.2	-$2.1	-$2.2
State modernization	-$3.3	-$3.0	-$3.0
flexible funding	$0.03	$0.04	$1.22
Local	**-$4.3**	**-$2.1**	**$1.5**
State OM&P	-$6.9	-$6.9	-$6.9
State modernization	-$4.2	-$3.6	-$3.0
flexible funding	$6.8	$8.5	$11.5
Transit	**-$8.8**	**-$6.7**	**-$4.7**
Transit O&M	-$16.5	-$16.5	-$16.5
Transit modernization	-$6.9	-$5.8	-$4.5
flexible funding	$14.6	$15.6	$16.3
Grand Total	**-$18.6**	**-$13.8**	**-$7.1**

Source: ECONorthwest. A summary of deficit and surplus data from Table 5-2 and related tables not shown for the other revenue scenarios and Table 5-3.

At the state level, the road-related funding gap will remain relatively the same between E and E+, but could potentially drop down to $3.9 billion, assuming increased revenue from the E++ level of funding. The significant increases in funding are derived by the state (i.e., from gas tax increases and vehicle registration fee increases). The state is expected to expend a portion of its share in the region. Counties and cities also receive an allocation from these increases in revenue.

At the local level, the overall funding gap is reduced to under $1 billion at a the local level at Existing + Conservative (E+) level of revenue. An overall surplus is projected locally at the Existing + Optimistic (E++) level of revenue. Increases in flexible funding help to bridge the funding gaps in OM&P and capital project funding.

The same goes for transit: flexible funding helps to pay for much of the operations and maintenance of the system. The question then arises: what is the right amount of flexible funding to be used for operations, maintenance, and preservation? And how much of it can or should be spent on capital project?

BIG ISSUES AFFECTING FUNDING THE SYSTEM

The analysis in Chapters 3 and 4 leads to the well-supported conclusion summarized in the section above: under a wide variety of assumptions about

revenues and costs, there is a funding gap. In concept, that gap can be filled by either *reducing costs* (which can be done by reducing the number, scale, or design elements of projects) or *increasing revenues*. For reasons described earlier, the rest of this analysis focuses on issues affecting the size of the gap and strategies to be pursued to fund the transportation system for the Metro region.

There are at least three big issues that decisionmakers will have to address as they discuss funding the transportation system for the Metro region.

ISSUE #1: DEFINING AND FUNDING ADEQUATE OPERATIONS, MAINTENANCE, AND PRESERVATION

OM&P is, by our admittedly rough estimates, about over half of the revenue requirement for the planning period. Federal requirements for a regional transportation plan mandate that the system be adequately maintained. How "adequate maintenance" gets defined has both a technical and a policy component.

The technical component is primarily based on engineering estimates of the efficient level of lifecycle maintenance. There are several sources of variability in those estimates:

- Engineering practice does not agree 100% on exactly where the sweet-spot is: either too much or two little maintenance can be inefficient. The variability here, however, is not large. The following sources are more important.
- What level of maintenance is occurring now? We feel relatively confident from our research that, in general and on average, maintenance is being funded at inefficiently low levels. But there is a lot of variability among ODOT, cities and counties in the Portland metropolitan region.
- Even if technicians agree to some boundaries on an efficient level of OM&P, decisionmakers may make additional adjustments. We see the definition of "adequate maintenance" in the context of federal requirements for the RTP as ultimately a policy decision. It is informed by technical evaluation, but not defined by it. A region might decide, for example, that a lower level of maintenance than that recommended by engineering staff makes sense in the short run given current modernization needs and funding sources, and likely efforts to expand OM&P in the future.

Thus, we see our estimates in this report as (1) elevating the question of OM&P, and (2) giving some broad bounds on its implications for balancing costs and revenues. How the region will define "adequate" maintenance will be a topic of future technical and policy discussions in Winter and Spring of 2007.

ISSUE #2: DEFINING TRANSPORTATION NEEDS BASED ON DESIRED OUTCOMES

The outcomes-based framework being used for the 2035 RTP update builds from the eight 2040 Fundamentals, which represent the region's vision for implementation of the 2040 Growth Concept (*broadly defined desired outcomes that the residents of the region value).* Those fundamentals are the broad goals or desired outcomes; they get specified by more detailed measurements of the performance of the transportation system, the natural environment, and the built environment in response to different transportation packages that might ultimately become the adopted plan of the RTP.

The Regional Transportation Plan is a key tool for implementing that regional vision. The RTP process is defining what the region is trying to achieve with the regional transportations system to best implement the 2040 Growth Concepts, before defining how to achieve that vision. As a result, the RTP process will redefine transportation needs based on the desired outcomes for the region, and matched with a realistically attainable funding plan.

For example, Chapter 4 shows that the five modernization projects of statewide significance in the Portland region have an estimated cost of almost $4 billion (possibly much higher), roughly 1/3 to 1/2 of the total road-related modernization costs during the planning period. If OMP is backed out, these five projects have costs that are on the order of 50% to 80% of the total reasonably available revenues for modernization (new capacity) for the planning period.

To make the obvious points: (1) the fewer of these that get built, the more money there is for modernization projects on the rest of the regional system, and (2) these projects may be contingent on the identification of "new" revenue sources (beyond those estimated as "reasonably available"). For example, the Sunrise Corridor is one of three projects identified as something to be addressed by the Oregon Transportation Investment Group (a private consortium authorized by ODOT's Oregon Innovative Partnerships Program to investigate Design-Build-Finance-Operate solutions for large transportation facilities). OIPP is clear that such public-private partnerships need a revenue stream, and that tolls are a likely candidate for providing that stream. Tolls would be a new source of revenue, one not part of the estimates of reasonably available revenue in Table 5-1.

ISSUE #3: DEFINING FUNDING STRATEGIES TO ADDRESS TRANSPORTATION NEEDS

The hope is that the analysis in this report provides a solid base on which to build a regional discussion and decision about a balance of transportation investments and revenues sources a fiscally constrained RTP will comprise. Its focus has been on "reasonably available" revenue sources. It acknowledges that technical analysis can give some ideas about what is reasonable, but the final decision is ultimately a political one.

If the region wants to plan for investments that go beyond what this report estimates the E+ or E++ revenue scenarios can fund, then it must look for revenue sources that go beyond what those scenarios assume. One possibility is to get more out of those sources themselves (e.g., by adjusting assumptions or increasing the rates of certain fees). Another possibility is to assume a regional commitment to transportation improvements makes new sources "reasonably available." Such sources, for example, include:

- Lottery funds
- Tolling for projects of Statewide Significance (e.g., Columbia River Crossing)
- Index the state gas tax so that it increases with inflation
- Regional gas tax
- Regional vehicle registration fee
- Regional general obligation bond

CONCLUSIONS AND NEXT STEPS

Arriving at a fiscally constrained system will depend not only on containing costs (deciding what projects should be included on the list), but understanding what future resources are can be expected to be "reasonably available," as determined by local decisionmakers in the region. It will also require an understanding that new growth will continually challenge local governments to maintain the existing system of regional roads within their jurisdiction.

The analysis in this report, and the three issues just described in the previous section, suggests that the final "financially constrained" funding recommendation will be balanced by dealing with OM&P allocations (which might mean revenue reductions for modernization), revised definitions of transportation needs that respond to the desired outcomes embodied in the 2040 Growth Concept, and defining funding strategies to secure expanded or new revenue sources. The discussions that lead to that balancing will occur in Winter and Spring 2007.

Future 2035 RTP activities will include discussions of expanded or new revenue sources consistent with an outcomes-based approach to defining transportation needs. Additional work will be conducted to develop funding concepts and strategies for implementation of the 2035 RTP in conjunction with defining transportation needs based on desired outcomes. This work will define the commitments needed to secure new revenue sources and the consequences to the plan should revenues not be secured within the timeframe committed to as part of the RTP process.

This Preliminary Financial Analysis will be used for discussion among decision-makers to decide what future revenue sources seem most reasonable to fund future transportation investments that respond to the desired outcomes for the region. Regional decision-makers will have, in essence, provided a provisional estimate of "reasonably available" revenues for the region. That estimate will be

the preliminary basis for a discussion of expenditures: how much can the region afford to invest in with these funds?

The process will be informed by research and outreach conducted in Fall 2006 and public opinion research and focus groups in Winter 2007. The actual definition of transportation needs and project/program selection will occur in Spring 2007. After that, transportation costs and revenues will be refined and an updated Financial Element of the RTP can be completed.

Chapter 6 Private Costs of Roadway and Transit Use

This report is a financial analysis. It is completely about the public costs and funding of the public components of the regional transportation system. Chapter 6 provides more context for evaluating those public costs by providing some estimates of the private costs necessary for those systems to operate: particularly the private costs of acquiring and operating an automobile so that one can use the highway system.

OVERVIEW

This report is a *financial* analysis. It is completely about the *public* costs and funding of the public components of the regional transportation system.

When ECO presented its findings, based on a draft of this report, in December, members of JPACT noted that public costs of the complete regional transportation system are not equal to total costs because there are a lot of private costs. Most significantly, users of the highway system pay for the vehicles they use; without those vehicles, the transportation system is useless except for transit (because the public sector *does* provide and operate the vehicles for the transit system). ECO agrees with all those points.

The reason that those points are important is *not* because they affect the estimates of costs and revenues in Chapters 2 – 5: they don't. Rather, they provide a context for interpreting those costs and revenues. In particular, if one is concerned about relative expenditures on roads and transit, looking at only the public cost gives the distorted view that over the planning period transit costs are roughly equivalent to road costs. In fact, that is true only for the *public* costs.

PRIVATE COSTS OF HIGHWAY TRAVEL[1]

Driving is expensive. The Bureau of Transportation Statistics (BTS), for example, estimate that in 2005 the average annual cost of owning and operating a car driven fifteen thousand miles a year was about $7,800 or 52 cents per mile.[2] Compared with the median after-tax household income of less than $40,000 per year, this suggests that a two-car household spends almost 40% of its disposable income on car travel.

That percentage is probably high: there are, of course, caveats. First, the actual expenditure on car travel varies a great deal. Second, according to the BTS, about

[1] This section is taken from drafts of Terry Moore's forthcoming book (Spring 2007) for the American Planning Association: *The Transportation / Land-Use Connection.*

[2] http://www.bts.gov/publications/national_transportation_statistics/html/table_03_14.html

71% of the estimated total costs are fixed, i.e., do not vary, over the course of a particular trip: insurance premiums, license and registration fees, depreciation, and finance charges. The remaining 29%, about 15 cents per mile, represent the average out-of-pocket costs of a particular trip. The average cost of a twenty-mile, round-trip commute then costs about $3 out-of-pocket, or about $66 per month (assuming 22 work days per month). This is the number more appropriate for thinking about the average cost of a trip: the *marginal* trip cost.

But, third, there are significant costs of car travel not included in owning and operating expenses. These include:

- The time costs associated with car travel. This includes the time spent driving, which could have been spent doing something else, including working for pay. It also includes time spent looking for, buying, and maintaining the car.
- Parking. The total cost of providing parking probably exceeds the total cost of providing travel lanes. But most of these costs are paid indirectly through higher prices paid for housing, retail products, or lower wages.
- Some of the costs of infrastructure and transportation-related services. These include highway law enforcement, emergency services, legislative and judicial services, prisons, and so on. A big chunk of these costs is paid for with taxes on fuel, tires, and so on, but some of it is paid for with revenues from other taxes, such as those on property, retail sales, and income.
- Traffic-related deaths and injuries. More than 40,000 traffic-related fatalities occur in the U.S. each year. And many times that number of injuries occur. Much of the out-of-pocket costs are paid for through insurance premiums, but some are not, and there are additional costs in terms of pain, suffering, and time.
- Environmental damages. These include local and global air pollution, water pollution, flood control and drainage costs due to impervious roadway and parking surfaces, noise, and visual blight.

So how big are all these costs? What is the full annual social cost of travel by car? The best estimates of the full social costs of car travel of which we are aware were compiled and reported in a series of technical reports by Mark Delucchi from the Institute of Transportation Studies at the University of California, Davis. Again, there are a lot of caveats, and we do not go through them here.[3] We simply summarize some of the key findings reported in Delucchi's summary report.[4]

Table 6-1 summarizes Delucchi's summary. Delucchi distinguishes six general categories of costs, each of which appears in bold. Delucchi reports low and high estimates of the costs in each category.

[3] They will be described in the forthcoming book.

[4] Delucchi, Mark A. (2004) Summary of Theory, Data, Methods, and Results: Report #1 in the series: *The Annualized Social Cost of Motor-Vehicle Use in the United States, based on 1990-1991 Data*. Institute of Transportation Studies, University of California, Davis, Research Report UCD-ITS-RR-96-03(01)_rev1. Available at http://pubs.its.ucdavis.edu/publication_detail.php?id=153

Table 6-1. Social Opportunity Costs of Roadway Travel

	Estimated cost (% of total cost)	Error range (% of total cost)
1 Personal (internal) non-monetary costs	**30.0%**	**±8.9%**
Travel time	20.8%	±4.5%
Injuries (e.g., pain and suffering)	6.0%	±3.1%
Purchase and maintenance time	3.2%	±1.2%
2 Goods & services privately supplied and priced	**36.2%**	**3.1%**
Annualized cost of vehicle fleet	12.4%	±1.6%
Parts, supplies, maintenance	7.0%	±0.6%
Fuel and oil	3.2%	±0.1%
Travel time that displaces paid work	8.4%	±0.8%
Priced private parking	0.1%	±0.0%
3 Goods & services publicly supplied	**7.8%**	**±2.7%**
Roads and highways	6.3%	±2.1%
Off-street parking	0.6%	±0.2%
Police and emergency services	0.4%	±0.1%
Judicial and correction system services	0.4%	±0.1%
4 Goods and services bundled privately	**7.1%**	**±4.1%**
Non-residential off-street parking	4.2%	±2.3%
Residential off-street parking	1.1%	±0.5%
Privately-supplied roads	1.8%	±1.3%
5 Monetary externalities	**3.0%**	**±1.2%**
Travel-time delay (during paid work)	1.0%	±0.5%
Accident costs	1.1%	±0.0%
6 Non-monetary externalities	**15.9%**	**±13.3%**
Injuries (e.g., pain and suffering)	2.2%	±1.8%
Travel-time delay (off-work)	2.4%	±1.5%
Air pollution	10.8%	±9.4%
Other pollution	0.4%	±0.3%

The midpoint estimate of the absolute annual social cost of transportation-related goods and services in the U.S. in 1990-91 is 2.49 trillion dollars. So, for example, personal, non-monetary costs represent 30% of this total.

Source: Delucchi (2004).

We report the average of these low and high estimates in the first column of percentages, and then indicate the range by the ± percentage shown in the second column. Indented and not in bold below each general category are subcategories that are especially large or otherwise of interest. Their percentages do not always add to category totals because we left out some subcategories.

There is a lot that can be said about the numbers in Table 6-1, but in the context of what this chapter is trying to address, we focus on its implications for public and private *monetary* costs. That means focusing on categories 2, 3, and 4 in Table 6-1.

We set categories 2, 3, and 4 to sum to 100% and then recalculate the percentages. The results are the percent of direct monetary costs paid by the three different sources:

- 2 Goods & services privately supplied and priced: 71%
- 3 Goods & services publicly supplied: 15%
- 4 Goods and services bundled privately: 14%

In other words, publicly supplied goods and services account for only 15% of the total direct monetary cost of the road and highway system of the average metropolitan area. Most, but not all of those public goods and services are for highway construction and maintenance (almost 90%). In sum, construction and maintenance of roads by the public sector is about 1/7 of the total monetary cost of the total highway and road system.

We should apply that estimate directly to the cost estimates for a regional highway system only with caution, because a regional system is a subset of the total system. In the context of the question addressed in this chapter, we should be comparing the public cost of the regional road system (not the *total* road system) to the costs of regional transit. At a minimum, all of category 4 should be backed out, since those costs are all for local streets and parking. That would bring highway construction and maintenance (category 3, times 90%) up to almost 16% of the new total. But some of that cost is for non-regional parts of the total system.

IMPLICATIONS FOR COMPARING ROAD AND TRANSIT COSTS IN THE RTP

For the purpose of this illustration, we are simply going to assert that all these numbers suggest that public-sector expenditures on construction and maintenance of the regional highway and roadway system are on the order of 1/7 to 1/6 of the total cost of construction, maintenance, and operation (vehicle acquisition and maintenance). That assumption allows a simple calculation based on Table 4-3, which shows total public costs (construction plus OM&P) for the regional road and highway system at about $22.2 billion for the planning period. If that cost is, on average over the long run, about 1/7 of the total cost, then the total cost (public *and* private, for construction and OM&P) of the regional road and highway transportation system for the planning period is about $150 billion.

We did not have a comparable calculation for transit, but it is not clear that we need to. The private sector (transit riders) is not required to provide any equipment or maintenance to use the transit system. Thus, the cost estimate in Table 4-3 ($23.5 billion) is simultaneously an approximation of the *public* and the *total* costs of the regional transit system for the planning period. The fact that transit riders pay fares is not relevant to the issue we are dealing with here. What is relevant is that there is not a significant account of private expenditures not already in the transit calculations to account for.

Thus, by these estimates, the total costs (public *and* private, for construction and OM&P) of the Portland area regional highway system are probably six to seven times greater than those for the regional transit system.

Appendix A Glossary[1]

Access Management
Measures regulating access to streets, roads, and highways from public roads and private driveways. Measures may include, but are not limited to, restrictions on the siting of interchanges, restrictions on the type and amount of access to roadways, and use of physical controls (such as signals and channelization, including raised medians) to reduce impacts of approach road traffic on the main facility.

ADA- Americans with Disabilities Act of 1990 (Federal)
Civil rights legislation enacted by Congress that mandates the development of a plan to address discrimination and equal opportunity for disabled persons in employment transportation, public accommodation, public services, and telecommunications.

CCTMP-Central City Transportation Management Plan (Portland)
The adopted transportation system plan for the Central City. The CCTMP is reviewed and updated separately from the Transportation System Plan.

CIP-Capital Improvement Program
A ranked list of capital projects, such as transportation improvements, expected to be completed during the program timeline (typically 5 years).

CMAQ-Congestion Mitigation and Air Quality Program (Federal)
The Intermodal Surface Transportation Efficiency Act created the CMAQ program to deal with transportation related air pollution. The program is continued under TEA-21. States with areas that are designated as non-attainment for ozone or carbon monoxide (CO) must use their CMAQ funds in those non-attainment areas. A state may use its CMAQ funds in any part of its particulate matter (PM10) non-attainment areas, if certain criteria are met. Funds are directed to projects and programs are directed in certain non-attainment areas that meet standards contained in the Clean Air Act Amendments of 1990.

Congestion Pricing.
A transportation management tool which applies market pricing principles to roadway use. This tool involves the use of user surcharges or tolls on congested facilities during peak traffic periods. The theory of peak period pricing suggests that charging drivers per mile of travel during the congested times of the day will relieve traffic congestion by discouraging some vehicle trips and shifting others to alternative modes, facilities, destinations or times of travel.

Corridor
A 2040 Growth Concept design type that emphasizes a high-quality bicycle and pedestrian environment and convenient access to public transportation, but will not be as intensively planned as station communities.

[1] Sources: Multnomah County, "Glossary of Transportation Terms ad Acronyms Access Management." August 2004. Metro Regional Government. Glossary from the Regional Framework Plan, 2005.

EA-Environmental Assessment (Federal)
An environmental analysis prepared pursuant to the National Environmental Policy Act to determine whether a federal action should significantly affect the environment and thus require a more detailed environmental impact statement.

EIS-Environmental Impact Statement (Federal)
A document required of federal agencies by the National Environmental Policy Act for major projects or legislative proposals significantly affecting the environment. A tool for decision making, it describes the positive and negative affects of the undertaking and cites alternative actions.

Employment Areas
Areas of mixed employment that include various types of manufacturing, distribution and warehousing uses, commercial and retail development as well as some residential development. Retail uses should primarily serve the needs of the people working or living in the immediate employment area. Exceptions to this general policy can be made only for certain areas indicated in a functional plan

FHWA-Federal Highway Administration (Federal)
FHWA is a major agency of the US Department of Transportation. FHWA is charged with the broad responsibility of ensuring that America's roads and highways continue to be the safest and most technologically up-to-date. Their annual budget of more than $30 billion is funded by fuel and motor vehicle excise taxes. The budget is primarily divided between two programs: Federal-aid funding to State and local governments; and Federal Lands Highways funding for national parks, national forests, Indian lands, and other land under Federal stewardship.

Freight Intermodal Facility
An intercity facility where freight is transferred between two or more modes (eg. Truck to rail, rail to ship, etc.)

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

HOV-High Occupancy Vehicle
A vehicle which is transporting more than one person, usually a minimum of 2 people.

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

requirements embodied in the Clean Air Act Amendments of 1990 and State air quality plans.

JPACT-Joint Policy Advisory Committee on Transportation (Metro)
The Joint Policy Advisory Committee on Transportation is a 17-member committee of elected officials and representatives of agencies involved in transportation that make recommendations to the Metro Council on transportation needs in this region.

LCDC-Land Conservation and Development Commission (Oregon)
Created in 1973 by Senate Bill 100, with support from both parties and Republican Governor Tom McCall. The law created LCDC and directed it to adopt statewide planning goals, which addressed a range of topics specified by the legislature. LCDC was given the responsibility of reviewing all comprehensive plans to determine whether they satisfy the goals.

LID-Local Improvement District
A method that allows a group of property owners to share the cost and benefits of public improvements. The local jurisdiction finances the construction. Costs are paid back by property owners through a special assessment over a 5 to 15 year period.

LUBA-Land Use Board of Appeals (Oregon)
The 1979 Oregon Legislature created the equivalent of a specialized land use court, called the Land Use Board of Appeals, which hears all "quasijudicial" appeals from local land use decisions.

Main Street
A 2040 Growth Concept design type that usually features mixed-use storefront-type development. Two or more main streets in a relatively small area serve the same urban function as town centers, but are located in a linear pattern along a limited number of bus or light rail transit corridors. Main streets feature street designs that emphasize pedestrian, public transportation, and bicycle travel.

Metro-Metropolitan Service District (Regional)
The regional government and designated metropolitan planning organization (MPO) of the Portland region. It is governed by a seven-member elected Metro Council and is responsible for regional transportation planning activities, such as the preparation of the 2000 Regional Transportation Plan and the planning of regional transportation projects, including light rail.

Metropolitan Planning Organization (MPO).
An individual agency designated by the state governor in each federally recognized urbanized area to coordinate transportation planning for that metropolitan region. Metro (see above) is that agency for Clackamas, Washington and Multnomah Counties; for Clark County, Washington, that agency is the Southwest Washington Regional Transportation Council.
MTIP-Metropolitan Transportation Improvement Program (Metro)
The Metro component of STIP, which is a state list of transportation projects to receive state and federal funding in 4-year cycles.

OAR-Oregon Administrative Rules (Oregon)
The Oregon Land Use Act of 1973 established the Land Conservation and Development Commission (LCDC) and the Department of Land Conservation and Development (DLCD). The Act provided the Commission with the authority to promulgate Administrative Rules. OAR 660 are the land use related administrative rules.

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

ODOT-Oregon Department of Transportation
A state agency that oversees and maintains the Sate highway system, under the guidance of the Oregon Transportation Commission.

OHP-Oregon Highway Plan
1999 Oregon Highway Plan establishes long-range policies and investment strategies for the state highway system. Policies emphasize the efficient management of the highway system to increase safety and extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. The Highway Plan contains investment strategies that address today's limited funding levels and explains how ODOT would invest any additional revenues that become available in the future.

OTC-Oregon Transportation Commission
The Oregon Transportation Commission establishes state transportation policy. The Commission also guides the planning, development and management of a statewide integrated transportation network that provides efficient access, is safe, and enhances Oregon's economy and livability. The commission meets monthly to oversee Department of Transportation activities relating to highways, public transportation, rail, transportation safety, motor carrier transportation, and drivers and motor vehicles.

OTIA-Oregon Transportation Investment Act
The Oregon Transportation Investment Act provides $2.96 billion for construction projects over the next 8 to 10 years. Projects will improve pavement conditions, increase lane capacity, and improve bridges throughout Oregon. The 2001 and 2003 Legislatures approved three segments of OTIA. Funding for the program comes from bond proceeds derived from increased DMV fees.

OTP-Oregon Transportation Plan
The Oregon Transportation Plan, adopted in 1992, is the state's 20-year multimodal plan for the statewide transportation system. The plan includes policies for bicycle and pedestrian facilities, public transportation, highways, waterways, airports, and railroads. It considers private and public facilities and the local, regional and state elements of the system. The OTP is the guiding document for the state modal plans and local transportation system plans. It also establishes investment scenarios.

PDC-Portland Development Commission
PDC has three major service areas: Housing, Neighborhood Revitalization, and Business Retention, Expansion and Recruitment. Housing: PDC finances and develops multi-family housing for a variety of income levels throughout the city. They also provide single family home purchase and home repair loans to help stabilize neighborhoods and help keep people in their homes. Neighborhood Revitalization: PDC works with residents, business owners, owners of rental housing, and non-profit organizations to increase affordable housing and small businesses in the city to keep neighborhoods active and vibrant. Business Retention, Expansion, and

Recruitment: PDC offers a full range of direct and indirect assistance to businesses looking to expand or locate in the Portland area. This may include business loans or assistance in locating the right site for a business expansion or relocation.

Port of Portland
A public agency that owns and maintains five marine terminals, four airports, and seven business parks in the three-county (Multnomah, Clackamas, and Washington) area. The Port is governed by a nine-member commission appointed by the governor.

Regional Center
A design type designated in Metro's 2040 Growth Concept. After the Central city, regional centers have the region's highest development densities, the most diverse mix of land uses, and the greatest concentration of commerce, offices, and cultural amenities. They are very accessible by both automobile and public transportation, and have streets that are oriented to pedestrians. Gateway is the only regional center in Portland.

ROW-Right-of-Way
A public or private area that allows for the passage of people or goods. Right-of-way includes passageways such as freeways, streets, bicycle and pedestrian off-street paths, and alleys. A public right-of-way is one that is dedicated or deeded to the public for public use and is under the control of a public agency.

RTP-Regional Transportation Plan (Metro)
Updated and adopted by the Metro Council every three years, this plan sets the direction for regional investments in a mix of transportation options, including roadways, light rail, freight, transit, pedestrian access and bicycles. The Bi-State Coordination Committee advises Metro on regional transportation goals and issues of significance to both Washington and Oregon in the Portland/Vancouver area.

SDC-System Development Charge
A fee assessed by developers to pay for increases in transportation needs caused by that developer's project.

SOV-Single Occupancy Vehicle
Vehicle with one passenger (i.e. a driver and no passengers).

STIP-Oregon's Statewide Transportation Improvement Program
The transportation capital improvement program for the state that lists the schedule of transportation projects for a 4-year period. Projects in the STIP are funded mainly through federal and state gas tax revenues, but also include local government funding and other state and federal funding sources. The STIP is not a planning document. It is a project scheduling and funding program. Federal regulation requires each state to produce a STIP at least once every two years to show that a state is not scheduling more transportation projects for construction than it has funding for and to certify that a state's transportation program conforms with federal air quality regulations. No project will be listed unless the funding source has been identified. Projects come from various management systems and planning processes involving cities and counties, regional governments, Area commissions on Transportation, transportation agencies, and the public. Through the STIP, ODOT assigns resources to those projects that have been given the highest priority.

TAC-Technical Advisory Committee
A committee that evaluates technical aspects and advises city or county personnel regarding policy decisions.

TDM-Transportation Demand Management
Actions taken to change travel behavior in order to improve the performance of transportation facilities, reduce the need for additional road capacity, and reduce impacts on residential neighborhoods. Examples include encouraging the use of alternatives to single-occupant vehicles (SOVs), ridesharing and vanpools, parking management, and trip-reduction ordinances.

TEA-21-Transportation Equity Act for the 21st Century (Federal)
The Transportation Equity Act for the 21st Century was enacted June 9, 1998 as Public Law 105-178. TEA-21 authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 6-year period 1998-2003. The TEA 21 Restoration Act, enacted July 22, 1998, provided technical corrections to the original law. The combination of these two laws is referred to as TEA-21.

TGM-Transportation and Growth Management Program (Oregon)
The Transportation and Growth Management Program is a joint effort of the Oregon Department of Transportation and the Department of Land Conservation and Development and is designed to integrate transportation planning with the statewide land use planning program. State and federal funds support the TGM program.

TOD-Transit Oriented Development
A mix of residential, retail, office, and other uses and a supporting network of streets, bikeways, and pedestrian ways oriented to a light rail station or a transit service and the pedestrian network. Transit-oriented development should include high-density residential development near transit service to support the neighborhood commercial uses and have a lower demand for parking than auto-oriented land uses.

Town Center
A 2040 Growth Concept design type that functions as local activity area and provides close access to a full range of local retail and services within a few miles of most residents. Town centers do not compete with regional centers in scale or economic diversity, but they will offer some specialty attractions of regional interest. Town centers have excellent multimodal access and connections to regional centers and other major destinations.

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

TMA-Transportation Management Area
As defined in federal regulations, this term refers to “an urbanized area with population over 200,000” and “applies to the entire metropolitan planning area.” All locations must meet certain standards and non-attainment TMA’s must meet additional planning requirements.

TPR-Transportation Planning Rule (Oregon)
The implementing rule of Statewide Planning Goal 12 dealing with transportation, as adopted by the State Land Conservation and Development Commission (LCDC). Among its provisions, the

TPR requires reducing vehicle miles traveled (VMT) per capita by 15 percent in the next 30 years, reducing parking spaces per capita by 10 percent in the next 20 years, and improving opportunities for alternatives to the automobile.

TSM-Transportation System Management
Strategies and techniques for increasing the efficiency, safety, or level-of-service of a transportation facility without increasing its size. Examples include, but are not limited to, traffic signal improvements, traffic control devices (including installing medians, channelization, access management, and ramp metering), incident response, targeted traffic enforcement, preferential transit measures, and restriping for high-occupancy vehicle lanes.

TSP-Transportation System Plan (Portland)
Required by the TPR, this is the city's master plan for its transportation system. It includes plans for each mode of transportation, bike, pedestrian, motor vehicle, freight, transit a financing plan, and a 20-year project list. The TSP must be finished within one year after Metro finishes the RTP.

UGB-Urban Growth Boundary (Oregon)
The Urban Growth Boundary is a legal boundary separating urban land from rural land. Under Oregon law, each city or metropolitan area in the state has an urban growth boundary. The boundary controls urban expansion onto farm and forestlands. Land inside the UGB supports urban services such as roads, water and sewer systems, parks, schools and fire and police protection that create thriving places to live, work, and play. The UGB is one of the tools used to protect farms and forests from urban sprawl and to promote the efficient use of land, public facilities and services inside the boundary.

UGMFP-Urban Growth Management Functional Plan (Metro)
A regional functional plan with requirements binding on cities and counties in the Metro region, as mandated by Metro's Regional Framework Plan. The plan addresses accommodation of projected regional population and job growth, regional parking, management, water quality conservation, and limits on retail uses in employment and industrial areas.

VMT-Vehicle Miles Traveled
A measure of vehicle use.

Road Classifications

Minor Arterial Streets
Minor arterial streets are the lowest order arterial facility in the regional street network. They typically carry less traffic volume then principal and major arterials, but have a high degree of connectivity between communities. Access management may be implemented to preserve traffic capacity. Land uses along the corridor are a mixture of community and regional activities. Minor arterial streets provide major links in the regional road and bikeway networks; provide for truck mobility and transit corridors; and are significant links in the local pedestrian system.

Rural Arterial Roads
Rural arterial roads are the primary means of access into the County’s large rural districts, and often connect between counties to accommodate through movements. Rural arterials connect to freeways or highways, and link rural collector and local roads to the urban area and other

regions. Rural arterial roads carry greater traffic volumes then rural collector roads, including commuters and other home-based trips, natural resource trips involving trucks, and recreational trips involving autos, bicycles and equestrians.

Major Collector Streets
Major collector streets serve several purposes including linking neighborhoods to the regional system of bicycle and automobile streets, and basic transit services. They typically provide direct access between residential and commercial developments, schools and parks and carry higher volumes of traffic then neighborhood streets. Major collector streets area also utilized to access industrial and employment areas and other locations with large truck and over-sized load volumes.

Neighborhood Collector
Neighborhood collector streets provide access primarily to residential land uses and link neighborhoods to higher order roads. They generally have higher traffic volumes than local streets.

Local Urban Streets and Rural Roads
Local streets provide access to abutting land uses on low traffic volume and low speed facilities. Their primary purpose is to serve local pedestrian, bicycle and automobile trips and limited public transportation use in urban areas; and auto and farm vehicle circulation with local pedestrian, bicycle and equestrian use in rural areas.

Appendix B Requirements for Financial Elements of Transportation Plans

SUMMARY OF FISCAL CONSTRAINT REQUIREMENT

23 CFR 450.322(b)(11) states that transportation plans shall:

> Include a financial plan that demonstrates the consistency of proposed transportation investments with already available and projected sources of revenue. The financial plan shall compare the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation uses, and the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan. The estimated revenue by existing revenue source (local, State, Federal, or private) available for transportation projects shall be determined and any shortfalls identified. Proposed new revenues and/or revenue sources to cover shortfalls shall be identified, including strategies for ensuring their availability for proposed investments. Existing and proposed revenues shall cover all forecasted capital, operating, and maintenance costs. All cost and revenue projections shall be based on the data reflecting the existing situation and historical trends.[1]

RECENT FEDERAL GUIDANCE

The National Association of Regional Councils (NARC) has documented much of the Federal guidance pertinent to developing transportation plans. Appendix B of the Fiscal Constraint of Transportation Plans and Programs (Revised) document contains such a summary. Much of the language that NARC uses to produce Federally acceptable plans is reproduced below.

BACKGROUND

For over 40 years, the Congress has directed that federally-funded highway and transit projects must flow from metropolitan and statewide transportation planning processes (pursuant to 23 U.S.C. 134–135 and 49 U.S.C. 5303–5304). The Congress further refined and strengthened the planning process as the foundation for project decisions when it first enacted fiscal constraint provisions for transportation plans and programs as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

[1] "Statuatory and Regulatory References to Fiscal Constraint." U.S. Department of Transportation, Federal Highway Administration.

Fiscal constraint requires that revenues (Federal, State, local, and private) in transportation planning and programming are identified and ‘‘reasonably expected to be available’’ to implement projects required to be included in the metropolitan transportation plan, metropolitan Transportation Improvement Program (TIP), and the Statewide Transportation Improvement Program (STIP), while providing for the operation and maintenance of the existing highway and transit systems. Fiscal constraint has remained a key component of transportation plan and program development with the enactment of the Transportation Equity Act for the 21st Century (TEA–21) in 1998 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU) on August 10, 2005. Furthermore, these acts were developed with the intent to expand public participation and increase cooperation among local transportation jurisdictions in the planning process.

The fiscal constraint requirement is intended to ensure that metropolitan transportation plans, TIPs, and STIPs reflect realistic assumptions about future revenues, rather than extensive lists including more projects than could realistically be completed with available revenues. Importantly, for the purposes of developing the metropolitan transportation plan and TIP, the MPO, State DOT, and public transportation operator(s) must cooperatively develop estimates of funds that will be available to support plan and program implementation [23 U.S.C. 134 (i)(2)(C), 23 U.S.C. 134(j)(1)(C), 49 U.S.C. 5301(a)(1), 49 U.S.C. 5303(j)(2)(C), and 49 U.S.C. 5303(j)(2)(C)]. In addition, the Clean Air Act’s transportation conformity regulations specify that a conformity determination can only be made on a fiscally constrained metropolitan transportation plan and TIP [40 CFR 93.108]. Given this intent, compliance with the fiscal constraint requirement entails an analysis of revenues and costs to address the following fundamental question:

‘‘Will the revenues (Federal, State, local, and private) identified in the TIP, STIP, or metropolitan transportation plan cover the anticipated costs of the projects included in this TIP, STIP, or metropolitan transportation plan, along with operation and maintenance of the existing system?’’

If the projected revenues are sufficient to cover the costs, and the estimates of both revenues and costs are reasonable, then the fiscal constraint requirement has been satisfied. Additionally, projects in air quality nonattainment and maintenance areas can be included in the first two years of the TIP and STIP only if funds are ‘‘available or committed.’’

The FHWA and the FTA also realize the challenges associated with forecasting project and program costs and revenues, particularly in the ‘‘outer years’’ of a metropolitan transportation plan. Therefore, the FHWA/ FTA provide a great deal of flexibility in demonstrating fiscal constraint. For example, in years when a Federal transportation authorization bill is not yet enacted, State DOTs, MPOs, and public transportation operators may project and assume Federal revenues for the ‘‘outer years’’ based on a trend line projection. Additional information is provided in the following sections and the ‘‘Questions and Answers.’’

''REASONABLY AVAILABLE'' FUTURE REVENUES AND ''AVAILABLE OR COMMITTED'' FUNDS

Revenue forecasts to support projects required to be included in a metropolitan transportation plan, TIP, and STIP may take into account new funding sources that are ''reasonably expected to be available.'' New funding sources are revenues that do not currently exist or that may require additional steps before the State DOT, MPO, or public transportation operator can commit such funding to transportation projects. As first required in ISTEA, these planned new revenue sources must be clearly identified.

Future revenues may be projected based on historic trends, including consideration of past legislative or executive actions. The level of uncertainty in projections based on historical trends is generally greatest for revenues in the ''outer years'' of a metropolitan transportation plan (*i.e.*, those beyond the first 10 years of the metropolitan transportation plan). Additionally, for purposes of developing the financial plan to support the metropolitan transportation plan, the FHWA and the FTA encourage the use of aggregate ''cost ranges/cost bands'' to define costs in the outer years of the metropolitan transportation plan, with the caveat that the future funding sources must be ''reasonably available.''

To support air quality planning under the 1990 Clean Air Act Amendments, a special requirement has been placed on air quality nonattainment and maintenance areas, as designated by the U. S. Environmental Protection Agency (EPA). Specifically, projects in air quality nonattainment and maintenance areas can be included in the first two years of the TIP and STIP only if funds are ''available or committed.'' Additionally, EPA's transportation conformity regulations specify that an air quality conformity determination can only be made on a fiscally constrained metropolitan transportation plan and TIP [40 CFR 93.108]. Therefore, nonattainment and maintenance areas may not rely upon proposed new taxes or other new revenue sources for the first two years of the TIP and STIP. Thus, new funding from a proposed gas tax increase, a proposed regional sales tax, or a major funding increase still under debate would not qualify as ''available or committed'' until it has been enacted by legislation or referendum. Changes in Revenues or Costs After the Metropolitan Transportation Plan, TIP, or STIP are Adopted

In cases that the FHWA and the FTA find a metropolitan transportation plan or TIP/ STIP to be fiscally constrained and a revenue source is subsequently removed (*i.e.*, by legislative or administrative actions), the FHWA and the FTA will not withdraw the original determination of fiscal constraint. In such cases, the FHWA and the FTA will require the State DOT or MPO to identify alternative sources of revenue as soon as possible. Importantly, the FHWA and FTA will not act on new or amended metropolitan transportation plan, TIP, or STIP unless they reflect the changed revenue situation.

The same policy applies if project costs or operations/maintenance cost estimates change after a metropolitan transportation plan, TIP, or STIP are adopted. Such a change in cost estimates does not invalidate the adopted transportation plan or program. However, the revised costs must be provided in

new or amended metropolitan transportation plan, TIP, or STIP. The FHWA and the FTA will not approve new or amended STIPs that are based on outdated or invalid cost estimates.

SYSTEM PRESERVATION, OPERATIONS, AND MAINTENANCE COSTS

Since the enactment of ISTEA in 1991, fiscal constraint has encompassed operation and maintenance (O&M) of the system, as well as capital projects. On one hand, O&M activities typically do not involve Federal funds and are not listed individually in a metropolitan transportation plan, TIP, or STIP. However, the financial plans that support the metropolitan and statewide transportation planning processes must assess the adequacy of all sources of capital and O&M investment necessary to ensure the preservation of the existing transportation system, including provisions for operational improvements, resurfacing, restoration, and rehabilitation of existing and future major roadways, as well as operations, maintenance, modernization, and rehabilitation of existing and future transit facilities. To support this assessment, the FHWA and the FTA expect that the State DOT, MPO, and public transportation operator(s) will provide credible cost estimates.

However, the FHWA and FTA largely defer to State and local governments and public transportation operators to define the specific level of systems O&M that is appropriate, since the FHWA and the FTA do not mandate a particular, specific level of O&M. Instead, the Federal government accepts that State and local governments, MPOs, and public transportation operators will adjust their O&M from year-to-year and decade-to-decade, based on community desires and requirements established through an open transportation planning process.

The O&M cost and revenue estimates included in the local improvement plans will be more general than estimates for individual projects. Local governments only need to refer to the financial plan accompanying the TIP in order to develop four-year "snapshot" estimates of O&M funding sources and costs. The FHWA and the FTA, on the other hand, do rely on the O&M analysis included in the financial element of MTIPs and STIPs in order to determine the reasonableness of O&M funding. These federal entities find that knowledge pertaining to previous year expenditures related to O&M compared to performance measures, such as the Pavement Condition Index, of the local system is quite helpful in forecasting the effectiveness of future O&M spending.[2]

Outside the transportation planning process, there also is a longstanding Federal requirement that States properly maintain, or cause to be maintained, any projects constructed under the Federal-aid Highway Program [23 U.S.C. 116]. However, beyond this basic requirement of proper maintenance, the FHWA and the FTA do not question State and local government, MPO, or public transportation operator decisions on specific uses of funding or question State and

[2] Proposed Rules from Federal Register, U.S. Department of Transportation, Vol. 71, No. 111, 9 June 2006.

local priorities that balance the operation and maintenance of the existing transportation system with needs for transportation system expansion. Instead, the FHWA and the FTA ensure that the process used by the State DOT, MPO, and public transportation operator(s) to establish priorities is consistent with the transportation planning statute and regulations and that the funding sources identified to address these priorities are ‘‘reasonably expected to be available.’’ In addition, consistent with regulations implementing the Clean Air Act, the FHWA and the FTA will also continue to assure that priority is given to the timely implementation of transportation control measures in the air quality State Implementation Plan [40 CFR 93.103 and 40 CFR 93.116].

There is a subtle yet important distinction between projects or project phases listed in the TIP/STIP and the financial plan/financial information that supports the TIP/STIP. It is not required that all highway and transit O&M projects be included in the TIP/STIP, per se. However, these systems-level O&M costs and revenues must be reflected in the financial plan that accompanies and supports the TIP/STIP. Similarly, the O&M costs reflected in the financial plan for the first two years of the TIP/STIP in nonattainment and maintenance areas are not subject to the ‘‘available or committed’’ requirement. Rather, they must be ‘‘reasonably expected to be available.’’

In essence, the financial plan accompanying the TIP/STIP must reflect the costs of constructing, operating and maintaining the total transportation system, including both existing and planned systems. Not only is Statewide O&M accounted for, but also O&M costs associated with the system owned and operated by local governments.

FUNDING GAPS

Substantial investments have been made in highway and transit infrastructure. The short-term and long-term needs for system preservation, operation, and maintenance can be enormous. Simply maintaining the existing system in a State or large metropolitan area can demand billions of dollars in investments, while system expansion demands investments of a similar scale. At times, the combination of these competing demands can cause temporary shortfalls in a State’s or MPO’s budget. To the extent there appear to be shortfalls, the MPO or State DOT must identify a strategy to address these funding gaps prior to the adoption of an updated metropolitan transportation plan, TIP, or STIP (or the amendment of an existing metropolitan transportation plan, TIP or STIP). The strategy should include a plan of action that describes the steps that will be taken to make funding available within the timeframe shown in the financial plan needed to implement the projects in the metropolitan transportation plan. The strategy may rely upon the past history of the State, MPO, or public transportation operator(s) to obtain funding. If the strategy relies on new funding sources, the MPO, State, public transportation operator(s) must demonstrate that these funds are ‘‘reasonably expected to be available.’’

RECENT LOCAL GUIDANCE

In addition to the federal context behind the metropolitan and statewide planning processes, there is also a state and regional context. Metro documented and abided by Federally mandated guidance for the role of the region and the state in development of the 2004 RTP.

STATE CONTEXT

In 1991, the Oregon Transportation Planning Rule (TPR) was adopted which requires the State's MPOs to consider all modes of transportation as well as all viable energy conservation measures when implementing transportation system plans. The TPR requires that transportation plans provide measures for improvements that will generally keep pace with growth in the region. These necessary improvements become a set of projects known as the "priority system," which must be funded at some point in the future through the financially constrained system.[3]

REGIONAL CONTEXT

Although Metro was created by voters in 1979, its current charter was developed in 1992. Among other responsibilities, voters of the Portland metropolitan region gave Metro the directive to provide transportation and land use planning services throughout Multnomah, Washington and Clackamas Counties. Furthermore, those policies and projects adopted by Metro must be consistent with the values of the voters, such as clean air and water and access to open spaces. As a result, the RTP must contain projects that work to keep the transportation system balanced such as transit improvements, bike trail construction as well as increase freight mobility.

While the Financial Element of the RTP is not concerned with every detail of the regional vision, many of the projects it identifies will be apart of a "preferred system" of transportation projects that further the goals of Metro and the voting public. In fact, these projects must be placed in the financially constrained system in order to be eligible for federal funds.

Funding will likely not be available for all of these projects. However, the Financial Element must consider how funding could be increased to the extent that these projects could reasonably be funded in the near future.[4]

[3] "2004 Regional Transportation Plan," Metro Regional Government, July 2004.

[4] Ibid.

Appendix C

Methods Memo

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July 12, 2006

TO: **Kim Ellis**
FROM: **Terry Moore**
SUBJECT: **RTP TASK 4.1 FINANCE**

This memorandum is ECO's product for Sub-task 4.1. It describes the methods ECO will use for the rest of its work in Task 4, per our scope of work:

> *"Prepare methodology report for estimating and forecasting transportation costs and revenues in the Metro region that meets all the requirements and recommendations in the 'Interim FHWA/FTA Guidance on Fiscal Constraint for STIPs, TIPs, and Metro Plans' released 6/27/05."*

The proposed methods described in this memorandum are consistent with that Federal guidance, and with additional guidance released on 9 June 2006. The memorandum has three sections:

- **Approach** provides the context for the proposed scope of work: both Federal requirements and others stipulated by Metro to achieve other regional objectives in the context of the way regional transportation planning is done in the Portland area.

- **Tasks** describes the methods we will use to complete the four main sub-tasks that will lead to the product for Task 4: a report that clearly describes and documents the facts about transportation revenues in the Portland region, and that facilitates a preliminary discussion in Fall 2006 about the direction for transportation policy, funding, and projects.

- **Data** discusses the data sources we will use in completing the tasks.

APPROACH

We have reviewed all the Federal requirements for the financial component of an RTP. Our conclusions:

- They are logical: they are consistent with what we would do anyway if given the task of providing a fact base about funding and financing transportation.

- They are not onerous: to provide what Metro wants out of its financial plan (and what we believe such a plan should have), we would do more than the Federal guidance requires.

- Thus, our scope of work for this task should include but look beyond the Federal requirements to provide Metro with the analysis needed for the updated RTP.

Note that the scope of Task 4 *does not include the preparation of the Financial Element of the RTP*. That work does not begin until Spring 2007. The scope and budget for Task 4 go to Fall 2006. We would characterize Task 4 as *providing a Preliminary Financial Analysis*. In doing so, it will cover, at least as a first pass, most of what ultimately need to be included in the Financial Element, but it will not be the Financial Element itself (which cannot be developed until more detailed work on potential projects (benefits, costs, comparison, selection) is done in Winter 2007).

At the meeting on June 15 we clarified the content of our product for this Task (which we will refer to as *A Report on the Financial Facts*, or simply, *the report*). It will (1) focus on revenues, (2) provide preliminary estimates of costs (capital and OM&P) based on the current RTP and other readily available sources, and (3) compare costs and revenues to give some idea of the "funding gap."

Other objectives for Task 4 mentioned at the Task kickoff meeting on 15 June were (1) getting local government experts in transportation financing involved in the task (for both technical and political reasons), and (2) coordinating with and helping to advance the work on the MTIP data base.

Given these conditions, our approach, broadly, is to:

- Assemble and review existing information. Metro staff gave us a lot to look at on June 15—we are going through it. Part of our synthesis (the conceptual part, as it relates to defining the tasks and data) is incorporated into this memorandum. More will have to be done to get the data reduced for meetings with local experts, and presentation in our report (*A Report on the Financial Facts*).

- Synthesize that information for meetings with local government experts.

- Develop methods for facilitating input from local government experts to update that information.

- Present the facts and make a case for the reasonableness of extrapolations of costs and revenues to the future and, therefore, of our estimate of the funding gap in the Region.

TASKS

There are four main technical tasks that we have to complete.

- Estimating future revenues.

- Estimating future costs: for capital projects, and for operations and maintenance (O&M).

- Identifying any likely funding gap.

- Proposing ways to close the funding gap, including the expansion of existing funding sources as well as the development of new ones.

FUTURE REVENUES

In theory, two approaches could be taken to estimate future revenues:

1. **Build on previous estimates.** This would start with the most recent estimates done for the 2000 and 2004 RTPs, focusing on what's changed, for example:

- what assumptions are no longer valid,
- what funding sources (if any) are no longer an option,
- what funding sources (if any) have emerged as new possibilities,
- what underpinning forecasts have been updated (e.g. population, property tax base, vehicle registrations).

2. **Start from scratch.** This is the approach one would have to take if either (a) there were no previous forecasts, or (b) no one had confidence in the previous forecasts. One would start with current and historical revenue data provided by jurisdictions. A trend-line could be extrapolated, modified by factors such as:

- Expiration of current or past funding sources (e.g. a multi-year bond program).
- Likely expansion of current funding sources (e.g. a planned increase in the state or county gas tax).
- Likely addition of new funding sources (e.g. a new Tri-County vehicle registration fee).
- Variance from historical trends in underpinning forecasts (e.g. population, property tax base, vehicle registrations).
- Whether the funding sources will be automatically increased with inflation, either explicitly or implicitly (e.g. through increase in value of property tax base), or will be devalued by inflation (e.g. gas tax fixed at certain number of cents per gallon).

We intend to use the first approach of starting with 2004 RTP forecasts. The federal and state revenue data for the Metro area has already been updated and projected through 2035. Local revenue estimates from the ODOT Local Finance Questionnaire can be refined and extrapolated with the help of FinTAG (see below).

- Revenue forecasts will include and be distinguished as:
- Existing and committed revenues.
- "Reasonably available" sources that do not yet exist but that could fund a "financially constrained" system.
- Other funding sources that are not likely to be considered "reasonably available" in this RTP. These could be packaged into scenarios to illustrate what types of new funding

sources or expansion of existing funding sources would be required to fully fund an "illustrative" or "priority" system.

These revenue forecasts will be a preliminary estimate that will be refined around the project lists to be developed in 2007.

Revenue forecasts will include discussion of the rates and charges that underpin these revenues, so that "what-if" scenarios can be developed to fill the funding gap.

Any conditions associated with each revenue source will also be noted, as not all funding sources will be fungible.

FUTURE COSTS

For capital costs, the 2004 RTP will be used as a starting point. The current RTP update process will undoubtedly provide an updated list of capital projects and associated costs, but presumably those updates will happen later (2007) and will be in context of the financial projections produced in this task. This task will only consolidate known updates to the capital costs in the 2004 RTP. We will focus on the period between the previous forecast and today, and ask questions such as:

- Have any listed capital projects been dropped?
- Have any new capital projects emerged as likely additions?
- Have cost estimates for listed capital projects remained roughly accurate?
- Has capital project spending occurred as scheduled in the past few years?

For operation, maintenance and preservation (OM&P) costs, the "from scratch" approach will be taken. Simple methodologies will need to be agreed with the advisory group (FinTAG—see below), which could be based on:

- A top-down, historically-based approach: calculate a regional average unit cost for local, collector, and arterial roads, based on historic OM&P costs, and then multiply these by lane-mile data for the region; or
- A bottom-up, engineering-based approach: estimate average unit costs for different types of roads, then multiply these by regional lane-mile data.

Similar methodologies will need to be agreed for transit and other non-road components.

Future OM&P costs depend critically on whether any maintenance backlog is cleared to bring facilities up to the desired standard (e.g., 90% of roads in fair or better condition, compared to current 78% fair or better). In addition to the direct cost of clearing this maintenance backlog, roads and other facilities that have been brought up to a higher standard probably have higher ongoing OM&P costs to keep them in that condition. Some simulations could be used to show the cost requirements of status quo OM&P versus a higher standard. Discussions with an advisory group (see below) will assist in deciding the preferred level of O&M and the resulting costs.

In addition, O&M costs will need to account for the cost of operating and maintaining new capital projects once they are constructed. While we refer to OM&P" (Operation, Maintenance

and Preservation), others sometimes refer to these costs as "M&P" (Maintenance and Preservation). Repair and preservation (i.e. non-routine maintenance) is often listed in state and federal reports as capital costs rather than OM&P costs. We will need to decide on our preferred terminology, and how we're treating repair/preservation costs, in our analysis.

ESTIMATING THE SIZE OF THE FUNDING GAP

By definition, there will be no funding gap for a "financially constrained" system that is to be built with existing and committed funding sources as well as "reasonably available" funding sources. To make this assumption valid, however, two things must occur:

(1) Funding sources must be paired with costs that can be paid by those sources; e.g., O&M costs cannot be paid by funding sources that are only available for capital projects. Because revenue sources are not completely fungible, we will show the match between costs and revenues for OM&P and capital projects separately.

(2) "Reasonably available" funding sources must be identified and backed up with a robust implementation plan. This may have occurred within the 2004 RTP, but new "reasonably available" sources may need to be identified for the new RTP if the region wants a larger financially constrained system.

Beyond the financially constrained system, there will undoubtedly be an illustrative or "priority" system (as in the 2004 RTP) that cannot be fully funded with existing and reasonably available revenue sources. This shortfall represents the funding gap.

WAYS TO CLOSE THE FUNDING GAP: NEW OR EXPANDED FUNDING SOURCES

The revenue estimates referred to above will only include current funding sources or those already identified in the 2004 RTP to be "reasonably available." Therefore new sources are needed:

- to expand the financially constrained system with new "reasonably available" sources
- to close the funding gap between the financially constrained system and the illustrative system.

In considering the addition of new "reasonably available sources," we can assume that sources not even mentioned in the 2004 RTP are probably not "reasonably available" unless they are being actively worked on. Many "creative financing" ideas might be too speculative to pass the test of "reasonably available," and financing of any kind requires funding from some source.

Implementation plans for "reasonably available" sources not yet in place will need to be analyzed or developed.

For the illustrative system, other funding sources beyond those likely to be considered "reasonably available" will be identified. Because no historical trend yet exists for these non-existent sources, forecasts will have to be generated without using a historic baseline. Many possible combinations of new funding sources will exist, so scenarios will be developed to show some of the packages that could fund the illustrative system. The four scenarios from the 2000 and 2004 RTPs, and their associated illustrative revenue forecasts could be a starting point for

looking at new illustrative funding sources. It is possible, though, that some of these sources may now be eligible to graduate into the "reasonably available" category.

For both new "reasonably available" sources and illustrative funding sources, choices will need to be consistent with Budgeting for Outcomes principles and other relevant transportation funding and finance principles such as equity, efficiency, revenue potential, and political acceptability.

DATA SOURCES

INITIAL DATA SOURCES

Metro has already provided ECONorthwest with a CD and hard copies of various data sources, including:

- The 2004 RTP and some supporting spreadsheets from the 2000 and 2004 RTPs.
- Federal guidance on developing a RTP.
- Examples of financial elements from other jurisdictions (San Diego, CA and Thurston County, WA).
- Recent financial work by Metro on the Metropolitan Transportation Improvement Plan (MTIP).

The most recent RTPs and supporting spreadsheets will be the starting point for the financial analysis for the revised RTP, since they include the most recent region-wide data on projected capital and OM&P costs and projected revenue from various funding sources. For both of these data items, historical data on actual costs and revenues would be useful if these could be provided to ECONorthwest.

This material from Metro does not always include the methodology used to develop projections. Understanding this methodology through follow-up discussions with Metro and ODOT staff will be a key to updating the projections, as explained further below.

ECONorthwest has also located some results of the annual ODOT Local Finance Questionnaire, which will supplement the local finance information in the current RTP.

A table summarizing what ECONorthwest has, what it needs, and whose responsibility it is to provide the missing data, is attached as Appendix A to this memo.

FINANCE TECHNICAL ADVISORY GROUP (FINTAG)

A Finance Technical Advisory Group (FinTAG) consisting of planners and/or financial analysts from major jurisdictions will be assembled by Metro to assist with Task 4, particularly during July-September, prior to the delivery of the Task 4 report to JPACT in October.

Jurisdictions should include at least the following:

- ODOT Region 1
- Tri-Met

- Port of Portland
- Washington County
- Clackamas County
- Multnomah County
- City of Portland
- City of Hillsboro
- City of Gresham
- Possibly other cities

It is not necessary for each of the cities in the Metro area to attend these meetings, though our understanding is that Metro will extend the invite to all TPAC members and alternates. The hope is that the representatives from the three counties will be able to provide insight on the financial prospects of the cities within them, based on having worked on countywide Transportation System Plans (TSPs). A few large cities from each of the three counties should also be included to supplement the advice of county representatives.

The FinTAG will provide advice on cost and revenue projections, as well as possible new funding sources, throughout the next few months. On 17 July, Metro will convene a FinTAG meeting to:

- discuss the proposed methodology and data sources,
- provide feedback on the current validity of assumptions and forecasts from the 2000 and 2004 RTPs (i.e. what has changed, and how?), and
- specifically comment on the level of OM&P vs. capital expenditure desired in any fiscally constrained system (i.e., what is the OM&P baseline above which capital projects can be funded?).

At the conclusion of this July meeting, FinTAG members will be asked to do some "homework" over the rest of the month, consisting of providing ECO with data on:

- current OM&P unit costs,
- number of current and planned units (e.g. miles of road of various type, or vehicle hour of service for transit),
- estimated cost of OM&P backlog to get to desired standard (e.g., 90% of roads in fair condition or better), and estimated OM&P unit costs to maintain at desired standard once backlog is cleared,
- known updates to capital costs from the 2004 RTP
- indicative costs of local projects not likely to be included in a RTP (e.g., local projects not considered part of the regional system)—in order to assess demands from non-O&M costs for local revenue, and
- current funding sources (including their historical amounts and any forecasts) for O&M and capital projects from Federal, State, and local sources. [Note: the results of the ODOT Local Finance Questionnaire will provide much of this information for 2005 and some previous years.]

- actual rates and charges that underpin these funding sources (to assist in funding scenario development).

Some of this information may be provided (at least verbally) at the 17 July meeting; in fact, it would be ideal for participants to bring as much information to the 17 July meeting as possible. To encourage consideration of these issues before the meeting, this Methods Memo will be sent to FinTAG members in early July, along with a draft set of questions that could supplement the ODOT Local Finance Questionnaire. The post-meeting "homework" will allow FinTAG members to provide further available detail.

The FinTAG will meet at least twice more before financing direction is given to JPACT in October. It is likely that these further meetings will be held:

- in mid August to review the cost and revenue projections,

- by mid September to consider potential new funding sources, including the split between "reasonably available" (for the fiscally constrained system) and not "reasonably available" (for the illustrative system), and

- possibly in late September to discuss the draft final report for Task 4.

We will discuss and finalize this schedule at the FinTAG meeting on July 17. Between FinTAG meetings, ECONorthwest will discuss items one-on-one with FinTAG members by phone, e-mail or in person if required.

OTHER DATA SOURCES

Other sources of data will be used if appropriate, including financial elements of other jurisdictions' RTPs, previous ECO work, and any relevant academic or professional literature available on the internet or in print form. In addition, cooperation from staff at ODOT will be needed to help establish assumptions for future revenue and costs, and for historical data on State and local funding for transportation projects.

SUMMARY OF PRODUCTS AND MILESTONES

After this methodology memo, ECO's main product will be final report for Task 4, *A Report on the Financial Facts.*

In addition to providing the financial facts, the report will lay out the fundamental choices that will need to be addressed during 2007 as the region puts together the project list and a "financial strategy" for achieving the reasonably assumed revenues and the pursuing the illustrative revenues.

An outline of the final report is attached as Appendix Two to this memo. A draft will be ready in September, with a final version completed in time for the proposed tolling workshop in October.

Milestones are summarized below:

- End of July: draft cost and revenue projections completed.

- Mid-August: FinTAG meeting to review cost and revenue projections.
- Late-August: potential new funding sources analyzed and estimated.
- Mid-September: FinTAG meeting to consider potential new funding sources.
- Late-September: draft final report completed.
- Early-October: FinTAG meeting to review draft final report.
- Mid-October: Final report (the Preliminary Financial Analysis) completed.

Appendix D Description of Typical Funding Sources

Table 1 describes the types of funding sources available to a given MPO, city or county jurisdiction in Oregon. This comprehensive list contains all of the various funding programs that have historical and legal precedent in the U.S., some of which have not yet been established in Oregon. The table describes each funding mechanism—including its origin, flexibility and ability to create a stable revenue stream. Furthermore, each program's potential for funding jurisdictions, specifically Metro, is analyzed. Of those programs that have not been traditionally utilized in Oregon, voter sentiment and legal precedents are discussed.

Table 1 was compiled by ECONorthwest, using data from the Oregon Transportation Plan and the SAFETEA-LU Reference Guide, both publications of ODOT, as well as FHWA transportation funding regulations and guidelines. It was last updated in August 2006.

Table 1: Summary of Transportation Funding Programs—Federal, State, and Local Sources

Program Name	Description	Potential For Local Funding
FEDERAL		
Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)	Replaced TEA-21 in August 2005. SAFETEA-LU is the current version of the Surface Transportation Act, whose projects are funded by the Highway Trust Fund. This act guarantees that all Highway Trust Funds will be spent for transportation purposes. The Act is designed to provide flexibility in federal funding of transportation projects. It maintains numerous Federal funding programs including the: (1) National Highway System, (2) Interstate Program; (3) Surface Transportation Program; (4) Transit Formula and Capital Grants; (5) Congestion Mitigation and Air Quality Improvements Program; (6) Transportation Enhancements; and (7) National Scenic Byways Program. SAFETEA-LU establishes funding levels and policies for many of these programs administered by the DOT. This act is set to expire on September 30, 2009. TEA-21's basic program structure is continued in SAFETEA-LU.	SAFETEA-LU, a grant/transfer program, incorporates and much of the TEA-21 funding but establishes a greater source of funds for Oregon: TEA-21 provided funds to selected projects that met the funding criteria for specific programs. As with all grants, costs to local residents are low, political acceptability is high, and financial capacity and stability are less predictable than for many local funding sources. TEA-21 funds were distributed primarily through the Statewide Transportation Improvement Program(STIP) process. SAFETEA-LU is said to have increased Oregon's highway funding 30 percent and transit funding by 80 percent over TEA-21. Oregon is at least guaranteed the same amount of funding as it received under TEA-21. SAFETEA-LU also created safety programs in Oregon such as the Highway Safety Improvement Program, Safe Routes to School and High Risk Rural Roads. The local funds match for projects under SAFETEA-LU is 10.27%.

Program Name	Description	Potential For Local Funding
Surface Transportation Program (STP)	Surface Transportation Program (STP) funds can be used on any Federal-aid highway, public road larger than a local or rural minor collector, bridge projects on any public road, or transit capital projects. STP funds are allocated to the State and sub-allocated to cities and counties on a formula basis by the Oregon Transportation Commission. Projects must be included in the Statewide Transportation Improvement Program(STIP) to receive STP funds.	Local jurisdictions can propose projects through their regional ODOT offices. The project sponsor (County, City, or State) must request inclusion of the project in the bi-annual STIP. The STP provides funds to selected projects that meet program criteria. Local governments should coordinate with the ODOT Region planners to identify projects that are suitable for funding under the STP. Apportionments over the lifespan of SAFETEA-LU amount to roughly $419 million for Oregon.
Transportation Enhancement Program (Part of STP)	This program was established under TEA-21 but renewed with the SAFETEA-LU. The SAFETEA-LU includes provisions that require the State to set aside 10% of its Surface Transportation Program (STP) funds for projects that will enhance the cultural and environmental value of the State's transportation system. Eligible transportation enhancement projects must be directly related to the surface transportation system. This program funds a wide range of enhancements including pedestrian and bicycle facilities; preservation of abandoned railway corridors; landscaping and other scenic beautification; acquisition of scenic easements and scenic or historic sites; scenic or historic highway programs; reducing vehicle-caused wildlife mortality; and mitigation of water pollution due to highway runoff.	Enhancement project applications are submitted to the applicant's ODOT Region Manager. Proposed projects are then screened and prioritized by the Transportation Enhancement Committee. Approved projects receive funding under the State's transportation enhancement activities program. Transportation enhancement projects are selected as part of the STIP development. This program provides opportunities to fund selected projects that meet program criteria. Local governments should coordinate with the ODOT Region planners to identify projects that are suitable for funding under SAFETEA-LU.
Highway Safety Improvement Program	Authorized by SAFETEA-LU, this is a separate dedicated funding stream. This program is designed to fund projects meant to achieve reductions in traffic fatalities and injuries on public roads and bike paths. Included in this program are the Railway-Highway Crossings program and the High Risk Rural Roads Program.	During the course of SAFETEA-LU, Oregon is set to receive $18.8 million under this program. Additionally, the state will receive $1.3 million annually for the Rural Roads program. Furthermore, $1.4 million a year will go toward projects aimed at infrastructure improvements and public awareness regarding intersections near schools.
National Highway System (NHS)	Provided through SAFETEA-LU. This is a flexible form of funding that focuses improvements to urban and rural roads that are part of the NHS.	Oregon will receive roughly $418 million over the course of SAFETEA-LU through this program. Funds could be used on any interstate, environmental or public transportation project.
Federal Lands Highways Program (FLHP)	This funding source existed under TEA-21 and is now continued through SAFETEA-LU. FLHP funds are used to improve roads and transit that are on, or provide access to, federal lands. These funds do not require a local funding match.	According to ODOT, Oregon receives a lot of funding through this source because more than half the state is under federal ownership.
Bridge Replacement and Rehabilitation Program	The SAFETEA-LU Bridge Replacement and Rehabilitation Program provides funds to replace or maintain existing bridges; new bridges are not eligible for funding from this program. A minimum of 15% of funds must be used on local, non-federal highway projects.	Currently, Bridge Replacement and Rehabilitation funds are distributed through the STIP process. Oregon will receive roughly $390 million in apportionments from this source over the life of SAFETEA-LU.
Congestion, Mitigation and Air Quality Improvement (CMAQ)	Funding source managed under SAFETEA-LU. It funds HOV lanes, park and ride lots, carpool programs and other projects that help improve air quality. Put broadly, these funds support alternative mode and demand management programs.	Apportionments given to Oregon over the lifespan of SAFETEA-LU for this program are estimated at $70million.

Program Name	Description	Potential For Local Funding
Borders and Corridors	This program is funded through SAFETEA-LU. Its purpose is to fund projects that improve and maintain roads and corridors that are designated as vital to economic trade.	Projects and areas must be approved by FHWA in order to use these funds. Oregon is expected to receive $59 million in funds between 2000 and 2020.
Transit Formula Funds	Funds used primarily for transit capital purchases such as buses. Local transit service providers must issue proposals to the U.S. Department of Transportation for funds. Such funds cannot be used for capital expansion of the transit system.	Metro has utilized this funding mechanism. Between 2000 and 2020, it expects to receive $642 million in transit formula funds.
Transit Discretionary Funds	These funds cover major new transit capital projects. The local service provider applies for the funds through the Federal Transit Administration once project priorities have been established.	In the Metro region, these funds have been used primarily to fund the federal portion of the capital costs required for construction of the light rail system. Between 2000 and 2020, the region expects to receive $227 million of these discretionary funds.
Timber Receipts (USFS)	The United States Forest Service shares a portion of national forest receipts with counties that have National Forest land. By Oregon law (ORS 294.060), counties then allocate 75% of the national forest receipts to their road fund and 25% to local school districts. In 2002 USFS timber receipts contributed about $96.7 million to county road funds in Oregon. Counties' share of USFS timber receipts is no longer directly tied to the level of timber harvests, but are based on the average timber revenue from the three highest revenue years between FY 1986 and FY 1999.	U.S. Forest Service revenues have permitted counties to make significant capital improvements to their road systems. Some counties currently share Road Fund revenue with cities and make capital improvements on roadways inside urban growth boundaries or city limits. This revenue and cost-sharing is done on a formal basis in some counties and on an ad-hoc basis in other counties. Local governments should seek county cost-sharing where possible.
Community Development Block Grants (CDBG)	Community Development Block Grants (CDBG) are administered by the Department of Housing and Urban Development (HUD) and could potentially be used for transportation improvements in eligible areas. The City of Medford, for example, uses CDBG funds to provide street lights and sidewalk improvements in older areas of that city.	CDBG has the potential to provide funding for eligible projects, but the prospects for increased municipal revenues from CDBG are limited. Long-term stability of this source is uncertain. Cities have traditionally used CDBG funds for projects other than transportation. Although CDBG funds could be used for transportation, a city often has other priorities for this funding source. Overall potential of this source for transportation funding is low.
STATE		
State Highway Fund	The Oregon Highway Fund is composed of gas taxes, vehicle registration fees, and weight-mile taxes assessed on freight carriers. As of 2004, the state gas tax is $0.24 per gallon and passenger vehicle registration is $29 per year. State Highway Fund revenues are divided as follows: 16% to cities, 24% to counties, and 60% to ODOT. Of the funds distributed to ODOT, roughly 24% is allocated to the Metro region. The city share of the State Highway Fund is allocated based on population, and the county share is allocated based on vehicle registrations. ORS 366.514 requires at least one percent of the State Highway Fund received by ODOT, counties and cities be expended for the development of footpaths and bikeways. ODOT administers its bicycle funds, handles bikeway planning, design, engineering and construction, and provides technical assistance and advice to local governments concerning bikeways.	Cities received about $90 million and counties $245 million from the Oregon Highway Fund in FY 2002-03. The Metro region received $135 million from the fund in 2000 with funds increasing to an estimated $165 million in 2020. Revenues from this source are relatively stable, but, because the Oregon Highway Fund is not indexed for inflation, its real value can decrease if taxes are not increased. The bikeway set-aside provides opportunities to fund bicycle and pedestrian projects. Local governments should work with the ODOT Region planners to identify projects that are suitable for State funding under this program.
Special City Allotment	ODOT sets aside $1 million to distribute to cities with population less than 5,000. Projects to improve safety or increase capacity on local roads are reviewed annually and ranked on a statewide basis by a committee of regional representatives. Projects are eligible for a maximum of $25,000 each.	Cities should consult with ODOT Region planners to seek funding through the Special City Allotment program.

Program Name	Description	Potential For Local Funding
Special Public Works Funds (SPWF)	The State of Oregon allocates a portion of state lottery revenues for economic development. The Oregon Economic and Community Development Department provides grants and loans through the SPWF program to construct, improve and repair infrastructure in commercial/industrial areas to support local economic development and create new jobs. Grants awarded through the SPWF program cannot exceed 85% of the total project cost.	Cities and counties can use SPWF funds for transportation projects. One potential use for SPWF funds is to develop infrastructure in office or industrial parks. As with many grant programs, stability and long-term potential of this source is uncertain. Local governments apply for SPWF by contacting their OECDD Regional Coordinator.
Immediate Opportunity Fund	The Immediate Opportunity Fund is intended to support economic development in Oregon by providing road improvements where they will assure job development opportunities by influencing the location or retention of a firm or economic development. The fund may be used only when other sources of funding are unavailable or insufficient, and is restricted to job retention and committed job creation opportunities. To be eligible, a project must require an immediate commitment of road construction funds to address an actual transportation problem. The applicant must show that the location decision of a firm or development depends on those transportation improvements, and the jobs created by the development must be "primary" jobs such as manufacturing, distribution, or service jobs.	The maximum amount available for a single project is $500,000 or 10 percent of the annual program level. Matching funds are required, and may be provided by either public or private sources. Donations of right-of-way can be considered to be part of the match. Preference is given to project proposals offering a match of 50 percent or more. The Immediate Opportunity Fund is administered by ODOT, but is used primarily in conjunction with projects funded by OECDD. Local governments should contact their local ODOT and OECDD representative to determine if they are eligible for grants under this program.
Transportation Access Charges (Tolls)	The most familiar form of a transportation access charge is a bridge or highway toll. Transportation access charges are most appropriate for high-speed limited access corridors, service in high-demand corridors, and bypass facilities to avoid congested areas. Congestion pricing, where drivers are charged for the trips they make based on location and time of day, is the most efficient policy for dealing with urban congestion. It not only generates revenue for maintenance and improvements, but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods.	Toll roads are relatively uncommon in Oregon and would not receive public support unless the benefits (improved access, safety, or decreased travel times) were clearly perceived by users. The Oregon Revised Statues allow ODOT to construct toll bridges to connect state highways and improve safety and capacity. The Statutes also allow private development of toll bridges. Recent actions by the Oregon Legislature provide authority for developing toll roads. State authority for congestion pricing does not exist: new legislation would be required. Metro has been conducting continuing research on the feasibility and potential for assuming toll revenue in an RTP financially constrained forecast.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminary units at intersections between State highways and city streets (or county roads). Intersections involving a State highway and a city street (or county road), which are included on the state-wide priority list are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.	The Traffic Control Projects program provides opportunities to fund projects that meet program criteria. Local governments should coordinate with the ODOT Region planners to identify projects that are suitable for funding.

Program Name	Description	Potential For Local Funding
Oregon Bicycle and Pedestrian Program	The Oregon Bicycle and Pedestrian Program provides grants totaling about $200,000 per year to cities and counties for bicycle and pedestrian facility improvements within a street right-of-way. Eligible projects include completion of sidewalks, ADA upgrades, intersection and crossing improvements, and minor widening for bike lanes or shoulders.	Projects are selected by the Bicycle and Pedestrian Advisory committee based on the following criteria: linkage with existing facilities; importance of destinations; usage levels and type of use; and hazards of existing roadways.
Road User Fee	ODOT's Road User Fee Task Force has been exploring the possibility of implementing a road user fee to supplement declining gas tax revenue. A road user fee would be charged directly to vehicle owners based on their mileage. Data on miles driven would be collected by an electronic odometer and transmitted by radio frequency to data collection sites. Fee would be charged at the gas pump or by monthly bill. Beginning in spring of 2006, ODOT will test a road user fee program in and around Portland.	Issues related to the technology, administration, and political acceptance must be addressed before such a system can be implemented. A road user fee has potential to generate substantial revenue even at rates less than $0.02 per mile. As a supplement to declining gas tax revenue, however, it is not clear whether a road user fee would only maintain current funding levels or generate additional revenue above current levels. Road user fee revenue would probably be limited to use for roadway maintenance and improvements. Many policies need to be decided upon, such as charging lower rates to drivers of fuel efficient cars and those who avoid rush hour areas.
GARVEE Bonds	A relatively new financial tool, Grant Anticipation Revenue Vehicles (GARVEE) bonds allow jurisdictions to issue bonds backed by future allocations of Federal-aid highway funds and are financed by the actual bonds once they become available.	Projects funded with GARVEE bonds must be approved by the Federal Highway Administration (FHWA). Approval by FHWA is not a guarantee of future Federal revenue. These bonds allow states to use one hundred percent of federal funds in advance but do not authorize such use of state funds. Although use of GARVEE bonds were approved by the state in 2003, their use has been minimal or non-existent.
OTIA	The Oregon Transportation Investment Act is a legislative program established to issue bonds in order to finance the improvement of highway infrastructure problems. It specifically targets inadequate lane capacity, and deteriorating bridges and road pavement.	OTIA I, established in 2001, gained $400 million in bonds through increased DMV fees for operations, maintenance and preservation (OMP) projects. OTIA II was passed by the legislature and added $50 million in bonding for OMP projects as well. OTIA III, 2003, authorizes the repayment of bonds through increased title and registration fees of private motor vehicles and increased weight-mile tax rates on commercial vehicles which taxpayers pay to the DMV. It is an on-going funding source that will provide $2.5 billion for OMP projects over 10 years. OTIA has been a politically successful; each phase has required citizen approval. However, through these bonds, ODOT will "likely reach debt capacity in 2012 or 2013."[1]
LOCAL		

[1] Oregon Transportation Plan. Oregon Department of Transportation, Planning Section, Transportation Development Division. November 17, 2005.

Program Name	Description	Potential For Local Funding
Special Assessments/ Local Improvement Districts	Special assessments are charges levied on property owners for neighborhood public facilities and services, with each property assessed a portion of total project cost. They are commonly used for such public works projects as street paving, drainage, parking facilities, and sewer lines. The justification for such levies is that many of these public works activities provide services to or directly enhance the value of nearby land, thereby providing direct financial benefit to its owners. Local Improvement Districts (LIDs) are legal entities established by local governments to levy special assessments designed to fund improvements that have local benefits. Through an LID, streets or other transportation improvements are constructed and a fee to pay for those improvements is assessed to nearby property owners in the district. The construction is financed by the local government; the fee allows property owners repay the construction cost over time.	Both special assessments and LIDs require property that owners pay assessments for transportation infrastructure. Establishing a LID requires approval of property owners within the district. Special assessments and LIDs are most appropriate where improvements clearly benefit properties that would be assessed and do not have substantial benefits to others who do not own or rent the property that is being assessed. Local governments should seek to use special assessments and LIDs to finance transportation improvements wherever property owner support appears possible.
Systems Development Charges (Impact Fees)	Systems Development Charges (SDCs) are fees paid by land developers and are intended to reflect the increased capital costs incurred by a municipality or utility as a result of a development. Enabling legislation (ORS 223.297-223.314) provides a uniform framework that all local governments must follow to collect SDC fees. SDC revenue can only be used to fund capital improvements for water supply, waste water collection, drainage and flood control, transportation, or parks and recreation. Local jurisdictions must adopt a method for calculating the charges that sets the fee to reflect the actual cost of the needed capital improvements to which the fee is related. SDCs typically vary by the type of development. SDCs are used by many counties and cities throughout Oregon.	The basic principle for setting a transportation SDC is to charge each new development its proportional share of the cost of constructing enough new road and other system improvements to accommodate traffic from the new development causing the need for improvement. The financial capacity of a SDC depends on the volume of development and the amount of the SDC. Fees are seldom set to recover the full cost of developing off-site road capacity to accommodate the new development. Local governments should continue to use SDCs to fund improvements needed to serve new development. They may want to increase the fees to more fully recover the cost of improvements needed by new development. Setting the SDC is as much a political as a technical issue.
Local Gas Tax	A local gas tax is assessed at the pump and added to existing state and federal taxes. Enabling legislation in Oregon allows municipalities to charge a local gas tax with voter approval. Jurisdictions charging a local gas tax in Oregon (and the tax rate) include: Multnomah County ($0.03), Washington County ($0.01), the City of Eugene ($0.05), and Woodburn ($0.01).	Local gas taxes typically range from $.01 to $.03 per gallon (compared to $ 0.184 per gallon federal and, in Oregon $ 0.24 per gallon state gas taxes). Revenues from a gas tax are relatively stable, however its purchasing power has decreased steadily over the past few years. typically substantial and relatively stable. Local option gas taxes require voter approval under current state statutes. These taxes are often strongly opposed by area gasoline retailers who fear the tax will reduce sales. Most proposed local option gas taxes in Oregon have not been approved by voters. The result is a tax that has not kept pace with inflation. Furthermore, an increased prevalence in fuel efficient cars has resulted in less gas tax paid.
Local Parking Fees	Parking fees are a common means of generating revenue for public parking maintenance and development. Most cities have some public parking and many charge nominal fees for use of public parking. Cities also generate revenues from parking citations. These fees are generally used for parking-related maintenance and improvements.	Parking fees are a reasonable means of paying for a scarce resource (parking spaces) in densely developed areas. A city's ability to generate enough additional revenue from this source to address unfunded transportation needs is limited.

Program Name	Description	Potential For Local Funding
Street Utility Fee	Most city residents pay water and sewer utility fees. Street utility fees apply the same concepts to city streets. A fee is assessed to all businesses and households in the city for use of streets based on the amount of use typically generated by a particular use. For example, a single-family residence might, on average, generate 10 vehicle trips per day compared to 130 trips per 1,000 square feet of floor area for retail uses. Therefore, the retail use would be assessed a higher fee based on higher use. Street utility fees differ from water and sewer fees because usage cannot be easily metered. Street user fees are typically used to pay for maintenance rather than for capital projects.	Street utility fees have a potential to be a substantial and stable revenue stream for local jurisdictions. This is a relatively equitable approach because it assesses households and businesses based on trip generation. Street utility fee revenue will grow with population growth, and local jurisdictions can increase the fee to reflect increased costs of providing transportation services. A street utility fee currently generates over $1 million annually in Medford. The amount of the fee is based on the type of land use that relates to trip generation. Single-family residences pay $2.00 per month in Medford. In Ashland, a fee of $1.60 per month generates about $200,000 per year.
Vehicle Registration Fees	In Oregon, counties (but not cities) can implement a local vehicle registration fee. The fee would operate similar to the state vehicle registration fee. A portion of a county's fee could be allocated to local jurisdictions.	A reasonable annual vehicle registration fee (i.e., $10) could produce substantial revenue for counties. A vehicle registration fee would be a stable and equitable approach to funding transportation improvements.
Congestion Pricing	Congestion pricing would charge drivers, either electronically or with area licenses, for the trips they make based on location and time of day. It is the most efficient policy for dealing with urban congestion, and may also be the most fair (in the sense that users of the road system pay in proportion to the costs they impose). Congestion pricing not only generates revenue for maintenance and improvements, but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods.	Congestion pricing, if implemented, should cover all major roads. It should be viewed first as a congestion management strategy, and only secondarily as a revenue source. Despite its clear benefits, all the evidence from public opinion polls and modest pricing experiments suggests that congestion pricing will be a tough sell.
Business License Fees	Fees to operate a business in a jurisdiction can range from a flat one-time fee to an annual fee based on sales, number of employees, size of building, amount of parking, or other factors. License fees can apply to all businesses or only certain businesses such as automobile dealers or service stations.	Cities in Oregon that require a business license fee include Portland, Eugene, Salem, and Medford. Implementation of new or increased business license fees are typically opposed by local businesses and business organizations.
Sales Tax	Tax on retail sales, typically added to the price at the point of sale. Generally considered regressive because low-income people pay a higher percentage of their income than high-income people. Essential goods like food, medicine, and housing are typically exempt from a sales tax.	Sales taxes are traditionally unpopular in Oregon. Numerous sales tax proposals have been defeated at the polls by wide margins. Local jurisdictions may have the authority to levy a sales tax with out a popular vote, but most politicians consider a popular vote as necessary. Voter approval unlikely, especially without some offsetting reduction in property or income taxes. A sales tax is most practical at the county or state level to fund a wide range of projects. Since there is currently no sales tax in Oregon, costs to administer a local sales tax may be high.
Income Tax	Tax on income, typically calculated as a surcharge on state income tax. Could apply to people, corporations, or both. Low rates (1-3%) have potential to generate substantial levels of revenue.	An income tax surcharge was recently approved in Multnomah County, but tax increases are traditionally unpopular with voters in Oregon. An income tax surcharge is most applicable to a wide range of projects with widespread benefits. Income tax surcharge could be administered by the Oregon Department of Revenue, making administrative costs relatively low.

Program Name	Description	Potential For Local Funding
Payroll Tax	A tax on wages and salaries paid by employers or by employees as a payroll deduction. The State of Oregon currently levies a payroll tax of 0.6% in the Tri-Met and Lane Transit districts to fund transit services in those districts. A payroll tax generates revenue from people who work inside but live outside of the area in which the tax is applied. Low rates (<1%) have potential to generate substantial levels of revenue. Payroll tax revenue is used for operations and maintenance expenses associated with the transit systems.	Opposition from business and labor groups likely. A payroll tax is most practical for large areas and for a wide range of service or benefits. Administrative costs for payroll taxes outside of areas where they already apply may be relatively high. Legislative action is required for any rate increase.
Gross Receipts Tax	A tax applied to the gross sales or value of products resulting from activities within the tax area. Low rates (<1%) have potential to generate substantial levels of revenue. Could be assessed as a surcharge on revenue report to State.	Opposition from business and labor groups likely. Administrative costs for surcharge applied to revenue reported to the State relatively low.
Real Estate Transfer Fee	A percentage of sales price charges for transfer of title to real property. Low rates of only a few percent of sale price has potential to generate substantial revenue, but also results in relatively high fee per transaction (1% of $200,000 transaction is $2,000).	Opposition from developers, real estate brokers, and business groups likely.
Property Taxes	Local property taxes could be used to fund transportation. Most counties and cities in Oregon avoid using general property tax revenues to fund transportation maintenance, but occasionally use property tax revenue to fund capital improvements for transportation. Capital improvements are typically funded by a serial levy that implements additional property taxes for a set period of time, often for a specified set of projects. Serial levies must be approved by voters. In Oregon, Washington County has been relatively successful with serial levies for specific transportation improvements (in contrast to other jurisdictions that have been unsuccessful with levies for unspecified projects).	Using funds from an existing property tax base would reduce funding for other services, such as police and fire. A new property tax base or serial levy for transportation would require voter approval. In Oregon, Ballot Measure 5 places a ceiling of $10 per $1,000 in assessed value on property tax rates for non-school expenditures. The potential for using property tax revenues for transportation purposes, however, is limited more by the need for voter approval than by Ballot Measure 5. Property tax revenue would be a stable and potentially substantial revenue source.
General Obligation Bonds	General obligation (GO) bonds are financed by the full faith and credit of the issuer; GO bonds issued by local governments are secured by a pledge of the issuer's power to levy real and personal property taxes. In the case of default, the holders of GO bonds have the right to compel a tax levy or appropriation to repay the bonds. Property taxes necessary to repay GO bonds are not subject to limitation imposed by recent property tax initiatives. Oregon law requires GO bonds to be authorized by popular vote. GO bonds are typically used to fund capital improvements, but the City of Salem has used GO bonds to fund some street maintenance expenditures.	GO bonds provide a mechanism to raise millions of dollars for transportation projects; the financial capacity of bonds would vary with each issuance. GO bonds have had mixed results at gaining voter approval in recent elections. GO bonds are repaid with property tax revenues, which is not related to the property's level of impact to the transportation system. Therefore, GO bonds are less equitable than other funding mechanisms.
Urban Renewal Districts/Tax Increment Financing	Urban Renewal Districts are a governance structure that allows jurisdictions to set-aside a portion of property taxes paid in the District for improvements and services within that District. Once an Urban Renewal District is established, additional property tax revenue generated by increases in property value are reserved for expenditures in that District. This revenue stream can be used to back bonds issued by the District, which is referred to as Tax Increment Financing.	Urban Renewal and Tax Increment Financing are frequently used by local jurisdictions to fund improvements, including transportation projects, in the specified area. Most Urban Renewal Districts are established by counties or cities within their boundaries, but multi-jurisdiction Districts are possible.

Program Name	Description	Potential For Local Funding
Revenue Bonds	Revenue Bonds are a financing mechanism that must be secured by a funding mechanism, such as service charges, tolls, admissions fees, and rents. If revenues from user charges are not sufficient to meet the debt service payments, the issuer generally is not legally obligated to levy taxes to avoid default, unless they are also backed by the full faith and credit of the issuing governmental unit. In that case, they are called *double-barreled bonds*. Revenue bonds could be secured by a local gas tax, street utility fee, or other transportation-related stable revenue stream.	Local governments could sell revenue bonds using one of several income streams pledged to repay the bonds. Bond underwriters analyze the reliability of the revenue stream when rating the bonds and assigning an interest rate; the more stable the revenue stream backing a revenue bond, the less interest the issuer will have to pay.

Source: Compiled by ECONorthwest

Appendix E Data

Table E-1. Derivation of funds available to finance state highway modernization with new OM&P revenue (millions of dollars).

Fiscal Year	Statewide Funds Available for Highway Modernization or Other Purposes	2005 Purchasing Power Available for Modernization	Inflation Factor	Statewide Funds Reserved for Highway Modernization Under ORS 366.507	ORS 366.507 Funds Reserved for Debt Service	ORS 366.507 Funds Net of Debt Service	Net of DS 2005 Purchasing Power Available for Modernization Under ORS 366.507	Statewide Bond Revenues Reserved for Highway Modernization	Statewide Bond Revenues Reserved for Highway Modernization in 2005 $s	OTIA I&II State Modernization	OTIA I&II State Modernization in 2005 $s	Total Current Law* Modernization in 2005 $s	State Funding Reserved for Modernization in 2005$s	State Funding Reserved for Modernization in 2007$s	Metro Region Share of Statewide Funds Reserved for Highway Modernization Under ORS 366.507 in 2007 $s
2005	-24.6	-24.6	1.0	$51.6	3.2	48.4	48.4	0.0	0.0	56.0	56.0	132.4	104.4	$111.00	$26.64
2006	-43.4	-42.1	1.0	$52.4	3.2	49.2	47.7	0.0	0.0	35.8	34.7	107.0	82.5	$87.64	$21.03
2007	-24.3	-22.9	1.1	$53.3	15.8	37.5	35.2	50.0	47.0	17.6	16.6	123.1	98.8	$105.05	$25.21
2008	-21.7	-19.8	1.1	$54.0	15.8	38.2	34.9	50.0	45.6	0.0	0.0	104.0	80.5	$85.55	$20.53
2009	-31.0	-27.4	1.1	$54.8	15.8	39.0	34.5	50.0	44.3	0.0	0.0	101.4	78.7	$83.68	$20.08
2010	-25.5	-21.9	1.2	$55.5	28.4	27.1	23.3	50.0	42.9	0.0	0.0	88.9	66.2	$70.37	$16.89
2011	-19.9	-16.6	1.2	$56.3	28.4	27.9	23.2	50.0	41.6	0.0	0.0	87.6	64.9	$68.94	$16.55
2012	-12.7	-10.3	1.2	$57.1	25.2	31.9	25.8	50.0	40.4	0.0	0.0	88.9	66.1	$70.29	$16.87
2013	-7.0	-5.5	1.3	$57.9	25.2	32.7	25.6	0.0	0.0	0.0	0.0	48.4	25.6	$27.21	$6.53
2014	-1.3	-1.0	1.3	$58.7	25.2	33.5	25.4	0.0	0.0	0.0	0.0	48.3	25.4	$27.05	$6.49
2015	-28.5	-21.0	1.4	$59.5	25.2	34.3	25.3	0.0	0.0	0.0	0.0	48.2	25.3	$26.88	$6.45
2016	-22.7	-16.2	1.4	$60.3	25.2	35.1	25.1	0.0	0.0	0.0	0.0	48.1	25.1	$26.71	$6.41
2017	-16.7	-11.6	1.4	$61.2	25.2	36.0	25.0	0.0	0.0	0.0	0.0	47.9	25.0	$26.52	$6.37
2018	-10.8	-7.2	1.5	$62.1	25.2	36.9	24.8	0.0	0.0	0.0	0.0	47.8	24.8	$26.34	$6.32
2019	-4.8	-3.1	1.5	$62.9	25.2	37.7	24.6	0.0	0.0	0.0	0.0	47.6	24.6	$26.15	$6.28
2020	1.3	0.8	1.6	$63.8	25.2	38.6	24.4	0.0	0.0	0.0	0.0	47.5	24.4	$25.96	$6.23
2021	7.3	4.5	1.6	$64.7	25.2	39.5	24.2	0.0	0.0	0.0	0.0	47.3	24.2	$25.76	$6.18
2022	13.4	8.0	1.7	$65.6	25.2	40.4	24.0	0.0	0.0	0.0	0.0	47.2	24.0	$25.56	$6.13
2023	19.6	11.3	1.7	$66.5	25.2	41.3	23.8	0.0	0.0	0.0	0.0	47.0	23.8	$25.35	$6.08
2024	25.7	14.4	1.8	$67.4	25.2	42.2	23.7	0.0	0.0	0.0	0.0	46.9	23.7	$25.14	$6.03
2025	31.8	17.3	1.8	$68.4	25.2	43.2	23.5	0.0	0.0	0.0	0.0	46.7	23.5	$24.93	$5.98
2026	38.0	20.0	1.9	$69.4	25.2	44.2	23.3	0.0	0.0	0.0	0.0	46.5	23.3	$24.72	$5.93
2027	44.1	22.5	2.0	$70.3	12.6	57.7	29.5	0.0	0.0	0.0	0.0	52.8	29.5	$31.35	$7.52
2028	57.2	28.4	2.0	$71.3	12.6	58.7	29.1	0.0	0.0	0.0	0.0	52.5	29.1	$30.92	$7.42
2029	63.3	30.4	2.1	$72.3	12.6	59.7	28.7	0.0	0.0	0.0	0.0	52.1	28.7	$30.50	$7.32
2030	69.6	32.5	2.1	$73.3	0.0	73.3	34.2	0.0	0.0	0.0	0.0	57.6	34.2	$36.32	$8.72
2031	71.6	32.4	2.2	$74.3	0.0	74.3	33.6	0.0	0.0	0.0	0.0	57.1	33.6	$35.71	$8.57
2032	72.2	31.7	2.3	$75.3	0.0	75.3	33.0	0.0	0.0	0.0	0.0	56.5	33.0	$35.10	$8.42
2033	72.0	30.6	2.4	$76.3	0.0	76.3	32.5	0.0	0.0	0.0	0.0	56.0	32.5	$34.50	$8.28
2034	70.9	29.2	2.4	$77.3	0.0	77.3	31.9	0.0	0.0	0.0	0.0	55.5	31.9	$33.90	$8.14
2035	68.8	27.5	2.5	$78.3	0.0	78.3	31.3	0.0	0.0	0.0	0.0	55.0	31.3	$33.31	$7.99
2007-2035	**500.1**	**157.0**	**48.8**	**1,888.1**	**520.0**	**1,368.1**	**803.3**	**300.0**	**261.8**	**17.6**	**16.6**	**1,754.6**	**$1,081.7**	**$1,149.8**	**$275.9**
Annual Avg	**17.2**	**5.4**	**1.7**	**65.1**	**17.9**	**47.2**	**27.7**	**10.3**	**9.0**	**0.6**	**0.6**	**60.5**	**37.3**	**$39.65**	**$9.52**

Source: ODOT *Financial Assumptions* Appendix, page 8; and ECO calculations.
*Excludes additional revenue projected on Page 6 of the ODOT Financial Assumptions Appendix.

Note: ECO calculated the totals found in the grey columns. The "State Funding Reserved for Modernization" column is the sum of "Net of DS 2005 Purchasing Power Available for Modernization Under ORS 366.507," "Statewide Bond Revenues Reserved for Highway Modernization," and "OTIA I & II State Modernization." 2005 dollars were converted to 2007 dollars based on an inflation rate of 3.1%.

Per ODOT's *Financial Assumptions* document and Ted Leybold at Metro, the Metro region share was calculated assuming that ODOT Region 1 (in which Metro is located) receives about 30% of the state funding reserved for modernization, of which Metro (traditionally) receives 80%. ECO calculates that the Metro region receives roughly 24% of these statewide modernization funds.

Table E-2. Assumed state share of modernization revenue based upon an assumed $15 VRF biennial increase every 8 years above current law beginning 2009 (millions of dollars).

SFY	Current $	2007 $
2003	0.0	0.0
2004	0.0	0.0
2005	0.0	0.0
2006	0.0	0.0
2007	0.0	0.0
2008	0.0	0.0
2009	0.0	0.0
2010	16.3	14.9
2011	16.5	14.6
2012	16.5	14.1
2013	16.7	13.9
2014	16.7	13.5
2015	16.8	13.2
2016	16.9	12.8
2017	16.9	12.5
2018	33.9	24.3
2019	34.1	23.6
2020	34.2	23.0
2021	34.3	22.4
2022	34.5	21.8
2023	34.6	21.2
2024	34.7	20.7
2025	34.8	20.1
2026	52.5	29.4
2027	52.6	28.6
2028	52.8	27.8
2029	53.0	27.1
2030	53.2	26.4
2031	53.4	25.7
2032	53.7	25.0
2033	53.9	24.4
2034	94.6	41.5
2035	95.0	40.4
Total 07-35	1,023.1	582.7
Ann Avg	35.3	20.1

Notes: The forecast for years 2030-2035 was calculated by ECONW using the average annual growth rate for the years 2026-2030.
Also, note that there is a $15 VRF increase in 2034. ECONW used the average change in the previous tax increments to create its forecast.

Table E-3(A). Metro 2004 RTP estimated ODOT OM&P expenditures in the Metro region (millions of dollars).

SFY	Current $	2007 $
2000	$135.0	$167.2
2001	$136.3	$163.7
2002	$137.6	$160.3
2003	$138.9	$156.9
2004	$140.2	$153.6
2005	$141.5	$150.4
2006	$142.9	$147.3
2007	$144.2	$144.2
2008	$145.6	$141.2
2009	$146.9	$138.2
2010	$148.3	$135.4
2011	$149.7	$132.5
2012	$151.2	$129.8
2013	$152.6	$127.1
2014	$154.0	$124.4
2015	$155.5	$121.8
2016	$157.0	$119.3
2017	$158.5	$116.8
2018	$160.0	$114.3
2019	$161.5	$111.9
2020	$163.0	$109.6
2021	$164.5	$107.3
2022	$166.1	$105.1
2023	$167.7	$102.9
2024	$169.3	$100.7
2025	$170.9	$98.6
2026	$172.5	$96.6
2027	$174.1	$94.6
2028	$175.8	$92.6
2029	$177.4	$90.6
2030	$179.1	$88.7
2031	$180.8	$86.9
2032	$182.5	$85.1
2033	$184.2	$83.3
2034	$186.0	$81.6
2035	$187.7	$79.9
TOTAL 07-35	**$4,786.6**	**$3,160.9**
Ann Avg	**$165.1**	**$109.0**

Note: The forecast for years 2030-2035 was calculated by ECONW using the average annual growth rate for the years 2025-2030.

Table E-3(B). State share of OM&P based upon an assumed 1-cent per gallon per year fuel tax increase above current law beginning 2005 (millions of dollars).

SFY	Current $	2007$
2003	$0.0	$0.0
2004	$0.0	$0.0
2005	$0.0	$0.0
2006	$11.6	$12.0
2007	$23.7	$23.7
2008	$36.1	$35.0
2009	$49.0	$46.1
2010	$62.3	$56.8
2011	$76.0	$67.2
2012	$90.1	$77.4
2013	$104.8	$87.2
2014	$119.9	$96.8
2015	$135.5	$106.1
2016	$151.5	$115.1
2017	$168.1	$123.9
2018	$185.2	$132.4
2019	$202.9	$140.6
2020	$221.1	$148.6
2021	$239.8	$156.4
2022	$259.1	$163.9
2023	$279.0	$171.2
2024	$299.5	$178.3
2025	$320.7	$185.1
2026	$342.4	$191.7
2027	$364.8	$198.1
2028	$387.9	$204.3
2029	$411.6	$210.3
2030	$436.1	$216.1
2031	$463.6	$222.8
2032	$492.8	$229.7
2033	$523.8	$236.8
2034	$556.8	$244.2
2035	$591.9	$251.8
Total 07-35	**$7,596.1**	**$4,317.8**
Ann Avg	**$261.9**	**$148.9**

Note: The forecast for years 2030-2035 was calculated by ECONW using the average annual growth rate for the years 2025-2030.

Table E-4. Projected average HPPP and discretionary highway amounts based on various factors (millions of dollars).

	CURRENT DOLLARS			CONSTANT 2007 DOLLARS		
YEAR	BASED ON ISTEA, TEA-21, & SAFETEA ALLOCATIONS	BASED ON SAFETEA-LU	BASED ON MPO SHARE OF OREGON POPULATION	BASED ON ISTEA, TEA-21, & SAFETEA ALLOCATIONS	BASED ON SAFETEA-LU	BASED ON MPO SHARE OF OREGON POPULATION
2007	$11.3	$24.0	$21.1	$11.3	$24.0	$21.1
2008	$11.3	$24.0	$21.1	$10.9	$23.3	$20.4
2009	$11.3	$24.0	$21.1	$10.6	$22.6	$19.8
2010	$11.6	$24.8	$21.8	$10.6	$22.7	$19.9
2011	$12.0	$25.6	$22.5	$10.6	$22.7	$19.9
2012	$12.4	$26.5	$23.2	$10.7	$22.7	$19.9
2013	$12.8	$27.3	$24.0	$10.7	$22.8	$20.0
2014	$13.2	$28.2	$24.8	$10.7	$22.8	$20.0
2015	$13.7	$29.2	$25.6	$10.7	$22.8	$20.0
2016	$14.1	$30.1	$26.4	$10.7	$22.9	$20.1
2017	$14.6	$31.1	$27.3	$10.7	$22.9	$20.1
2018	$15.1	$32.1	$28.1	$10.8	$22.9	$20.1
2019	$15.5	$33.1	$29.1	$10.8	$23.0	$20.1
2020	$16.0	$34.2	$30.0	$10.8	$23.0	$20.2
2021	$16.6	$35.3	$31.0	$10.8	$23.0	$20.2
2022	$17.1	$36.5	$32.0	$10.8	$23.1	$20.2
2023	$17.7	$37.7	$33.0	$10.8	$23.1	$20.3
2024	$18.2	$38.9	$34.1	$10.9	$23.2	$20.3
2025	$18.8	$40.2	$35.2	$10.9	$23.2	$20.3
2026	$19.5	$41.5	$36.4	$10.9	$23.2	$20.4
2027	$20.1	$42.8	$37.6	$10.9	$23.3	$20.4
2028	$20.7	$44.2	$38.8	$10.9	$23.3	$20.4
2029	$21.4	$45.7	$40.0	$10.9	$23.3	$20.5
2030	$22.1	$47.2	$41.4	$11.0	$23.4	$20.5
2031	$22.8	$48.7	$42.7	$11.0	$23.4	$20.5
2032	$23.6	$50.3	$44.1	$11.0	$23.4	$20.6
2033	$24.4	$51.9	$45.5	$11.0	$23.5	$20.6
2034	$25.1	$53.6	$47.0	$11.0	$23.5	$20.6
2035	$26.0	$55.4	$48.5	$11.0	$23.6	$20.7
Total 07-35	**$499.1**	**$1,064.5**	**$933.2**	**$314.5**	**$670.7**	**$588.0**
Ann Avg	**$17.2**	**$36.7**	**$32.2**	**$10.8**	**$23.1**	**$20.3**

Note: ECO converted current dollars to constant 2007$.

Table E-5. STP allocation to the State and Portland TMA, 2007-2035 (millions of current and constant dollars).

YEAR	PORTLAND TMA	BALANCE TO STATE	PORTLAND TMA (2007 $)	BALANCE TO STATE (2007 $)
2005	15.4	287.6		
2006	15.6	305.0		
2007	17.5	331.7	17.5	331.7
2008	17.1	344.3	16.6	334.0
2009	17.3	339.2	16.3	319.1
2010	17.9	350.3	16.3	319.6
2011	18.5	361.7	16.3	320.1
2012	19.1	373.5	16.4	320.6
2013	19.7	385.7	16.4	321.1
2014	20.3	398.2	16.4	321.6
2015	21.0	411.2	16.4	322.1
2016	21.7	424.6	16.5	322.6
2017	22.4	438.5	16.5	323.1
2018	23.1	452.8	16.5	323.6
2019	23.9	467.5	16.5	324.1
2020	24.6	482.8	16.6	324.6
2021	25.4	498.5	16.6	325.1
2022	26.3	514.7	16.6	325.6
2023	27.1	531.5	16.6	326.1
2024	28.0	548.8	16.7	326.6
2025	28.9	566.7	16.7	327.1
2026	29.9	585.2	16.7	327.6
2027	30.8	604.3	16.7	328.2
2028	31.8	624.0	16.8	328.7
2029	32.9	644.3	16.8	329.2
2030	33.9	665.3	16.8	329.7
2031	35.1	687.0	16.8	330.2
2032	36.2	709.4	16.9	330.7
2033	37.4	732.6	16.9	331.2
2034	38.6	756.4	16.9	331.7
2035	39.9	781.1	17.0	332.2
TOTAL 07-35	**766.0**	**15,011.9**	**482.7**	**9,458.0**
Ann Avg 07-35	**26.4**	**517.7**	**16.6**	**326.1**

Source: ODOT.
Note: ECO converted values to 2007 dollars using a cost inflation rate of 3.1%

Table E-6(A). Breakdown of "other local allocations" of federal funds, 2007-2035 (millions of current dollars).

Year	TGM	TRANSPORTATION ENHANCEMENTS	LOCAL BRIDGE	CMAQ	METRO PLANNING	RAIL/HWY CROSSINGS	SAFE ROUTES TO SCHOOLS	HIGH RISK RURAL ROADS	MISC. ALLOCATED	TOTAL
2005	5.0	3.0	15.4	12.6	2.9	1.8	1.0	0.0	3.1	44.7
2006	5.0	5.5	15.7	12.4	2.8	2.5	1.0	1.3	2.3	48.5
2007	5.0	5.5	16.1	13.0	2.9	2.5	1.3	1.3	2.2	49.8
2008	5.0	5.5	16.6	13.6	2.9	2.5	1.6	1.3	2.2	51.3
2009	5.0	5.5	17.0	13.8	3.0	2.5	2.0	1.3	2.1	52.2
2010	5.2	5.7	17.6	14.2	3.1	2.6	2.0	1.4	2.2	53.9
2011	5.3	5.9	18.1	14.7	3.2	2.7	2.1	1.4	2.3	55.6
2012	5.5	6.1	18.7	15.1	3.3	2.8	2.2	1.5	2.3	57.4
2013	5.7	6.3	19.4	15.6	3.4	2.8	2.2	1.5	2.4	59.3
2014	5.9	6.5	20.0	16.1	3.5	2.9	2.3	1.5	2.5	61.2
2015	6.1	6.7	20.6	16.7	3.6	3.0	2.4	1.6	2.6	63.2
2016	6.3	6.9	21.3	17.2	3.7	3.1	2.5	1.7	2.7	65.3
2017	6.5	7.1	22.0	17.8	3.9	3.2	2.5	1.7	2.7	67.4
2018	6.7	7.3	22.7	18.4	4.0	3.3	2.6	1.8	2.8	69.6
2019	6.9	7.6	23.5	19.0	4.1	3.4	2.7	1.8	2.9	71.9
2020	7.1	7.8	24.2	19.6	4.2	3.6	2.8	1.9	3.0	74.2
2021	7.3	8.1	25.0	20.2	4.4	3.7	2.9	1.9	3.1	76.7
2022	7.6	8.3	25.8	20.9	4.5	3.8	3.0	2.0	3.2	79.2
2023	7.8	8.6	26.7	21.5	4.7	3.9	3.1	2.1	3.3	81.7
2024	8.1	8.9	27.5	22.2	4.8	4.0	3.2	2.1	3.4	84.4
2025	8.4	9.2	28.4	23.0	5.0	4.2	3.3	2.2	3.5	87.2
2026	8.6	9.5	29.4	23.7	5.1	4.3	3.4	2.3	3.7	90.0
2027	8.9	9.8	30.3	24.5	5.3	4.5	3.5	2.4	3.8	92.9
2028	9.2	10.1	31.3	25.3	5.5	4.6	3.6	2.4	3.9	96.0
2029	9.5	10.4	32.3	26.1	5.7	4.7	3.7	2.5	4.0	99.1
2030	9.8	10.8	33.4	27.0	5.8	4.9	3.9	2.6	4.2	102.3
2031	10.1	11.1	34.5	27.8	6.0	5.1	4.0	2.7	4.3	105.7
2032	10.5	11.5	35.6	28.8	6.2	5.2	4.1	2.8	4.4	109.1
2033	10.8	11.9	36.8	29.7	6.4	5.4	4.3	2.9	4.6	112.7
2034	11.1	12.3	38.0	30.7	6.6	5.6	4.4	2.9	4.7	116.3
2035	11.5	12.7	39.2	31.7	6.9	5.8	4.5	3.0	4.9	120.1
TOTAL 07-35	**221.3**	**243.4**	**752.1**	**607.7**	**131.8**	**110.7**	**86.1**	**58.4**	**94.2**	**2,305.6**
Ann Avg 07-35	**7.6**	**8.4**	**25.9**	**21.0**	**4.5**	**3.8**	**3.0**	**2.0**	**3.2**	**79.5**

Notes: Metro area assumed share of 45% based on Metro cities' share of SHF revenue in 2006 based on population.

Table E-6(B). Assumed Metro share of "other local allocations" of federal funds, 2007-2035 (millions of 2007$ where noted).

Year	TOTAL	ASSUMED METRO SHARE	ASSUMED METRO SHARE (2007 $)	STATEWIDE TOTAL (2007 $)	ASSUMED METRO SHARE (2007$) USING MTIP FOR CMAQ, BRIDGE, AND TE
2005	44.7				
2006	48.5				
2007	49.8	22.4	22.4	49.8	31.2
2008	51.3	23.1	22.4	49.7	31.4
2009	52.2	23.5	22.1	49.1	31.0
2010	53.9	24.2	22.1	49.2	31.0
2011	55.6	25.0	22.2	49.2	31.1
2012	57.4	25.8	22.2	49.3	31.1
2013	59.3	26.7	22.2	49.4	31.2
2014	61.2	27.6	22.3	49.5	31.2
2015	63.2	28.5	22.3	49.5	31.2
2016	65.3	29.4	22.3	49.6	31.3
2017	67.4	30.3	22.4	49.7	31.3
2018	69.6	31.3	22.4	49.8	31.4
2019	71.9	32.4	22.4	49.8	31.4
2020	74.2	33.4	22.5	49.9	31.5
2021	76.7	34.5	22.5	50.0	31.5
2022	79.2	35.6	22.5	50.1	31.6
2023	81.7	36.8	22.6	50.2	31.6
2024	84.4	38.0	22.6	50.2	31.7
2025	87.2	39.2	22.6	50.3	31.7
2026	90.0	40.5	22.7	50.4	31.8
2027	92.9	41.8	22.7	50.5	31.8
2028	96.0	43.2	22.7	50.5	31.9
2029	99.1	44.6	22.8	50.6	31.9
2030	102.3	46.0	22.8	50.7	32.0
2031	105.7	47.5	22.8	50.8	32.0
2032	109.1	49.1	22.9	50.9	32.1
2033	112.7	50.7	22.9	50.9	32.1
2034	116.3	52.3	23.0	51.0	32.2
2035	120.1	54.1	23.0	51.1	32.2
TOTAL 07-35	**2,305.6**	**1,037.5**	**653.2**	**1451.6**	**915.6**
Ann Avg 07-35	**79.5**	**35.8**	**22.5**	**50.1**	**31.6**

Note: Metro area assumed share of 45% based on Metro cities' share of SHF revenue in 2006 based on population.
The "Total" column is derived from Table E-6(A).

Table E-7. Annual allocation of State Highway Fund revenue in the Metro region under existing conditions (millions of dollars).

FY	Net County	Net City	Net Hwy Div	Net County (2007 $)	Net City (2007 $)	Net Hwy Div (2007 $)	Metro County Share (2007 $)	Metro City Share (2007 $)	Metro Hwy Share (2007$)
2006	174.7	120.2	451.8						
2007	175.6	120.8	438	175.6	120.8	438.0	68.48	54.36	105.12
2008	174.8	120.1	416.3	169.5	116.5	403.8	66.12	52.42	96.91
2009	177.4	121.8	403.4	166.9	114.6	379.5	65.09	51.56	91.08
2010	180.9	124.1	410.7	165.1	113.2	374.8	64.38	50.96	89.94
2011	185.6	127.1	420.9	164.3	112.5	372.5	64.06	50.62	89.40
2012	187.5	128.4	425.1	160.9	110.2	364.9	62.76	49.59	87.58
2013	189.3	129.7	429.4	157.6	108.0	357.5	61.48	48.58	85.80
2014	191.2	131.0	433.7	154.4	105.8	350.2	60.23	47.59	84.05
2015	193.1	132.3	438.0	151.3	103.6	343.1	59.00	46.62	82.34
2016	195.1	133.6	442.4	148.2	101.5	336.1	57.80	45.67	80.66
2017	197.0	134.9	446.8	145.2	99.4	329.2	56.62	44.74	79.02
2018	199.0	136.3	451.3	142.2	97.4	322.5	55.47	43.83	77.41
2019	201.0	137.6	455.8	139.3	95.4	316.0	54.34	42.94	75.83
2020	203.0	139.0	460.3	136.5	93.5	309.5	53.23	42.06	74.29
2021	205.0	140.4	464.9	133.7	91.6	303.2	52.15	41.21	72.78
2022	207.1	141.8	469.6	131.0	89.7	297.1	51.09	40.37	71.29
2023	209.1	143.2	474.3	128.3	87.9	291.0	50.04	39.54	69.84
2024	211.2	144.7	479.0	125.7	86.1	285.1	49.03	38.74	68.42
2025	213.3	146.1	483.8	123.1	84.3	279.3	48.03	37.95	67.02
2026	215.5	147.6	488.7	120.6	82.6	273.6	47.05	37.18	65.66
2027	217.6	149.0	493.5	118.2	80.9	268.0	46.09	36.42	64.32
2028	219.8	150.5	498.5	115.8	79.3	262.5	45.15	35.68	63.01
2029	222.0	152.0	503.5	113.4	77.7	257.2	44.23	34.95	61.73
2030	224.2	153.6	508.5	111.1	76.1	252.0	43.33	34.24	60.47
2031	226.5	155.1	513.6	108.8	74.5	246.8	42.45	33.54	59.24
2032	228.7	156.6	518.7	106.6	73.0	241.8	41.58	32.86	58.03
2033	231.0	158.2	523.9	104.5	71.5	236.9	40.74	32.19	56.85
2034	233.3	159.8	529.1	102.3	70.1	232.1	39.91	31.53	55.69
2035	235.7	161.4	534.4	100.2	68.6	227.3	39.09	30.89	54.56
Total 07-35	**5,950.6**	**4,076.5**	**13,556.0**	**3,920.6**	**2,686.2**	**8,951.5**	**1,529.0**	**1,208.8**	**2,148.4**
Ann Avg 07-35	**205.2**	**140.6**	**467.4**	**135.2**	**92.6**	**308.7**	**52.7**	**41.7**	**74.1**

Source: ODOT.
Notes: Columns in grey were summed to get total in Table 3-5.
Assumed cost inflation rate: 3.1%.

Table E-8: Annual allocation of State Highway Fund revenue in the Metro region under a vehicle registration fee increase (millions of dollars).

FY	Net County Increase	Net City Increase	Net Hwy Div Increase	Net County Increase (2007 $)	Net City Increase (2007 $)	Net Hwy Div Increase (2007 $)	Metro County Increase (2007 $)	Metro City Increase (2007 $)	Metro Hwy Increase (2007$)	Total Metro County Including Baseline (2007 $)	Total Metro City Including Baseline (2007 $)	Total Metro Hwy Div Including Baseline (2007 $)
2006												
2007										68.48	54.36	105.12
2008										66.12	52.42	96.91
2009										65.09	51.56	91.08
2010	9.8	6.5	16.3	8.9	6.0	14.9	3.5	2.7	3.6	67.86	53.64	93.51
2011	9.9	6.6	16.5	8.8	5.8	14.6	3.4	2.6	3.5	67.48	53.25	92.90
2012	9.9	6.6	16.5	8.5	5.6	14.1	3.3	2.5	3.4	66.06	52.13	90.97
2013	10.0	6.7	16.7	8.3	5.6	13.9	3.2	2.5	3.3	64.73	51.08	89.13
2014	10.0	6.7	16.7	8.1	5.4	13.5	3.2	2.4	3.2	63.39	50.02	87.29
2015	10.1	6.7	16.8	7.9	5.3	13.2	3.1	2.4	3.2	62.08	48.99	85.50
2016	10.1	6.7	16.9	7.7	5.1	12.8	3.0	2.3	3.1	60.79	47.97	83.73
2017	10.1	6.8	16.9	7.5	5.0	12.5	2.9	2.2	3.0	59.54	46.98	82.01
2018	20.4	13.6	33.9	14.6	9.7	24.3	5.7	4.4	5.8	61.15	48.20	83.23
2019	20.4	13.6	34.1	14.2	9.4	23.6	5.5	4.3	5.7	59.87	47.19	81.50
2020	20.5	13.7	34.2	13.8	9.2	23.0	5.4	4.1	5.5	58.61	46.20	79.81
2021	20.6	13.7	34.3	13.4	9.0	22.4	5.2	4.0	5.4	57.39	45.24	78.15
2022	20.7	13.8	34.5	13.1	8.7	21.8	5.1	3.9	5.2	56.19	44.29	76.52
2023	20.7	13.8	34.6	12.7	8.5	21.2	5.0	3.8	5.1	55.01	43.36	74.93
2024	20.8	13.9	34.7	12.4	8.3	20.7	4.8	3.7	5.0	53.86	42.46	73.38
2025	20.9	13.9	34.8	12.1	8.0	20.1	4.7	3.6	4.8	52.73	41.57	71.85
2026	31.5	21.0	52.5	17.6	11.7	29.4	6.9	5.3	7.0	53.92	42.46	72.71
2027	31.6	21.1	52.6	17.2	11.4	28.6	6.7	5.1	6.9	52.78	41.56	71.18
2028	31.7	21.1	52.8	16.7	11.1	27.8	6.5	5.0	6.7	51.66	40.69	69.69
2029	31.8	21.2	53.0	16.3	10.8	27.1	6.3	4.9	6.5	50.57	39.83	68.23
2030	31.9	21.3	53.2	15.8	10.6	26.4	6.2	4.7	6.3	49.50	38.99	66.80
2031	32.0	21.4	53.4	15.4	10.3	25.7	6.0	4.6	6.2	48.45	38.17	65.40
2032	32.1	21.5	53.6	15.0	10.0	25.0	5.8	4.5	6.0	47.42	37.37	64.03
2033	32.2	21.6	53.8	14.6	9.8	24.3	5.7	4.4	5.8	46.41	36.58	62.69
2034	42.9	28.8	71.7	18.8	12.6	31.5	7.3	5.7	7.6	47.25	37.22	63.24
2035	43.1	28.9	72.0	18.3	12.3	30.6	7.1	5.5	7.3	46.24	36.42	61.90
Total 07-35	**585.8**	**391.2**	**977.0**	**337.5**	**225.3**	**562.7**	**131.6**	**101.4**	**135.1**	**1,660.6**	**1,310.2**	**2,283.4**
Ann Avg 07-35										**57.3**	**45.2**	**78.7**

Source: ODOT.
Note: Columns in grey were summed to get total in Table 3-5.
Assumed cost inflation rate: 3.1%
Calculations include an assumed annual increase of 0.31% in 2031-2033 and a further increase in 2034.

Table E-9. Annual allocation of State Highway Fund revenue in the Metro region under a gas tax increase (millions of dollars).

FY	Net County Increase	Net City Increase	Net Hwy Div Increase	Net County Increase (2007 $)	Net City Increase (2007 $)	Net Hwy Div Increase (2007 $)	Metro County Increase (2007 $)	Metro City Increase (2007 $)	Metro Hwy Increase (2007$)	Total Metro County Including Baseline (2007 $)	Total Metro City Including Baseline (2007 $)	Total Metro Hwy Div Share Including Baseline (2007 $)
2006	0	0	0									
2007	7.0	4.7	11.6	7.0	4.7	11.6	2.7	2.1	2.8	71.21	56.45	107.91
2008	14.2	9.5	23.7	13.8	9.2	23.0	5.4	4.1	5.5	71.50	56.55	102.42
2009	21.7	14.4	36.1	20.4	13.6	34.0	8.0	6.1	8.2	73.04	57.68	99.24
2010	29.4	19.6	49.0	26.8	17.9	44.7	10.5	8.0	10.7	74.83	59.00	100.67
2011	37.4	24.9	62.3	33.1	22.0	55.1	12.9	9.9	13.2	76.96	60.54	102.63
2012	45.6	30.4	76.0	39.1	26.1	65.2	15.3	11.7	15.7	78.02	61.33	103.24
2013	54.1	36.1	90.1	45.0	30.0	75.1	17.6	13.5	18.0	79.04	62.09	103.81
2014	62.9	41.9	104.8	50.8	33.8	84.6	19.8	15.2	20.3	80.03	62.82	104.36
2015	71.9	48.0	119.9	56.3	37.6	93.9	22.0	16.9	22.5	80.97	63.52	104.88
2016	81.3	54.2	135.5	61.8	41.2	102.9	24.1	18.5	24.7	81.88	64.20	105.36
2017	90.9	60.6	151.5	67.0	44.7	111.7	26.1	20.1	26.8	82.75	64.84	105.82
2018	100.9	67.3	168.1	72.1	48.1	120.2	28.1	21.6	28.8	83.59	65.46	106.25
2019	111.1	74.1	185.2	77.1	51.4	128.4	30.0	23.1	30.8	84.39	66.05	106.65
2020	121.7	81.2	202.9	81.9	54.6	136.4	31.9	24.6	32.7	85.15	66.62	107.03
2021	132.6	88.4	221.1	86.5	57.7	144.2	33.7	26.0	34.6	85.89	67.16	107.38
2022	143.9	95.9	239.8	91.0	60.7	151.7	35.5	27.3	36.4	86.58	67.67	107.70
2023	155.5	103.7	259.1	95.4	63.6	159.0	37.2	28.6	38.2	87.25	68.16	108.00
2024	167.4	111.6	279.0	99.6	66.4	166.1	38.9	29.9	39.9	87.88	68.63	108.27
2025	179.7	119.8	299.5	103.7	69.2	172.9	40.5	31.1	41.5	88.49	69.07	108.52
2026	192.4	128.3	320.7	107.7	71.8	179.5	42.0	32.3	43.1	89.06	69.49	108.75
2027	205.5	137.0	342.4	111.6	74.4	186.0	43.5	33.5	44.6	89.60	69.89	108.95
2028	218.9	145.9	364.8	115.3	76.9	192.2	45.0	34.6	46.1	90.12	70.27	109.13
2029	232.7	155.2	387.9	118.9	79.3	198.2	46.4	35.7	47.6	90.60	70.62	109.29
2030	247.0	164.7	411.6	122.4	81.6	204.0	47.7	36.7	49.0	91.06	70.95	109.43
2031	261.7	174.4	436.1	125.8	83.8	209.6	49.0	37.7	50.3	91.49	71.27	109.54
2032	277.2	184.8	462.0	129.2	86.1	215.4	50.4	38.8	51.7	91.98	71.62	109.72
2033	293.6	195.8	489.4	132.8	88.5	221.3	51.8	39.8	53.1	92.52	72.02	109.96
2034	311.1	207.4	518.5	136.4	90.9	227.4	53.2	40.9	54.6	93.11	72.46	110.26
2035	329.6	219.7	549.3	140.2	93.5	233.6	54.7	42.1	56.1	93.76	72.94	110.63
Total 07-35	**4,198.8**	**2,799.2**	**6,998.0**	**2,368.6**	**1,579.1**	**3,947.6**	**923.7**	**710.6**	**947.4**	**2,452.8**	**1,919.4**	**3,095.8**
Ann Avg 07-35										**84.6**	**66.2**	**106.8**

Source: ODOT.
Note: Columns in grey were summed to get total in Table 3-5.
Assumed cost inflation rate: 3.1%.

Table E-10. Annual allocation of State Highway Fund revenue in the Metro region under a combined gas tax and vehicle registration fee increase (millions of dollars).

FY	Total Metro County Including Baseline (2007 $)	Total Metro City Including Baseline (2007 $)	Total Metro Hwy Div Including Baseline (2007 $)
2006			
2007	71.21	56.45	107.91
2008	71.50	56.55	102.42
2009	73.04	57.68	99.24
2010	78.31	61.68	104.24
2011	80.37	63.16	106.13
2012	81.32	63.87	106.63
2013	82.29	64.59	107.14
2014	83.19	65.25	107.60
2015	84.05	65.89	108.03
2016	84.88	66.50	108.43
2017	85.67	67.08	108.81
2018	89.27	69.83	112.07
2019	89.92	70.30	112.32
2020	90.54	70.76	112.55
2021	91.12	71.19	112.75
2022	91.68	71.60	112.93
2023	92.21	71.98	113.09
2024	92.72	72.35	113.23
2025	93.19	72.69	113.35
2026	95.93	74.78	115.80
2027	96.29	75.04	115.81
2028	96.63	75.28	115.81
2029	96.94	75.50	115.79
2030	97.23	75.70	115.76
2031	97.49	75.90	115.70
2032	97.81	76.13	115.72
2033	98.20	76.41	115.80
2034	100.46	78.14	117.81
2035	100.91	78.47	117.98
Total 07-35	**2,584.4**	**2,020.8**	**3,230.8**
Ann Avg 07-35	**89.1**	**69.7**	**111.4**

Source: ODOT.
Note: Columns in grey were summed to get total in Table 3-5.
Assumed cost inflation rate: 3.1%.

Table E-11(A). Annual average of receipts, expenditures and debt based on the ODOT local survey data for FY 2002/03-2004/05 for Washington County and its cities (millions of dollars).

	Wash Co.	Beaverton	Cornelius	Forest Grove	Hillsboro	Sherwood	Tualatin	Tigard
Receipts from Local Sources	**$35.85**	**$2.77**	**$0.21**	**$0.65**	**$4.19**	**$1.80**	**$1.54**	**$4.69**
General Fund and Other Non-Road Fund Transfer	$23.11	$0.54	$0.00	$0.21	$0.02	$0.36	$0.14	$1.07
Interest Income	$1.28	$0.13	$0.01	$0.04	$0.86	$0.11	$0.04	$0.16
Transportation Impact Fee (TIF) or SDC	$2.62	$1.22	$0.12	$0.24	$2.83	$1.14	$0.62	$1.02
Franchise Fees	$0.00	$0.24	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
From Cities	$2.25	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
From Counties	$0.00	$0.04	$0.04	$0.00	$0.32	$0.05	$0.09	$0.00
Other Gov'ts.	$2.10	$0.00	$0.00	$0.00	$0.00	$0.02	$0.00	$0.00
Sale of Bonds and Notes	$0.00	$0.00	$0.00	$0.00	$0.00	$0.04	$0.00	$0.00
Property taxes within 6% Limitation	$2.81	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Special Area Assessments	$0.00	$0.02	$0.00	$0.00	$0.14	$0.00	$0.00	$1.39
Land Sales & Rentals	$0.09	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Parking	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Permits	$0.07	$0.00	$0.03	$0.00	$0.00	$0.00	$0.00	$0.00
Fuel Tax	$0.81	$0.35	$0.00	$0.08	$0.00	$0.06	$0.00	$0.18
Transportation Utility Fees (TUF)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.64	$0.00
Other	$0.65	$0.22	$0.00	$0.08	$0.01	$0.03	$0.00	$0.87
Receipts from State Government	**$22.62**	**$3.51**	**$0.50**	**$1.64**	**$3.34**	**$1.61**	**$2.12**	**$2.00**
(OTIA, bike, etc.)	$4.72	$0.00	$0.00	$0.09	$0.00	$0.97	$0.07	$0.00
Highway Fund Apportionment	$17.24	$3.51	$0.44	$0.78	$3.34	$0.61	$1.05	$1.98
State Forestry	$0.67	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Exchange Program	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.06	$0.77	$0.00	$0.02	$1.00	$0.02
Receipts from Federal Government	**$0.00**	**$0.03**	**$0.00**	**$0.04**	**$0.00**	**$0.00**	**$0.00**	**$0.02**
Traffic Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.02
Housing and Urban Development	$0.00	$0.02	$0.00	$0.04	$0.00	$0.00	$0.00	$0.00
National Forest Reserve Revenue	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Emergency Events	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Receipts from Private Sources	**$0.00**	**$1.43**	**$0.00**	**$0.00**	**$0.50**	**$0.00**	**$0.00**	**$0.00**
Receipts from Other Jurisdictions	**$0.00**	**$0.07**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Unspecified Other	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Total Revenue	**$58.47**	**$7.80**	**$0.71**	**$2.33**	**$8.03**	**$3.41**	**$3.66**	**$6.71**
Capital Projects	**$37.37**	**$3.68**	**$0.59**	**$0.25**	**$2.81**	**$2.73**	**$2.62**	**$4.09**
ROW	$3.48	$0.09	$0.00	$0.00	$0.00	$0.02	$0.21	$0.00
Const. Eng.	$11.72	$0.37	$0.08	$0.02	$0.00	$0.77	$1.12	$0.49
Const. & Expansion	$17.40	$2.94	$0.38	$0.23	$2.43	$1.86	$1.27	$1.53
Bike/Ped.	$0.41	$0.02	$0.07	$0.00	$0.00	$0.00	$0.01	$0.00
Debt Service	$0.88	$0.26	$0.06	$0.00	$0.38	$0.08	$0.00	$1.37
Payments to Other Gov'ts.	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.71
Non-road and street work	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Work for other jurisdictions	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Est. Admin. & Gen. Eng.	$3.48	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01	$0.00
Unspecified Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
O&M Projects	**$18.30**	**$4.79**	**$0.29**	**$1.73**	**$3.30**	**$0.73**	**$1.57**	**$1.68**
Repair & Pres.	$5.86	$0.00	$0.00	$0.95	$0.82	$0.00	$0.00	$0.30
Gen. Maint.	$8.66	$1.77	$0.26	$0.22	$0.74	$0.73	$0.55	$0.86
Safety & Traffic	$1.84	$2.06	$0.00	$0.00	$0.59	$0.00	$0.30	$0.36
Snow/Ice Removal & Extraordinary Maint.	$0.02	$0.00	$0.00	$0.00	$0.00	$0.00	$0.02	$0.00
Engineering	$1.63	$0.09	$0.00	$0.01	$0.34	$0.00	$0.17	$0.00
Est. Admin. & Gen. Eng.	$0.29	$0.87	$0.03	$0.56	$1.21	$0.00	$0.53	$0.16
Total Admin. & Gen. Eng.	**$0.00**	**$0.00**	**$0.09**	**$0.17**	**$2.36**	**$0.00**	**$0.00**	**$0.04**
Federal Emergency Events	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Total Disbursements	**$55.66**	**$8.47**	**$0.90**	**$2.15**	**$6.90**	**$3.46**	**$4.19**	**$5.81**
Ending Total Balance (Total funds-Expenditures)	**$2.81**	**-$0.67**	**-$0.19**	**$0.18**	**$1.13**	**-$0.05**	**-$0.53**	**$0.90**

Source: ODOT local government survey.

Table E-11(B). Annual average of receipts, expenditures and debt based on the ODOT local survey data for FY 2002/03-2004/05 for Multnomah County and its associated cities (millions of dollars).

	Mult Co.	Portland	Gresham*	Troutdale	Fairview*
Receipts from Local Sources	**$8.02**	**$75.38**	**$3.81**	**$0.10**	**$0.02**
General Fund and Other Non-Road Fund Transfer	$0.00	$12.98	$0.80	$0.01	$0.00
Interest Income	$0.28	$0.28	$0.16	$0.02	$0.00
Transportation Impact Fee (TIF) or SDC	$0.20	$3.33	$1.39	$0.06	$0.00
Franchise Fees	$0.00	$0.00	$0.00	$0.00	$0.00
From Cities	$0.10	$0.00	$0.00	$0.00	$0.00
From Counties	$0.00	$21.46	$0.42	$0.00	$0.01
Other Gov'ts.	$0.00	$6.72	$0.00	$0.00	$0.00
Sale of Bonds and Notes	$0.00	$3.33	$0.00	$0.00	$0.00
Property taxes within 6% Limitation	$0.00	$0.00	$0.00	$0.00	$0.00
Special Area Assessments	$0.00	$0.61	$0.00	$0.00	$0.00
Land Sales & Rentals	$0.00	$0.00	$0.00	$0.00	$0.00
Parking	$0.00	$13.41	$0.00	$0.00	$0.00
Permits	$0.00	$2.98	$0.00	$0.00	$0.00
Fuel Tax	$7.43	$0.00	$0.00	$0.00	$0.00
Transportation Utility Fees (TUF)	$0.49	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$10.29	$1.04	$0.00	$0.00
Receipts from State Government	**$28.58**	**$28.29**	**$4.38**	**$0.62**	**$0.41**
(OTIA, bike, etc.)	$0.00	$0.00	$0.00	$0.00	$0.00
Highway Fund Apportionment	$28.49	$24.28	$4.38	$0.62	$0.40
State Forestry	$0.00	$0.00	$0.00	$0.00	$0.00
Exchange Program	$0.06	$0.00	$0.00	$0.00	$0.00
Other	$0.03	$4.01	$0.00	$0.00	$0.01
Receipts from Federal Government	**$2.09**	**$4.31**	**$0.89**	**$0.00**	**$0.00**
Traffic Grants	$0.01	$0.00	$0.89	$0.00	$0.00
Housing and Urban Development	$0.00	$0.00	$0.00	$0.00	$0.00
National Forest Reserve Revenue	$0.61	$0.00	$0.00	$0.00	$0.00
Emergency Events	$0.11	$0.40	$0.00	$0.00	$0.00
Other	$1.37	$3.91	$0.00	$0.00	$0.00
Receipts from Private Sources	**$0.00**	**$0.14**	**$0.00**	**$0.00**	**$0.00**
Receipts from Other Jurisdictions	**$1.01**	**$14.99**	**$0.00**	**$0.01**	**$0.00**
Unspecified Other	**$0.46**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Total Revenue	**$40.16**	**$123.11**	**$9.08**	**$0.73**	**$0.42**
Capital Projects	**$27.66**	**$52.65**	**$2.53**	**$0.09**	**$0.01**
ROW	$0.12	$15.33	$0.43	$0.00	$0.00
Const. Eng.	$3.03	$1.03	$0.57	$0.02	$0.00
Const. & Expansion	$1.22	$9.47	$1.47	$0.04	$0.00
Bike/Ped.	$0.03	$0.03	$0.05	$0.02	$0.01
Debt Service	$0.10	$6.77	$0.00	$0.00	$0.00
Payments to Other Gov'ts.	$22.71	$1.48	$0.00	$0.00	$0.00
Non-road and street work	$0.00	$9.81	$0.00	$0.00	$0.00
Work for other jurisdictions	$0.00	$8.74	$0.00	$0.00	$0.00
Est. Admin. & Gen. Eng.	$0.00	$0.00	$0.00	$0.00	$0.00
Unspecified Other	$0.45	$0.00	$0.00	$0.00	$0.00
O&M Projects	**$7.89**	**$69.89**	**$5.39**	**$0.59**	**$0.38**
Repair & Pres.	$0.85	$1.24	$0.85	$0.05	$0.06
Gen. Maint.	$4.14	$44.66	$2.54	$0.19	$0.20
Safety & Traffic	$1.07	$7.90	$0.06	$0.02	$0.00
Snow/Ice Removal & Extraordinary Maint.	$0.48	$0.13	$0.02	$0.00	$0.00
Engineering	$1.34	$0.00	$0.00	$0.00	$0.00
Est. Admin. & Gen. Eng.	$0.00	$15.98	$1.93	$0.34	$0.12
Total Admin. & Gen. Eng.	**$1.55**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Federal Emergency Events	**$0.00**	**$0.41**	**$0.00**	**$0.00**	**$0.00**
Total Disbursements	**$37.09**	**$122.95**	**$7.92**	**$0.68**	**$0.39**
Ending Total Balance (Total funds-Expenditures)	**$3.07**	**$0.15**	**$1.16**	**$0.06**	**$0.03**

Source: ODOT local government survey.
Note: An asterisk (*) denotes cities with only two years worth of data.

Table E-11(C). Annual average of receipts, expenditures and debt based on the ODOT local survey data for FY 2002/03-2004/05 for Clackamas County and its associated cities (millions of dollars).

	Clack Co.	Oregon City	Gladstone	West Linn	Lake Oswego	Wilsonville	Milwaukie	Happy Valley*
Receipts from Local Sources	**$21.02**	**$1.80**	**$0.04**	**$0.21**	**$3.12**	**$6.02**	**$0.60**	**$0.46**
General Fund and Other Non-Road Fund Transfer	$0.00	$0.16	$0.00	$0.16	$0.83	$0.01	$0.07	$0.00
Interest Income	$1.45	$0.07	$0.00	$0.00	$0.03	$0.32	$0.02	$0.01
Transportation Impact Fee (TIF) or SDC	$4.89	$0.84	$0.03	$0.02	$0.56	$1.51	$0.19	$0.00
Franchise Fees	$0.09	$0.00	$0.00	$0.00	$0.43	$0.00	$0.44	$0.02
From Cities	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
From Counties	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.83
Other Gov'ts.	$1.15	$0.21	$0.00	$0.00	$0.28	$0.00	$0.00	$0.00
Sale of Bonds and Notes	$1.67	$0.00	$0.00	$0.00	$0.00	$2.00	$0.00	$0.00
Property taxes within 6% Limitation	$0.00	$0.00	$0.00	$0.00	$0.45	$1.22	$0.00	$0.00
Special Area Assessments	$9.97	$0.08	$0.00	$0.03	$0.01	$0.41	$0.00	$0.00
Land Sales & Rentals	$0.20	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Parking	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Permits	$0.48	$0.00	$0.00	$0.00	$0.00	$0.00	$0.02	$0.00
Fuel Tax	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Transportation Utility Fees (TUF)	$0.00	$0.00	$0.00	$0.00	$0.49	$0.53	$0.00	$0.00
Other	$1.12	$0.46	$0.02	$0.00	$0.04	$0.01	$0.04	$0.01
Receipts from State Government	**$19.19**	**$1.23**	**$0.52**	**$0.95**	**$2.17**	**$1.43**	**$1.02**	**$0.30**
(OTIA, bike, etc.)	$2.59	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Highway Fund Apportionment	$16.60	$1.23	$0.52	$0.95	$1.68	$0.70	$0.92	$0.29
State Forestry	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Exchange Program	$0.00	$0.00	$0.00	$0.00	$0.00	$0.04	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00	$0.49	$0.69	$0.10	$0.01
Receipts from Federal Government	**$6.24**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.13**	**$0.00**
Traffic Grants	$0.84	$0.00	$0.00	$0.00	$0.00	$0.00	$0.39	$0.00
Housing and Urban Development	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
National Forest Reserve Revenue	$4.71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Emergency Events	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.70	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Receipts from Private Sources	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$3.94**	**$0.00**	**$0.00**
Receipts from Other Jurisdictions	**$0.00**	**$0.00**	**$0.58**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Unspecified Other	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Total Revenue	**$46.45**	**$3.03**	**$1.15**	**$1.16**	**$5.29**	**$11.38**	**$1.74**	**$0.76**
Capital Projects	**$24.11**	**$2.09**	**$0.49**	**$0.02**	**$2.23**	**$6.83**	**$0.13**	**$0.52**
ROW	$4.16	$0.00	$0.00	$0.00	$0.00	$0.08	$0.00	$0.40
Const. Eng.	$3.81	$0.05	$0.05	$0.00	$0.32	$0.44	$0.13	$0.01
Const. & Expansion	$15.79	$1.55	$0.00	$0.02	$0.87	$4.22	$0.00	$0.04
Bike/Ped.	$0.35	$0.00	$0.00	$0.00	$0.00	$0.05	$0.00	$0.02
Debt Service	$0.00	$0.19	$0.00	$0.00	$1.57	$2.04	$0.00	$0.00
Payments to Other Gov'ts.	$0.02	$0.31	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01
Non-road and street work	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.05
Work for other jurisdictions	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Est. Admin. & Gen. Eng.	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Unspecified Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
O&M Projects	**$19.43**	**$1.22**	**$0.47**	**$1.21**	**$2.10**	**$2.02**	**$1.56**	**$0.12**
Repair & Pres.	$0.03	$0.00	$0.20	$0.00	$0.56	$1.07	$0.27	$0.00
Gen. Maint.	$13.36	$1.00	$0.07	$0.17	$0.61	$0.19	$0.19	$0.11
Safety & Traffic	$2.40	$0.16	$0.08	$0.31	$0.16	$0.06	$0.09	$0.01
Snow/Ice Removal & Extraordinary Maint.	$0.27	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Engineering	$1.85	$0.00	$0.00	$0.31	$0.11	$0.00	$0.00	$0.00
Est. Admin. & Gen. Eng.	$1.52	$0.07	$0.11	$0.43	$0.66	$0.70	$1.01	$0.01
Total Admin. & Gen. Eng.	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Federal Emergency Events	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Total Disbursements	**$43.54**	**$3.31**	**$0.96**	**$1.23**	**$4.33**	**$8.86**	**$1.70**	**$0.64**
Ending Total Balance (Total funds-Expenditures)	**$2.90**	**-$0.28**	**$0.19**	**-$0.07**	**$0.95**	**$2.52**	**$0.04**	**$0.12**

Source: ODOT local government survey.
Note: An asterisk (*) denotes cities with only two years worth of data.

Table E-12. Federal Transit Authority 5307 funds (millions of current dollars, except where noted).

Year	Oregon Total Projected Section 5307	Tri-Met	Tri-Met (constant 2007 $)
2005	$42.9	$32.8	
2006	$42.6	$32.5	
2007	$44.1	$33.6	$33.6
2008	$47.8	$36.4	$35.3
2009	$50.9	$38.7	$36.4
2010	$52.5	$40.0	$36.5
2011	$54.2	$41.3	$36.5
2012	$56.0	$42.6	$36.6
2013	$57.8	$44.0	$36.6
2014	$59.7	$45.5	$36.7
2015	$61.6	$46.9	$36.8
2016	$63.7	$48.5	$36.8
2017	$65.7	$50.0	$36.9
2018	$67.9	$51.7	$36.9
2019	$70.1	$53.4	$37.0
2020	$72.4	$55.1	$37.0
2021	$74.7	$56.9	$37.1
2022	$77.2	$58.8	$37.2
2023	$79.7	$60.7	$37.2
2024	$82.3	$62.6	$37.3
2025	$85.0	$64.7	$37.3
2026	$87.7	$66.8	$37.4
2027	$90.6	$69.0	$37.5
2028	$93.5	$71.2	$37.5
2029	$96.6	$73.5	$37.6
2030	$99.7	$75.9	$37.6
2031	$103.0	$78.4	$37.7
2032	$106.4	$81.0	$37.7
2033	$109.8	$83.6	$37.8
2034	$113.4	$86.3	$37.9
2035	$117.1	$89.2	$37.9
TOTAL 07-35	**$2,241.1**	**$1,706.2**	**$1,072.4**
Ann Avg 07-35	**$77.3**	**$58.8**	**$37.0**

Source: ODOT.
Note: Constant 2007$ calculation computed by ECO using an assumed cost inflation rate of 3.1%

Table E-13. Federal Transit Authority 5309 funds (millions of current dollars, except where noted).

Year	Tri-Met	Tri-Met LRT Formula Rehabilitation	Tri-Met (constant 2007 $)	Tri-Met LRT Formual (constant 2007 $)
2005	$36.4	$4.0		
2006	$36.0	$7.7		
2007	$70.5	$5.5	$70.5	$5.5
2008	$92.3	$6.3	$89.5	$6.1
2009	$93.2	$7.0	$87.7	$6.5
2010	$89.8	$7.1	$81.9	$6.5
2011	$101.2	$8.3	$89.6	$7.3
2012	$101.3	$9.5	$86.9	$8.2
2013	$101.3	$9.8	$84.4	$8.1
2014	$76.4	$10.0	$61.7	$8.1
2015	$41.5	$10.3	$32.5	$8.1
2016	$56.1	$10.6	$42.6	$8.0
2017	$55.7	$10.8	$41.1	$8.0
2018	$77.4	$11.1	$55.3	$8.0
2019	$2.4	$11.4	$1.7	$7.9
2020	$2.5	$11.7	$1.7	$7.9
2021	$2.6	$12.0	$1.7	$7.8
2022	$2.7	$12.3	$1.7	$7.8
2023	$2.8	$12.7	$1.7	$7.8
2024	$2.8	$13.2	$1.7	$7.8
2025	$2.9	$13.6	$1.7	$7.8
2026	$3.0	$14.0	$1.7	$7.9
2027	$3.1	$14.5	$1.7	$7.9
2028	$3.2	$15.0	$1.7	$7.9
2029	$3.3	$15.4	$1.7	$7.9
2030	$3.4	$16.0	$1.7	$7.9
2031	$3.5	$16.5	$1.7	$7.9
2032	$3.6	$17.0	$1.7	$7.9
2033	$3.7	$17.6	$1.7	$7.9
2034	$3.9	$18.1	$1.7	$8.0
2035	$4.0	$18.7	$1.7	$8.0
TOTAL 07-35	**$1,010.3**	**$356.1**	**$852.5**	**$222.5**
Ann Avg 07-35	**$34.8**	**$12.3**	**$29.4**	**$7.7**

Source: ODOT.
Note: Constant 2007$ calculation computed by ECO using an assumed cost inflation rate of 3.1%

Table E-14(A). Tri-Met revenue forecast table for FY 1986-2035 (millions of 2007$).

		Passenger Revenue		Other Operating Revenue		Employer/Municipal Payroll Tax		Self Employed Tax		State In-Lieu	
Fiscal Year	Base Year	2007$	Percentage Change	2007$	Percentage Change	2007$	Percentage Change	2007$	Percentage Change	2007$	Percentage Change
FY86	-21	34.90		1.64		83.58		5.15		2.22	
FY87	-20	35.97	3.07%	3.14	91.18%	85.03	1.74%	5.34	3.68%	2.72	22.61%
FY88	-19	37.91	5.40%	2.98	-5.11%	88.49	4.06%	5.94	11.27%	2.65	-2.88%
FY89	-18	37.27	-1.70%	1.99	-33.05%	94.97	7.32%	6.97	17.22%	2.70	1.97%
FY90	-17	37.56	0.78%	2.66	33.43%	101.58	6.96%	7.79	11.80%	2.85	5.84%
FY91	-16	41.83	11.37%	2.35	-11.65%	107.86	6.18%	7.93	1.83%	3.13	9.78%
FY92	-15	41.67	-0.38%	2.35	-0.11%	110.31	2.27%	7.91	-0.34%	3.27	4.31%
FY93	-14	42.12	1.07%	2.34	-0.20%	117.20	6.25%	8.10	2.44%	3.41	4.45%
FY94	-13	41.62	-1.17%	2.85	21.57%	121.87	3.98%	7.96	-1.68%	3.32	-2.75%
FY95	-12	43.76	5.13%	8.37	194.22%	129.83	6.53%	8.14	2.26%	3.38	1.77%
FY96	-11	44.72	2.20%	10.10	20.65%	140.58	8.28%	8.13	-0.17%	2.50	-26.15%
FY97	-10	47.29	5.74%	22.83	125.92%	154.34	9.79%	8.62	6.09%	1.89	-24.43%
FY98	-9	47.10	-0.40%	23.04	0.91%	161.72	4.78%	8.82	2.26%	1.85	-1.82%
FY99	-8	52.33	11.10%	14.40	-37.50%	166.36	2.87%	8.21	-6.86%	1.88	1.41%
FY2000	-7	57.42	9.73%	14.30	-0.68%	171.24	2.93%	8.18	-0.38%	2.08	10.97%
FY2001	-6	62.10	8.14%	18.53	29.61%	182.05	6.31%	7.88	-3.74%	2.01	-3.47%
FY2002	-5	61.96	-0.21%	20.06	8.21%	170.34	-6.43%	8.49	7.80%	2.26	12.40%
FY2003	-4	59.60	-3.82%	20.64	2.91%	164.09	-3.67%	7.68	-9.50%	2.11	-6.60%
FY2004	-3	61.00	2.36%	19.16	-7.18%	160.14	-2.41%	8.26	7.55%	2.05	-3.01%
FY2005	-2	63.23	3.65%	17.22	-10.10%	165.10	3.09%	8.40	1.69%	2.10	2.29%
FY2006	-1	70.61	11.67%	20.11	16.78%	172.14	4.27%	9.07	7.97%	2.20	4.85%
FY2007	0	75.64	7.12%	19.29	-4.09%	177.65	3.20%	9.25	1.89%	2.31	4.95%
FY2008	1	77.86	2.94%	19.36	0.34%	183.79	3.46%	9.72	5.09%	2.42	4.95%
FY2009	2	77.30	-0.72%	21.46	10.84%	190.21	3.49%	9.76	0.48%	2.48	2.57%
FY2010	3	85.29	10.34%	21.32	-0.65%	196.85	3.49%	9.81	0.48%	2.55	2.57%
FY2011	4	84.73	-0.66%	21.35	0.14%	203.72	3.49%	9.86	0.48%	2.61	2.57%
FY2012	5	89.23	5.30%	20.21	-5.33%	210.84	3.49%	9.91	0.48%	2.68	2.57%
FY2013	6	88.64	-0.66%	19.73	-2.35%	218.20	3.49%	9.95	0.48%	2.75	2.57%
FY2014	7	93.38	5.34%	19.81	0.39%	225.82	3.49%	10.00	0.48%	2.82	2.57%
FY2015	8	92.94	-0.47%	19.89	0.39%	233.70	3.49%	10.05	0.48%	2.89	2.57%
FY2016	9	98.06	5.50%	19.96	0.39%	241.86	3.49%	10.10	0.48%	2.96	2.57%
FY2017	10	97.59	-0.47%	20.04	0.39%	250.31	3.49%	10.15	0.48%	3.04	2.57%
FY2018	11	102.96	5.50%	20.12	0.39%	259.05	3.49%	10.20	0.48%	3.12	2.57%
FY2019	12	102.47	-0.47%	20.20	0.39%	268.09	3.49%	10.25	0.48%	3.20	2.57%
FY2020	13	108.11	5.50%	20.28	0.39%	277.46	3.49%	10.30	0.48%	3.28	2.57%
FY2021	14	107.59	-0.48%	20.36	0.39%	287.14	3.49%	10.35	0.48%	3.37	2.57%
FY2022	15	113.50	5.50%	20.44	0.39%	297.17	3.49%	10.40	0.48%	3.45	2.57%
FY2023	16	112.96	-0.48%	20.52	0.39%	307.55	3.49%	10.45	0.48%	3.54	2.57%
FY2024	17	119.17	5.49%	20.60	0.39%	318.28	3.49%	10.50	0.48%	3.63	2.57%
FY2025	18	118.60	-0.48%	20.68	0.39%	329.40	3.49%	10.55	0.48%	3.72	2.57%
FY2026	19	121.59	2.52%	20.76	0.39%	340.90	3.49%	10.63	0.78%	3.83	2.72%
FY2027	20	124.66	2.52%	20.84	0.39%	352.80	3.49%	10.71	0.78%	3.93	2.72%
FY2028	21	127.81	2.52%	20.92	0.39%	365.12	3.49%	10.80	0.78%	4.04	2.72%
FY2029	22	131.03	2.52%	21.00	0.39%	377.87	3.49%	10.88	0.78%	4.15	2.72%
FY2030	23	134.33	2.52%	21.08	0.39%	391.07	3.49%	10.96	0.78%	4.26	2.72%
FY2031	24	137.72	2.52%	21.16	0.39%	404.72	3.49%	11.05	0.78%	4.37	2.72%
FY2032	25	141.19	2.52%	21.24	0.39%	418.85	3.49%	11.14	0.78%	4.49	2.72%
FY2033	26	144.75	2.52%	21.33	0.39%	433.48	3.49%	11.22	0.78%	4.62	2.72%
FY2034	27	148.40	2.52%	21.41	0.39%	448.61	3.49%	11.31	0.78%	4.74	2.72%
FY2035	28	152.15	2.52%	21.49	0.39%	464.28	3.49%	11.40	0.78%	4.87	2.72%

Source: Tri-Met, FY06 FIR#1 Values.xls.
Note: The forecast for years shaded in grey was calculated by ECONorthwest.

Table E-14(B). Tri-Met revenue forecast table for FY 1986-2035 (millions of 2007$).

		Grants and Captial Reimbursement		Interest		ATP- Cigarette Tax, Agency		New Revenues		Total Continuing Revenues	
Fiscal Year	Base Year	2007$	Percentage Change	2007$	Percentage Change	2007$	Percentage Change	2007$	Percentage Change	2007$	Percentage Change
FY86	-21	10.34		2.70		1.67		0.00		142.21	
FY87	-20	9.63	-6.91%	3.03	12.14%	3.02	80.78%	0.00		147.88	3.99%
FY88	-19	9.72	1.00%	2.98	-1.71%	3.42	12.94%	0.00		154.08	4.19%
FY89	-18	10.28	5.74%	5.05	69.65%	3.43	0.29%	0.00		162.65	5.56%
FY90	-17	9.64	-6.21%	6.17	22.26%	3.86	12.74%	0.00		172.12	5.82%
FY91	-16	10.18	5.53%	6.60	7.00%	4.51	16.70%	0.00		184.39	7.13%
FY92	-15	8.99	-11.63%	6.40	-3.13%	4.30	-4.59%	0.00		185.19	0.43%
FY93	-14	10.30	14.54%	3.85	-39.80%	4.49	4.41%	0.00		191.81	3.58%
FY94	-13	10.47	1.63%	2.42	-37.14%	3.99	-11.16%	0.00		194.50	1.40%
FY95	-12	10.85	3.68%	3.08	27.08%	3.80	-4.78%	0.00		211.22	8.59%
FY96	-11	8.34	-23.16%	3.43	11.50%	3.81	0.20%	0.00		221.60	4.92%
FY97	-10	13.29	59.30%	3.93	14.44%	3.50	-8.14%	0.00		255.68	15.38%
FY98	-9	19.34	45.56%	5.01	27.50%	3.33	-4.74%	0.00		270.20	5.68%
FY99	-8	26.85	38.86%	6.02	20.25%	4.27	28.20%	0.00		280.32	3.75%
FY2000	-7	30.51	13.64%	6.12	1.60%	4.22	-1.21%	0.00		294.07	4.91%
FY2001	-6	46.86	53.58%	10.08	64.80%	4.71	11.78%	0.00		334.23	13.65%
FY2002	-5	47.60	1.57%	3.67	-63.57%	4.09	-13.28%	0.00		318.48	-4.71%
FY2003	-4	45.07	-5.33%	2.34	-36.24%	3.82	-6.59%	0.00		305.35	-4.12%
FY2004	-3	56.59	25.57%	1.78	-24.07%	4.14	8.32%	0.00		313.12	2.54%
FY2005	-2	62.02	9.61%	2.52	42.02%	8.21	98.41%	0.68		329.49	5.23%
FY2006	-1	60.24	-2.88%	1.03	-59.16%	3.52	-57.07%	3.63	434.97%	342.57	3.97%
FY2007	0	46.25	-23.23%	1.00	-3.01%	3.50	-0.80%	6.75	85.65%	341.62	-0.28%
FY2008	1	49.82	7.72%	1.05	5.28%	3.47	-0.71%	10.04	48.80%	357.52	4.65%
FY2009	2	52.02	4.42%	1.21	14.95%	3.45	-0.62%	13.57	35.15%	371.45	3.90%
FY2010	3	50.76	-2.43%	1.52	25.23%	3.43	-0.53%	17.32	27.67%	388.84	4.68%
FY2011	4	51.36	1.19%	1.86	22.83%	3.42	-0.45%	21.31	23.04%	400.22	2.93%
FY2012	5	51.16	-0.38%	2.34	25.87%	3.40	-0.37%	25.55	19.90%	415.32	3.77%
FY2013	6	50.97	-0.37%	2.98	27.13%	3.39	-0.29%	30.05	17.62%	426.67	2.73%
FY2014	7	50.79	-0.35%	3.54	18.77%	3.39	-0.21%	34.83	15.90%	444.37	4.15%
FY2015	8	50.62	-0.34%	3.67	3.62%	3.38	-0.14%	38.92	11.75%	456.06	2.63%
FY2016	9	50.45	-0.33%	3.90	6.35%	3.38	-0.06%	40.24	3.37%	470.91	3.26%
FY2017	10	43.44	-13.90%	4.40	12.81%	3.38	0.01%	41.59	3.38%	473.95	0.64%
FY2018	11	44.57	2.60%	5.20	18.24%	3.38	0.07%	43.00	3.38%	491.60	3.72%
FY2019	12	44.64	0.15%	6.35	22.04%	3.39	0.14%	44.45	3.38%	503.03	2.33%
FY2020	13	44.70	0.15%	7.35	15.88%	3.39	0.20%	45.96	3.39%	520.83	3.54%
FY2021	14	44.77	0.15%	8.26	12.24%	3.40	0.26%	47.52	3.39%	532.75	2.29%
FY2022	15	44.84	0.15%	9.48	14.78%	3.41	0.32%	49.13	3.39%	551.81	3.58%
FY2023	16	44.91	0.15%	10.75	13.46%	3.43	0.37%	50.80	3.40%	564.89	2.37%
FY2024	17	44.98	0.16%	11.96	11.23%	3.44	0.42%	52.52	3.40%	585.08	3.57%
FY2025	18	45.05	0.16%	13.21	10.49%	3.46	0.47%	54.31	3.40%	598.98	2.38%
FY2026	19	44.96	-0.19%	15.25	15.42%	3.45	-0.10%	56.36	3.78%	618.15	3.20%
FY2027	20	44.87	-0.19%	17.60	15.42%	3.45	-0.10%	58.50	3.78%	637.94	3.20%
FY2028	21	44.78	-0.19%	20.32	15.42%	3.45	-0.10%	60.71	3.78%	658.35	3.20%
FY2029	22	44.70	-0.19%	23.45	15.42%	3.44	-0.10%	63.01	3.78%	679.43	3.20%
FY2030	23	44.61	-0.19%	27.07	15.42%	3.44	-0.10%	65.39	3.78%	701.17	3.20%
FY2031	24	44.52	-0.19%	31.24	15.42%	3.44	-0.10%	67.86	3.78%	723.62	3.20%
FY2032	25	44.44	-0.19%	36.06	15.42%	3.43	-0.10%	70.43	3.78%	746.78	3.20%
FY2033	26	44.35	-0.19%	41.62	15.42%	3.43	-0.10%	73.09	3.78%	770.68	3.20%
FY2034	27	44.27	-0.19%	48.04	15.42%	3.43	-0.10%	75.86	3.78%	795.35	3.20%
FY2035	28	44.18	-0.19%	55.45	15.42%	3.42	-0.10%	78.73	3.78%	820.81	3.20%

Source: Tri-Met, FY06 FIR#1 Values.xls.
Note: The forecast for years shaded in blue was calculated by ECONorthwest.

Table E-15. Washington County Transportation Needs vs. Expenditures Comparison (in millions of 2006$).

	Beaverton		Cornelius		Forest Grove		Hillsboro		Sherwood		Tualatin		Tigard		North Plains		Unincorporated Wash Co.	
	Annual	20 Year	Annual	20 Year	Annual	20 Year	Annual	20 Year	Annual	20 Year	Annual	20 Year	Annual	20 Year	Annual	20 Year	Annual	20 Year
Capital Needs																		
Roadway Capacity/Safety		$250.80		$44.90		$30.93		$226.21		$37.70		$140.13		$266.00		$4.97		$867.22
Pedestrian		$7.60		$2.25		$2.70		$4.07		$3.50		$8.79		$21.70		$1.79		$72.90
Bicycle		$9.00		$0.25		$2.70		$7.04		$10.20		$5.64		$21.00		$0.00		$110.55
Transit/TDM		$1.10		$2.00		$1.00		$0.00		$0.00		$0.00		$2.50		$0.00		$0.00
Bridge/Culvert		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00		$4.00		$0.00		$153.92
Other (Specify)		$0.50		$0.15		$0.00		$48.21		$0.50		$0.06		$0.00		$0.00		$138.74
Administration (Optional)3		$0.00		$0.00		$9.00		$0.00		$0.00		$0.00		$83.55		$0.30		$0.00
Subtotal		**$269.00**		**$49.55**		**$46.33**		**$285.53**		**$51.90**		**$154.62**		**$398.75**		**$7.06**		**$1,343.34**
Capital Expenditures																		
ROW	$0.52	$10.38	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.02	$0.45	$0.20	$4.03	$0.00	$0.00		$0.00	$5.31	$106.28
Const. Eng.	$1.05	$20.99	$0.00	$0.00	$0.03	$0.66	$0.00	$0.00	$0.08	$1.68	$0.61	$12.28	$0.73	$14.67		$0.00	$11.95	$238.98
Const. & Expansion	$3.16	$63.15	$0.00	$0.00	$0.41	$8.27	$2.07	$41.42	$1.75	$35.00	$0.75	$15.02	$0.51	$10.25		$0.00	$15.71	$314.13
Bike/Ped.	$0.39	$7.73	$0.00	$0.00	$0.38	$7.54	$0.00	$0.00	$0.00	$0.00	$0.01	$0.13	$0.00	$0.00		$0.00	$0.56	$11.28
Debt Service	$0.33	$6.57	$0.05	$0.96	$0.00	$0.00	$0.14	$2.77	$0.02	$0.46	$0.00	$0.00	$2.32	$46.36		$0.00	$1.89	$37.75
Payments to Other Gov'ts.	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.47	$9.40		$0.00	$0.54	$10.71
Est. Admin. & Gen. Eng.	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01	$0.25	$0.00	$0.00		$0.00	$3.75	$74.94
Subtotal	**$5.44**	**$108.83**	**$0.05**	**$0.96**	**$0.82**	**$16.47**	**$2.21**	**$44.19**	**$1.88**	**$37.59**	**$1.59**	**$31.71**	**$4.03**	**$80.68**	**$0.05**	**$1.01**	**$39.70**	**$794.05**
Capital Funding Deficit (-) or Surplus		**-$160.17**		**-$48.59**		**-$29.86**		**-$241.33**		**-$14.31**		**-$122.92**		**-$318.07**		**-$6.05**		**-$549.28**
O&M Needs																		
General Maintenance		$86.30		$5.10		$7.80		$32.00		$0.00		$9.18		$52.00		$1.40		$374.40
Traffic Operations		$0.00		$0.50		$1.50		$0.00		$0.00		$5.74		$4.00		$0.25		$0.00
Bridge/Culvert		$0.00		$0.20		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00
Other (Specify)		$20.40		$0.00		$0.00		$0.00		$14.50		$10.00		$0.00		$0.00		$4.16
Administration (Optional)3		$0.00		$0.00		$1.50		$0.00		$0.00		$4.43		$15.00		$0.30		$87.36
Subtotal		**$106.70**		**$5.80**		**$10.80**		**$32.00**		**$14.50**		**$29.35**		**$71.00**		**$1.95**		**$465.92**
O&M Expenditures																		
Repair & Pres.	$0.97	$19.39	$0.00	$0.00	$0.19	$3.75	$0.71	$14.12	$0.00	$0.00	$0.00	$0.00	$0.13	$2.58		$0.00	$5.40	$108.03
Gen. Maint.	$1.89	$37.82	$0.30	$5.92	$0.18	$3.53	$0.68	$13.58	$0.57	$11.31	$0.48	$9.69	$0.93	$18.62		$0.00	$6.31	$126.13
Safety & Traffic	$0.94	$18.77	$0.00	$0.00	$0.00	$0.00	$0.58	$11.56	$0.00	$0.00	$0.22	$4.35	$0.37	$7.31		$0.00	$2.29	$45.84
Snow/Ice Removal & Extraordinary Maint.	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.02	$0.37	$0.00	$0.00		$0.00	$0.03	$0.66
Engineering	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.30	$6.02	$0.00	$0.00	$0.14	$2.87	$0.00	$0.00		$0.00	$1.36	$27.27
Est. Admin. & Gen. Eng.	$0.40	$7.97	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.50	$9.95	$0.00	$0.00		$0.00	$0.83	$16.62
Subtotal	**$4.20**	**$83.95**	**$0.30**	**$5.92**	**$0.36**	**$7.28**	**$2.26**	**$45.28**	**$0.57**	**$11.31**	**$1.36**	**$27.22**	**$1.43**	**$28.51**	**$0.07**	**$1.48**	**$16.23**	**$324.54**
O&M Funding Deficit (-) or Surplus		**-$22.75**		**$0.12**		**-$3.52**		**$13.28**		**-$3.19**		**-$2.13**		**-$42.49**		**-$0.46**		**-$141.38**
Avg. End Balance for Capital and O&M		**$7.48**		**$0.97**		**$1.46**		**$27.65**		**$5.67**		**$4.58**		**$7.05**		**$0.00**		**$71.64**

Source: Washington County, in response to ECO's FinTAG survey.

Table E-16. Funding adequacy of projects of statewide significance (millions of dollars).

Full Projects		Cost	Funded	Unfunded
I-5/Columbia Crossing				
	PE/EIS	$74.00	$74.00	
	Construction	$1,000.00		$1,000.00
		$1,074.00	$74.00	$1,000.00
Sunrise Corridor - Unit 1				
	PE/EIS/ROW	$84.00	$60.90	$23.10
	Construction	$500.00	$0.00	$500.00
		$584.00	$60.90	$523.10
I-5/99W Connector				
	PE/EIS/ROW	$92.50	$34.75	$57.75
	Construction	$475.00	$0.00	$475.00
		$567.50	$34.75	$532.75
I-205 - I-5 - Hwy 99E				
	PE/EIS	$13.00	$0.00	$13.00
	Construction	$220.00	$0.00	$220.00
		$233.00	$0.00	$233.00
I-205 - Hwy 99E - Sunrise				
	PE/EIS/ROW	$33.00	$0.00	$33.00
	Construction	$225.00	$0.00	$225.00
		$258.00	$0.00	$258.00
I-205 - Sunnyside to I-84				
	PE/EIS	$15.00	$0.00	$15.00
	Construction	$275.00	$0.00	$275.00
		$290.00	$0.00	$290.00
I-205 - Powell/Division Interchange				
	PE/EIS/ROW	$27.00	$0.00	$27.00
	Construction	$20.00	$0.00	$20.00
		$47.00	$0.00	$47.00
I-205 - I-84 to Airport Way				
	R-O-W	$20.00	$0.00	$20.00
	Construction	$300.00	$0.00	$300.00
		$320.00	$0.00	$320.00
I-5/I-405 Loop (I-84 to I-405 only)				
	PE/EIS	$28.00	$0.00	$28.00
	R-O-W	$50.00	$0.00	$50.00
	Construction	$180.00	$0.00	$180.00
		$258.00	$0.00	$258.00
Grand Total		**$3,373.50**	**$169.65**	**$3,203.85**
Potential Federal Earmarks - T-4/T-5			**$155.00**	**$3,048.85**

Phased Projects		Cost	Funded	Unfunded
I-5/Columbia Crossing				
	PE/EIS	$74.00	$74.00	
	Construction	$1,000.00		$1,000.00
		$1,074.00	$74.00	$1,000.00
Sunrise Corridor - Unit 1 Phase 1				
	PE/EIS/ROW	$74.00	$60.90	$13.10
	Construction	$200.00	$0.00	$200.00
		$274.00	$60.90	$213.10
I-5/99W Connector - Phase 1				
	PE/EIS/ROW	$82.50	$34.75	$47.75
	Construction	$200.00	$0.00	$200.00
		$282.50	$34.75	$247.75
I-205 - I-5 - Hwy 99E				
	PE/EIS	$13.00	$0.00	$13.00
	Construction	$220.00	$0.00	$220.00
		$233.00	$0.00	$233.00
I-5 - I-84 to I-405				
PE/EIS		$28.00	$0.00	$28.00
R-O-W		$50.00	$0.00	$50.00
Construction		$180.00	$0.00	$180.00
		$258.00	$0.00	$258.00
Grand Total		**$2,121.50**	**$169.65**	**$1,951.85**
Potential Federal Earmarks - T-4/T-5			**$155.00**	**$1,796.85**

Source: ODOT.
Notes: Earmarks from TEA-21 to SAFETEA grew by 46%. 38% increase in earmarks assumed from SAFETEA to T4 and T5 authorizations. The $155 million earmark assumed for T4 and T5 reflects 50% of all earmark revenues used for highway projects of statewide significance.

Table E-17. Cost per lane mile associated with a maintained vs. non-maintained two lane road over many years (2006$).

	Maintained Road			Non-Maintained Road		
Years after construction	Project Type	Maintenance Cost	Present Discounted Value of Costs	Project Type	Maintenance Cost	Present Discounted Value of Costs
0		$0	$0		$0	$0
10	Seal	$18,000	$13,264		$0	$0
20	Seal	$18,000	$9,775		$0	$0
30	Overlay	$153,000	$61,225		$0	$0
40	Seal	$18,000	$5,308	Rebuild	$420,000	$123,852
50	Seal	$18,000	$3,911		$0	$0
60	Overlay	$153,000	$24,500		$0	$0
70	Seal	$18,000	$2,124		$0	$0
80	Seal	$18,000	$1,565	Rebuild	$420,000	$36,522
Total Cost		**$414,000**	**$121,673**		**$840,000**	**$160,374**

Note: Maintenance costs estimated by Kittelson & Associates.
Present discounted value calculated by ECONorthwest using a discount rate of 3.1%.

Table E-14. Cost per lane mile associated with a maintained vs. non-maintained two lane road over 55 years (2006$).

	Maintained Road			Non-Maintained Road		
Years after construction	Project Type	Maintenance Cost	Present Discounted Value of Costs	Project Type	Maintenance Cost	Present Discounted Value of Costs
0		$0	$0		$0	$0
5	Seal	$9,000	$7,726		$0	$0
10		$0	$0		$0	$0
15	Seal	$9,000	$5,693		$0	$0
20	Overlay	$91,000	$49,416		$0	$0
25		$0	$0	Rebuild	$300,000	$139,847
30	Seal	$9,000	$3,601		$0	$0
35	Seal	$9,000	$3,092		$0	$0
40	Overlay	$91,000	$26,835		$0	$0
45		$0	$0		$0	$0
50	Seal	$9,000	$1,956	Rebuild	$300,000	$65,191
55	Seal	$9,000	$1,679		$0	$0
Total Cost		**$236,000**	**$99,998**		**$600,000**	**$205,039**

Note: Maintenance costs estimated by Kittelson & Associates.
Present discounted value calculated by ECONorthwest using a discount rate of 3.1%.

Appendix F Local Funding Sources

Table F-1: Summary local funding mechanism availability and use for all Metro jurisdictions.

Jurisdiction	SDC/TIF	Property Tax	Urban Renewal	TUF	LIDs	Bonds	Gas Tax	Local Option
Wash Co	Yes	Yes	No	?	Yes	Yes	Yes	Yes
Beaverton	Yes	Yes	?	?	?	Yes	No	?
Tualatin	Yes	No	Yes	Yes	Yes	Yes	No	No
Hillsboro	Yes	Yes	Yes	?	?	Yes	No	Yes
Tigard	Yes	Yes	Yes	Yes	?	Yes	No	?
Cornelius	Yes	Yes	?	?	?	Yes	Yes	?
Forest Grove	Yes	Yes	?	?	?	Yes	No	Yes
Sherwood	Yes	Yes	?	?	?	Yes	No	?
King City	Yes	Yes	?	?	?	Yes	No	?
Durham	Yes	Yes	?	?	?	Yes	No	?
Mult Co.	No	No	No	No	No	No	Yes	No
Portland	Yes	?	Yes	?	?	?	No	?
Gresham	Yes	?	?	?	?	?	No	?
Troutdale	Yes	?	?	?	?	?	No	?
Fairview	Yes	?	?	?	?	?	No	?
Maywood Park	?	?	?	?	?	?	No	?
Wood Village	No	?	?	?	?	?	No	?
Clack Co.	Yes	No	Yes	No	No	Yes	No	No
Oregon City[A]	Yes	No	Yes	No	Yes	Yes	No	No
Milwaukie	?	Yes	No	?	?	Yes	No	No
Gladstone	?	Yes	No	?	?	No	No	Yes
Lake Oswego	Yes	No	No	?	?	Yes	No	No
Happy Valley	Yes	Yes	No	?	?	No	No	Yes
West Linn	?	Yes	No	?	?	Yes	No	Yes
Wilsonville	?	Yes	No	?	?	Yes	No	No
Damascus	?	Yes	No	?	?	No	No	No
Johnson City	?	No	No	?	?	No	No	No
Rivergrove	?	No	No	?	?	No	No	No

Key: Yes- ECO has the data.
NO- ECO knows conclusively that the given rate/funding source is not charged/used.
?- ECO does not have data and does not know whether a rate/funding source is charged/used.
Note: This data was received via the quantitative section of ECO's FinTAG Questionnaire, or through phone interviews.
A- ECO did receive SDC data from Oregon City in the form of a 5-year SDC fund cost/revenue projection. While this data is helpful, ECO could compare this funding source better across jurisdictions if the SDCs were also reported as rates.

Table F-2: Most recent rates charged by Metro jurisdictions for various local funding mechanisms.

Jurisdiction	SDC/TIF		Urban Renewal	TUF	LIDs	
	Residential	Commercial			Road Maintence	Street Improvement
Wash Co	$302	$76	$0.0000	-	$0.30	$0.08
Beaverton	$302	$76	-	-	-	-
Tualatin	$302	$76	No rate Data	$3.42	No rate Data	-
Hillsboro	$302	$76	No rate Data	-	-	-
Tigard	$302	$76	No rate Data	$2.18	-	-
Cornelius	$302	$76	-	-	-	-
Forest Grove	$302	$76	-	-	-	-
Sherwood	$302	$76	-	-	-	-
King City	$302	$76	-	-	-	-
Durham	$302	$76	-	-	-	-
Mult Co.	$0	$0	$0.0000	$0.00	$0.00	$0.00
Portland	$1,171	$1,340	$0.3754	-	-	-
Gresham	$2,332	$0	-	-	-	-
Troutdale	$723	$0	-	-	-	-
Fairview	$75	$0	-	-	-	-
Maywood Park	-	-	-	-	-	-
Wood Village	$0	$0	-	-	-	-
Clack Co.	-	-	$0.1335	$0.00	$0.00	$0.00
Oregon City	No rate Data	-	$0.5123	$0.00	No rate Data	
Milwaukie	$1,527	$0	$0.0000	-	-	-
Gladstone	-	-	$0.0000	-	-	-
Lake Oswego	$4,420	-	$0.0000	-	-	-
Happy Valley	$5,006	$6,104	$0.0000	-	-	-
West Linn	-	-	$0.0000	-	-	-
Wilsonville	-	-	$0.0000	-	-	-
Damascus	$0	$0	$0.0000	-	-	-
Johnson City	-	-	$0.0000	-	-	-
Rivergrove	-	-	$0.0000	-	-	-

Note: A dash (-) indicates that ECO does not have data and does not know whether a rate/funding source is charged/used. An entry that says "no rate data" indicates where ECO has data regarding the magnitude of the source in monetary terms.
Washington County and its cities- SDC rates shown are dollars per trip generated. LID: per $10 million assessed value.
Tualatin- The TUF rate shown is dollars per single family residence.
Tigard- The TUF rate shown is dollars per single and multi family residence per month.
Portland- SDC rates are reported as an average per unit (residential) and per square foot of gross leasable area (commercial). For residential

dwellings, the range is $447-$1883 per unit with a median equal to $1197. For commercial and office activities, the range is $2-$21 per square foot of GLA with a median equal to $3.
Gresham- The SDC rate shown is dollars per peak hour trip end. Source: SDC Fee Schedule from the Gresham Revised Code.
Troutdale- The SDC rate shown is dollars per peak hour trip end. Source: City of Troutdale, public works department (phone interview).
Fairview- The SDC rate is actually a right of way application fee (except for communications companies). Source: City of Fairview, "Summary of Fees," Jan 2006.
Wood Village- There is no SDC; the County owns most of the roads. The City is one square mile, close to build out and little new development is likely at this time. If there were changes in the infrastructure, the city would work individually with the developer to determine a charge. Source: City of Wood Village, finance department (phone interview).
Milwaukie- The SDC rate shown is dollars per single family residence.
Happy Valley- The SDC rate shown is dollars per unit (residential) and dollars per 1000 square feet (commercial). See: http://www.co.clackamas.or.us/dtd/zoning/info/tsdc_hvcc_cost.htm.
Urban Renewal- All rates shown are dollars per $1000 assessed value.

Appendix G Political Landscape

Table G-1. Preliminary summary of political actions necessary to achieve additional transportation funding.

Funding Scenario	Actions
E	• Renew state support of lottery revenues to rail transit capital • Secure grant agreements with FTA on 2 to 3 rail capital projects
E+	• State Legislature increase gas tax by 1 cent each year through 2035 (or equivalent) • Secure additional private development contributions to system (conditional approvals or urban renewal funding)
E++	• State Legislature increase vehicle registration fee $15 per biennium in 2010, 2018, 2026, 2032 (or equivalent) • Increase local SDC contribution to transportation projects by 10% region wide • Aggressively secure federal earmarks