

**FINANCIAL ASSUMPTIONS FOR THE
DEVELOPMENT OF METROPOLITAN
TRANSPORTATION PLANS
2005 - 2030**

**Oregon Department of Transportation
Financial Services
Policy and Economic Analysis Unit
December 2004**

This project was funded in part by the Federal Highway Administration, U.S. Department of Transportation. The contents of this document reflect the views of the State of Oregon, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Highway Administration.

INTRODUCTION

The federal Transportation Equity Act for the 21st Century of 1998 (TEA-21) requires metropolitan planning organizations (MPOs) and state transportation departments to cooperatively develop estimates of funds available to support long-range transportation plans. This requirement is one part of a federal effort to encourage more effective planning and decision-making. Financially constrained plans force early choices to be made about projects affecting mobility, land use and air quality.

This is a separate process from development of Statewide Transportation Improvement Programs (STIPs). However, this process now utilizes the STIP regional distribution methodology, and STIP projects must be selected from MPO long-range plan project lists.

It is quite difficult to forecast transportation revenues over a long period of time. Fortunately, long-range plans are revised and updated on a frequent basis. The revenue assumptions contained in this document will be reconsidered as part of that on-going process. The first long-range revenue estimates under this requirement were published in 1995. As under previous efforts, current conditions and historical trends indicate that it is reasonable to assume some increased revenue.

This document describes the methodology the Oregon Department of Transportation (ODOT) and Oregon's MPOs adopted to meet the TEA-21 requirement as it concerns state and federal funding sources and the distribution and use of revenue expected from these sources. The methodology was developed by an ad hoc committee. The committee consisted of ODOT staff, staff of each of Oregon's six MPOs, Federal Highway Administration (FHWA) staff, and staff of the Oregon Department of Environmental Quality (DEQ).

The process of developing this methodology requires (1) projections of state and federal revenue, (2) consideration of other factors affecting revenue availability (e.g., inflation, sharing with local governments, etc.), (3) an estimate of how much of this revenue will be required for state highway maintenance, preservation, and other uses (e.g., debt service, Federal Transit Administration programs), (4) the geographic distribution of remaining highway resources for highway modernization, and (5) the geographic distribution of transit funds for transit programs. Projections of revenue from highway user fees depend not only upon the political climate, but also economic structure and conditions, population and demographics, and patterns of land use.

Once revenue projections are developed, current law revenues, the effects of inflation, the amounts needed to maintain present infrastructure, and new revenues must be jointly considered to determine amounts that can be expended on highway and transit capacity improvements. These amounts can then be distributed among regions.

This paper is organized in three sections. This first examines individual revenue sources, the second considers remaining factors, and the third discusses methodological implications and presents findings.

REVENUE SOURCES

Revenue sources relevant to this exercise are those received from the federal government and those generated by the State of Oregon. Assumptions and the process of developing assumptions about these sources of funding are discussed below.

Assumptions concerning locally-generated revenue will be developed by individual MPOs.

State Highway Fund Revenue – OM&P

The committee divided consideration of state Highway Fund revenue into two parts. One part addresses operations, maintenance and preservation (“OM&P”) needs. The other part addresses modernization needs. This is similar to current practice under ORS 366.507.

The committee considered several scenarios of growth in revenues for highway OM&P. Scenarios ranged from no significant growth (i.e., current law) to a growth rate in excess of inflation:

1. Current law
2. Total revenue increase with inflation (3.1 percent annual average rate of growth)
3. 1¢ per gallon per year fuel tax increase
4. 8¢ per gallon fuel tax increase every eight years
5. Tax rate increases at the historical level, resulting in total revenue increases significantly greater than inflation (about 5.4 percent v. 3.1 percent)

Through SFY 2007, revenue projections under these scenarios are based upon a set of econometric equations that include factors such as fuel price, fuel efficiency, population, per capita personal income, trade sector employment, new vehicle titles and historical data. After SFY 2007, the revenue projections are based on the 2003-2007 trend with business cycle peak and trough effects removed.

An assumption of no change in highway user tax rates (i.e., a current law assumption) would result in only modest revenue increases over the course of the next 22 years. Such increases would be well below the level needed to maintain the purchasing power of the State Highway Fund. This situation would result in a sharp decline of state pavement and bridge conditions. The historical record indicates rejection of this scenario is warranted.

At the other end of the spectrum, fuel tax rate increases at a rate slightly greater than that of inflation (with accompanying weight-mile tax increases) would result in much higher

levels of Highway Fund revenue growth. However, recent history indicates such scenarios are overly optimistic. Hence, scenarios along these lines were also rejected.

While an assumption of Highway Fund revenue growth equal to the rate of inflation would produce significantly more revenue than a current law assumption, it would still be insufficient to meet OM&P needs; particularly if proportionately more revenue is distributed to cities and counties. Therefore, this scenario was rejected as well.

The committee considered two financially similar scenarios of predictable fuel tax increases. The first assumed a fuel tax increase of 1¢ per gallon each year through 2030, beginning in 2006. The second assumed a fuel tax increase of 8¢ per gallon every eight years beginning in 2010. Both scenarios produced slightly more revenue than the rate of inflation scenario. As these revenues are intended to be used for on-going OM&P purposes, large, infrequent revenue increases did not seem appropriate. Therefore, the scenario assuming a fuel tax increase of 1¢ per gallon per year seemed the most appropriate basis for calculating the amount of additional Highway Fund revenue it is reasonable to assume. The assumed annual amounts for the state, counties, and cities are listed in the appendix.

The Transportation Planning Rule (TPR) has a goal for MPO areas to reduce their vehicle miles traveled (VMT) per capita over the next 20 to 30 years, essentially the same time frame as the long-range transportation plans of the areas. The TPR also allows the use of alternative standards in place of VMT reduction, as long as the proposed standards can show that progress is being made toward meeting the goal of reducing reliance on a single mode of travel, in this case the single occupant vehicle. Further, these standards must show that alternative modes will see a significant increase in availability and use, and that any increase in VMT per capita will be less than five percent. Currently, the majority of the established MPOs have adopted alternative standards that meet this requirement. As a result, the TPR is not expected to have a significant impact on Highway Fund revenues during the 2005-2030 time frame.

Highway Fund revenue distribution is legislatively established. With the exception of Oregon Transportation Investment Act (OTIA) revenues, most Highway Fund revenue is distributed as follows: 60.05 percent is dedicated to state highway programs; 24.38 percent is dedicated to county road programs, and; 15.57 percent is dedicated to city street programs. The county share is proportionately distributed according to vehicle registrations, except that \$750,000 per year is reserved to improve county equity. The state contributes another \$250,000 per year for this purpose. The city share is proportionately distributed according to population. However, \$500,000 per year is reserved from this share to fund the Special City Allotment (SCA) program. The state contributes another \$500,000 per year to the SCA program.

Through administrative agreements, the state contributes several million dollars each year from its share of Highway Fund revenues to the support of local road projects and programs. These include the Immediate Opportunity Fund (IOF), state match of certain federal funds, and other programs (see the Other Assumptions section).

Revenue resulting from increased tax rates is expected to be shared among the state, counties and cities on a “50-30-20 percent” basis rather than the previous “60.05-24.38-15.57 percent” basis. This represents a substantial shift of resources away from the state highway system and towards local road systems.

State Highway Fund Revenue – Modernization

ORS 366.507 requires ODOT to spend a certain amount of revenue on highway modernization. Certain program expenditures (e.g., debt service) qualify as modernization expenditures under this statute. These are subtracted from the required amounts to calculate the actual amounts that will be available for highway modernization. None of these amounts can be transferred to Federal Transit Administration (FTA) programs.

The committee considered several scenarios of growth in revenues for highway modernization. Scenarios ranged from short-term growth and then steep decline (i.e., current law) to a growth rate well in excess of inflation:

1. Current law
2. OTIA III debt service paid by other sources to maintain a “steady state,” and no additional revenue for local governments
3. Steady state adjusted for inflation to maintain 2005 purchasing power, and no additional revenue for local governments
4. A small bonding program every eight years (1¢ per gallon), shared with local governments
5. A large bonding program every eight years (2¢ per gallon plus a small vehicle registration fee increase), shared with local governments
6. A \$15 per biennium vehicle registration fee increase every eight years beginning SFY 2010, shared with local governments

Current law is projected to be highly unlikely because of a “triple convergence” of increasing demand for highway capacity, reduced amounts available for modernization because of increasing debt service payments and inflation, and the popularity of public works projects during recessions. Finding other ways to pay for OTIA III modernization debt service only slightly changes this calculation.

The steady state scenario that maintained 2005 purchasing power required significant revenue increases, and had no provision for granting similar increases to local governments. This also seemed unrealistic.

Committee consensus was that the scenario of 2¢ per gallon plus a small vehicle registration fee increase (bonded) every eight years was too high to be realistic.

The scenarios of a small bonding program and a \$15 vehicle registration fee increase every eight years produced similar amounts of revenue. However, state bonding of local revenue is problematic. The state is unlikely to issue bonds and share the revenue with local governments without input on the projects funded by that revenue. As a result, the scenario assuming a \$15 vehicle registration fee increase every eight years (beginning FY 2010) seemed the most appropriate basis for calculating the amount of additional highway modernization revenue it is reasonable to assume.

As discussed under highway OM&P above, new Highway Fund revenue is expected to be shared among the state, counties, and cities on a 50-30-20 percent basis. For planning purposes, it is assumed the county and city shares of these funds will be used for modernization. Therefore, between 2005-2030, the committee assumes an additional \$377 million to the state, \$226 million to counties, and \$151 million to cities in 2003 dollars for modernization purposes.

Finally, for clarification, individual governments would still have authority to issue bonds financed with (actual) new revenues.

Federal-Aid Highway Revenue

Congress has not yet developed a multi-year replacement for TEA-21. Federal guidance has been issued for this situation, but is ambiguous. FHWA staff assisted the committee in determining the general intent of the guidance documents. Formula funds are assumed to increase with inflation after 2003. While High Priority Project Program (HPPP) funds are interpreted to be discretionary (i.e., non-formula) funds, these may also be assumed to increase with inflation after 2003. HPPP funds are assumed to be entirely modernization funds after 2003. Oregon has a historical record of attracting other federal discretionary funds in the amount of about \$10 million per year. About one-third of this amount is assumed to be for modernization purposes, and about two-thirds is for OM&P purposes. This amount may also be assumed to increase with inflation. No additional discretionary amounts are projected. For the state as a whole, the resulting figures seem reasonable as the nation continues its shift from building a modern highway system to maintaining a mature highway system.

Sub-state distribution of HPPP funds is a major issue. The committee developed three different approaches to distribution of HPPP funds (see appendix). Each seemed extreme and unrealistic to at least one MPO. Therefore, these approaches will be used to establish reasonable bounds of funds distribution. Determination of HPPP funds distribution by MPO planners should be made in consultation and agreement with FHWA.

Under certain conditions, MPOs may choose to address funding for HPPP projects in another way. Where there are specific projects that (1) are a high priority for the region, (2) can only be built with large federal earmarks, and (3) the likelihood of obtaining such earmarks is questionable, one alternative is to place the projects on an “illustrative projects list.” These lists describe projects “*that would be included in the adopted long-*

range transportation plan if reasonable additional resources beyond those identified in the financial plan were available.” When funding becomes available for these projects, they could be quickly moved into the official long-range transportation plan.

FTA Urban Formula Funds

For urbanized area formula funds (FTA Section 5307), federal guidance indicates maintenance of purchasing power (i.e., growth with inflation) is the proper assumption.

Supporting this guidance is the linkage between federal highway program growth and FTA Section 5307 program growth. They are largely funded from the same revenue source. As federal fuel tax rates have increased, the increased revenue has supported both highway and transit programs in a roughly fixed proportion. Therefore, these programs are likely to grow in a similar manner.

Most FTA Section 5307 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.

FTA Sections 5310 and 5311

FTA Sections 5310 and 5311 are not usually considered as funding sources for development of long-range plans in metropolitan areas. Section 5310 revenue finances specialized equipment purchases by non-profit organizations that provide transportation services to the elderly and people with disabilities. Section 5311 revenue finances public transportation projects outside urbanized areas and/or beyond MPO jurisdiction. Neither program has a significant impact on air quality in areas under MPO jurisdiction. If programs supported by these revenue sources are incorporated into long-range plans, their rate of growth should be the same as that of Section 5307 growth.

FTA Section 5309 Funds

Most FTA Section 5309 funding is provided on a discretionary basis, and is only provided after application by an eligible transit provider.

The committee only considered one FTA Section 5309 scenario. Section 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. When requests are larger than usual, there is a reason and a strategy for obtaining the funds. For instance, Bend is beginning a new bus system; requiring funds to purchase equipment. Lane transit has a plan and strategy in place to obtain BRT funding. It is reasonable to assume these requests will be

met. Requests by providers in MPO areas are expected to range between five and \$29 million per year in nominal dollars, less in constant dollars.

The Portland area has had remarkable success in obtaining Section 5309 funding to finance LRT construction. This region is in the process of planning several “new start” projects. Given the region’s desire for the projects and the region’s historical success, the committee proposes to assume the Section 5309 component of the region’s funding strategy will be successful. This component assumes a total of \$686.6 million in 2003 dollars of Section 5309 support for rail transit expansion from 2005 through 2030.

Lastly, a limited amount of LRT rehabilitation funding (i.e., Section 5309 formula “Rail Modernization” funds) is expected to be available in the Portland area as LRT facilities age. Such amounts will range between four and 16 million dollars per year through 2030.

State Funds for Rail Programs

No state funds are expected to be used to fund construction of new LRT lines, or to match federal LRT rehabilitation funds. However, the state is providing funds for the Wilsonville-Beaverton commuter rail project. The state has committed \$35 million in lottery bond revenue for expenditure on this project in the near future. Finally, the state has provided \$8 million in lottery bond revenue for a discretionary Industrial Spur Track program during the 2003-05 biennium. It is not clear whether this program will be continued in the future.

State Match of Other FTA Capital Funds

Historically, the state specifically tried to provide one-half of the local match for non-LRT transit capital expenditures financed by federal-aid. In recent years this has not occurred. The state is focusing the resources it has available for transit programs on programs serving the elderly and people with disabilities (see below). However, the committee believes it is likely the state will provide additional urban transit capital funding beginning around 2010 (see below).

Special Transportation Fund

There appears to be a consensus that the state should take primary responsibility for funding programs serving the elderly and people with disabilities. This is reflected in the recent growth of the Special Transportation Fund (STF). The STF provides financial support for operations, as well as funding for specialized equipment purchases, by non-profit organizations that provide transportation service to the elderly and people with disabilities. Indirectly, STF funded programs can result in enhanced service to the general public by funding required Americans with Disabilities Act compliance activities when additional service for the general public is implemented. In addition, this program can

directly provide additional transit capacity to the general public on a space-available basis.

Slightly less than half of STF revenue is derived from a 2¢ per pack cigarette tax. The cigarette tax revenue projection through 2011 was developed by the Department of Administrative Services, and is held constant thereafter. Slightly more than half of STF revenue is currently derived from miscellaneous unrestricted revenues available to the state. This source of revenue is expected to increase with inflation after 2005. A STF revenue forecast is provided in the Appendix.

Additional State Support for Transit

During the 1990s, the State of Oregon paid a share of the cost of the westside light rail project in the Portland area. The funds needed to pay these costs were generated by a lottery-backed bond issue. The state currently pays about \$10 million per year for debt service costs on these bonds. A final payment of \$2.9 million is due in SFY 2010. The committee believes it is reasonable to assume that this flow of revenue will continue to be used for urban transit capital purposes; including all MPO areas. Therefore, the committee assumes the state will provide \$7.1 million in 2010 for this purpose, and \$10 million per year thereafter. Distribution is expected to be based on population in MPO areas and other urban areas served by local, fixed-route transit systems.

Private Participation

Private sector participation in Oregon highway and transit projects is generally on a relatively small scale, and is not predictable. Recent (2001 & 2003) legislation has created new opportunities for private sector participation in transportation projects. A new state program designed to take advantage of this legislation has just begun operation. It is still too early to estimate the probable extent of private sector participation.

In 1997, the Oregon Legislature created the Oregon Transportation Infrastructure Fund (OTIF). It may be used for either public or public-private projects. This fund is designed to provide loans to projects that can generate enough cash flow to pay off the loans. As such, the OTIF is not a new source of revenue, but is a financing tool that can facilitate project implementation.

Possible funding from private sources is more easily dealt with on a local level than in this forum. Therefore, the committee chose to leave estimates of private sector participation with the individual MPOs.

OTHER ASSUMPTIONS

Additional factors, beyond direct funding amounts, affect the availability of resources for highway and transit system improvements. Such factors include the expected rate of inflation, the need to maintain and preserve the existing transportation system, legislative mandates, and factors affecting geographic distribution of funds. These are discussed below.

Inflation

The rate of inflation has a direct impact on the purchasing power of transportation funds. It is the purchasing power of available funds that determines the expansiveness of long-range transportation plans.

The committee assumed the continuation of previous practice, and used the Global Insight long-term inflation forecast of 3.1 percent (based on core-CPI). The Global Insight figure reflects expert opinion in this field.

State System Maintenance and Preservation

A high priority of the Oregon Transportation Commission (OTC) has been to maintain and preserve the existing transportation system. Expenditures on OM&P activities to some extent preclude expenditures on system expansion (i.e., modernization). In order to estimate resources available for modernization activities in MPO areas, transportation providers must know the amount of available resources that will be expended on all other activities.

One of the largest and potentially most controversial of these is pavement preservation. While ODOT has a long-range goal of improving state highway pavement condition to 90 percent fair-or-better, funding to meet this goal does not appear to be likely. ODOT OM&P needs were based (with minor adjustments) on Scenario 3 of the 1999 Oregon Highway Plan. This would maintain pavement condition at the 78 percent fair-or-better level. The financial assumptions contained in this document indicate that even this level will be difficult to maintain.

Bonding Program

Periodically, policy-makers contemplate the use of ODOT's existing cash-flow to back bonds issued to finance highway modernization projects. In the long-run, this reduces amounts available for modernization due to the need to pay interest at a rate above the rate of inflation. This has occurred under OTIA III. The committee has assumed no new bonding of existing revenues.

However, the committee recognizes bonding may be a useful tool. If bonding is used, whether backed by existing revenues or new revenues, its costs should be reflected in the long-run calculation of available resources.

Legislative Requirements

The Oregon Legislature has placed a number of requirements on ODOT regarding how the state share of Highway Fund revenues is spent. These requirements concern city streets (SCA program), county equalization, bicycle and pedestrian facilities, bond revenue, and modernization expenditures. Most of these programs are figured into the calculation of resources needed for OM&P.

The exception is the modernization expenditure category. The legislative directive concerning modernization expenditures is contained in ORS 366.507. Under the adopted scenario, the annual amounts available for modernization as a result of this statute will be greater than the modernization amount that would be available if the state paid for its OM&P needs before spending any funds on modernization. Note that the committee believes the Legislature will eventually begin to supplement the amounts available for modernization under ORS 366.507 (see previous section above).

TMA Designations

When metropolitan areas exceed 200,000 in population, they become eligible to be designated as transportation management areas (TMAs). Among other things, TMA status reallocates federal apportionments within a state. TMAs receive a direct apportionment of federal funds, while a state's apportionment is reduced by the amount received by TMAs within the state. For this reason, it is important to consider the impacts of these changes when estimating amounts of federal funds expected to be received in coming decades. The Portland, Eugene, and Salem areas are already designated as TMAs. The committee does not anticipate the designation of any new TMAs until after 2030.

Federal-Aid Highway Distribution by Jurisdiction

Most federal-aid highway funds are apportioned or allocated to the state. However, some funds are allocated directly to local governments (e.g., the TMA case). Other funds are apportioned to the state for expenditure on local projects or in local areas (e.g., CMAQ funds, a share of STP funds, a share of Bridge funds). Still others are distributed to local jurisdictions by the state through intergovernmental agreements (e.g., TGM grants, Transportation Enhancement funds, another share of Bridge funds). Finally, the state transfers part of its share of STP funds to Federal Transit Administration (FTA) funding categories to support local transit programs.

Completion of this project requires an assumption to be made concerning how federal-aid highway funds are distributed. The committee assumed the existing agreements and distribution methods remain as they are currently written. This includes the activities of the Transportation Enhancement Committee and the CMAQ Committee. It also assumed annual ODOT STP transfers to FTA categories would equal the highest amount in the current STIP (\$8.1 million per year) through the planning horizon. These are distributed on a discretionary basis.

Regional Distribution of State-Controlled Funds Available for Modernization

Long-range plan development requires an assumption indicating how and where funds under Oregon Transportation Commission (OTC) control and available for modernization will be distributed. The OTC determines allocation of these resources. The committee recognizes that OTC decision-making depends on many elements and in the long-run cannot be precisely predicted. However, since this is a necessary component to plan development, the committee needed to adopt a methodology.

In the past, the committee assumed modernization funds would be allocated according to regional proportions of population, state system lane-miles, and estimated revenues paid into the Highway Fund. However, this often led to confusion with the STIP development process. The STIP development process relies upon similar factors to distribute modernization funds. Therefore, the committee agreed to use the latest STIP development regional allocation formula to project the long-range distribution of modernization funds.

This formula applies only to funds available after maintenance, preservation, safety, operations and other priority needs (e.g., debt service) are addressed. The committee assumes that such needs will be funded as and where they arise. Over the relatively long-term planning horizon of MPO transportation plans, these needs are not expected to be disproportionately distributed.

The distribution of projected modernization funds according to the above formula is by ODOT Region. Sub-distribution of these projected funds to MPO areas will be determined by deliberation among the MPOs, other affected local governments, ODOT

Region Managers and Planners, and the OTC. The distribution of actual funds is determined by the OTC.

FINDINGS

The development of financial assumptions for long-range transportation plans has been accomplished twice in the past, plus one partial update. With this latest effort, the process has almost become routine.

Federal requirements that revenue projections “*shall be based on the data reflecting the existing situation and historical trends*” remain ambiguous. It is not clear whether this requirement applies to actual revenue or the underlying tax and fee schedules that generate the revenue. It is also unclear whether the historical trend should be viewed in an arithmetic sense (i.e., revenue or tax rate growth at a fixed dollar rate) or a geometric sense (i.e., revenue or tax rate growth at a percentage rate). Assumptions that are too conservative imply that as the demand for highway and transit services increases, the willingness of society to pay for increased capacity decreases. Assumptions at the other end of the spectrum produce revenue figures that are unbelievably large.

The methodology adopted by the committee assumes state highway modernization purchasing power is maintained at roughly halfway between today’s OTIA-influenced levels and long-term current law levels, and assumes continued gradual transit expansion; which is credible. Using current conditions as the benchmark, and recognizing the need not to over commit plans to projects, the committee has struck a reasonable balance.

APPENDIX:

REVENUE TABLES AND SUPPORTING MATERIALS